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The officinal Flora of Sannio (Benevento, SE - Italy)

Abstract

Guarino, C., Napolitano, F. & Spadaro, V.: The officinal Flora of Sannio (Benevento, SE - Italy). — Bocconea 15: 5-168. 2003. — ISSN 1120-4060.

An inventory of the officinal flora of the Sannio area, in the province of Benevento (SE-Italy) has been carried out on the basis of both bibliographic sources and interviews in the field. In total 379 species belonging to 272 genera of 56 plant families have been recorded, including their traditional uses and real or hypothesized properties. By this survey the gap of information due to the absence of any previous floristic study in this area is partly bridged. Therefore historical and ethnobotanical documentation is given concerning the deep knowledge of wild plant resources which constituted primary means of subsistence in the postwar decades for the Sannio people, and are gradually disappearing.

Introduction

The wild flora of Campania (S-Italy) was studied in detail by many scholars (Tenore 1831-1842, Pasquale 1869, Casali 1901, Longo 1907, Terracciano 1910, Grande 1910-1911-1912, Moraldo & al. 1981-82, 1985-1986; Ricciardi & al. 1986, Caputo & al. 1988, 1989-1990;), who analysed the region taking into account small areas with similar orographic characteristics, as well as at a sub-regional, regional and supra-regional level.

However, there have been few studies dealing with the characteristics of the plant heritage of Campania. The study of "economic flora", in particular, with its ethnobotanical importance, has not seen any homogeneous and systematic development.

This study takes place in the vast Benevento Sannio area comprising a particularly diverse geomorphological territory showing a remarkable plant diversity at the basis of numerous ethnobotanical traditions.

Owing to the total lack of floristic analysis in this region, this study is mainly based on the oral popular traditions regarding the use of plant species (De Blasio 1900; Jamalio 1918; Negri 1923; Palma 1958, 1964; De Lucia 1965; Miele 1975; De Spirito 1975-1976; Coltro 1983;). Thanks to the evidence from documentation describing the socio-economic conditions and the particular customs and traditions of this population (AA. VV. 1820; Perrella 1889; Zeppa 1950; Rotili 1958; Zazo 1968-1976; Giordano 1976; Nardi 1978;

Plensio 1978), the importance to the Sannio communities of the precise and detailed use of plant species has become clear.

Through the study of these texts, the testimony of the elderly members of local communities, and the analysis of the territories carried out by means of repeated field surveys in the district, the "Officinal Flora of the Sannio area" is presented here in order to illustrate the importance of the considerable plant heritage on the culture of the inhabitants of this sizeable province in Campania. This study is part of a wider project concerning all the peculiarities of naturalistic relevance within the Sannio territory and is included in a program for the safeguard and conservation of the biodiversity funded by the Province of Benevento.

The Geographical setting of the Benevento Sannio District

The province of Benevento, in the northernmost part of Campania, has a conic shape with the point lined up to the NE, and occupies a vast area containing 96 municipalities (Fig. 1).

The co-ordinates of the southernmost point of the province of Benevento are: 14°41'41" longitude East, 40°58'34" latitude North at 1,550 m. a.s.l. The location is "Crocelle" in Pannarano bordering on the territory, a municipality of the province of

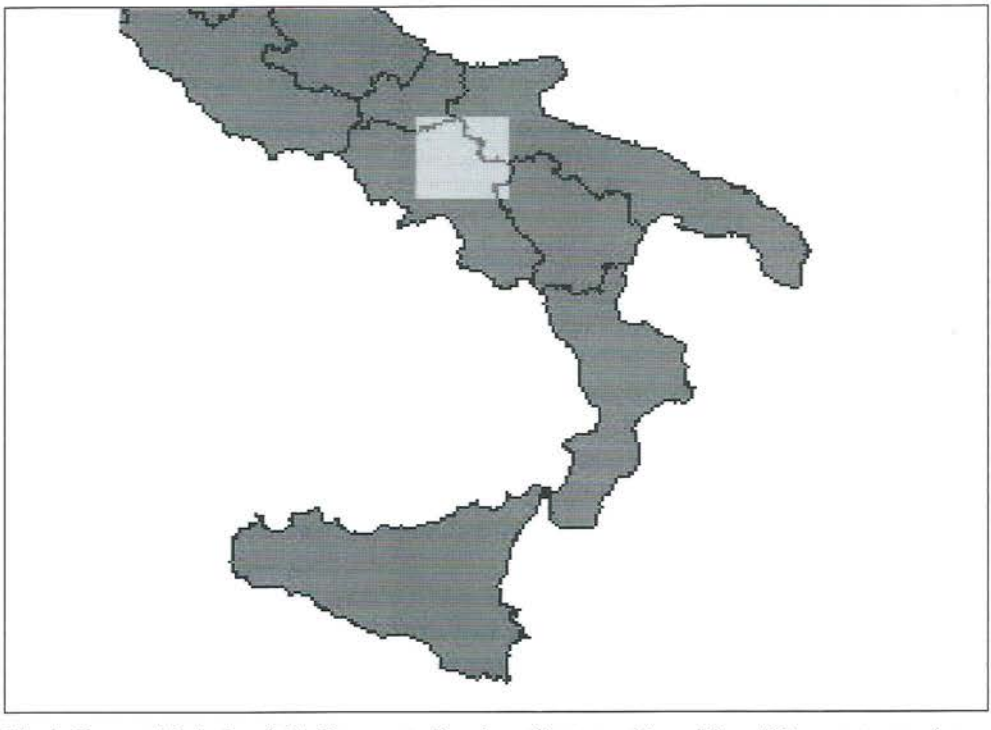

Fig. 1. Geographical site of the Benevento Province (Cartographic archive of Benevento province, via Calandra – 82100 Benevento).

Avellino. The co-ordinates for the northernmost point are 41°29'14.5" latitude North, 15°00'30" longitute East at 572 m. a.s.l.. at "Difesa dei Corvi" in the San Bartolomeo in Galdo territory, a municipality on the border with Molise and Apulia. The co-ordinates for the easternmost point are 15°8'57" longitude East, 41°16'48" latitude North of 806 m. a.s.l. at "Mass. Mèola" in Castelfranco in Miscano, on the border with the provinces of Avellino and Apulia. The co-ordinates of the westernmost point are: 14°21'15" long. East, 41°9'9" latitude North at 36 m a.s.l. at P.te Metapaolo in Limatola on the border with the province of Caserta.

The datum point of the north-westernmost part corresponds to the easternmost one of the Matese Mountains with the highest peak (Mt Mutria) in the area, at 1,823 m. a.s.l.. Most of the territory is hill-land mainly in the north and this forms a semicircular belt which then curves southward until it reaches other calcareous lands - the Irpinian Appenines, namely the Partenian mountains. The western part of the territory between the Matese mountains to the north and the Partenian mountains to the south is a plain with the Taburno-Camposauro carbonate complex (1,393 m. a.s.l.) separating the Telesina Valley and the hills of Montesarchio (Benevento).

Geological setting

The southern Appenines are considered to be a segment of a range of fold mountains, with a distinct internal geometry, made up of elements whose relationships have often been affected by alterating geological phenomena (Sgrosso 1988; AA. VV. 1988).

In the geological map of Italy 1:100,000, the province of Benevento lies mainly on the sheet no. 173 BENEVENTO along with eight other sheets as shown in the following table:

N. 161 ISERNIA	N. 162 CAMPOBASSO	N. 163 LUCERA
N. 172 CASERTA	N. 173 BENEVENTO	N. 174 ARIANO IRPINO
N. 184 NAPOLI	N. 185 SALERNO	N. 186 S. ANGELO DEI LOMBARDI

As shown in the geological map of the province (Fig. 2), the whole area is divided into 12 geological units.

1	CLAYS
2	ARIANO BASIN
3	BIOCHEMICAL CONTINENTAL
4	DEBRIS-ALLUVIAL CONTINENTAL
5	FLUVIAL-ALLUVIAL CONTINENTAL
6	FLUVIAL-LACUSTRINE CONTINENTAL
7	VOLCANIC CONTINENTAL
8	TRANSITIONAL FACIES
9	MIOCENE FLYSCH
10	RED FLYSCH
11	MARINE TRANSITIONAL
12	CARBONATE PLATFORM

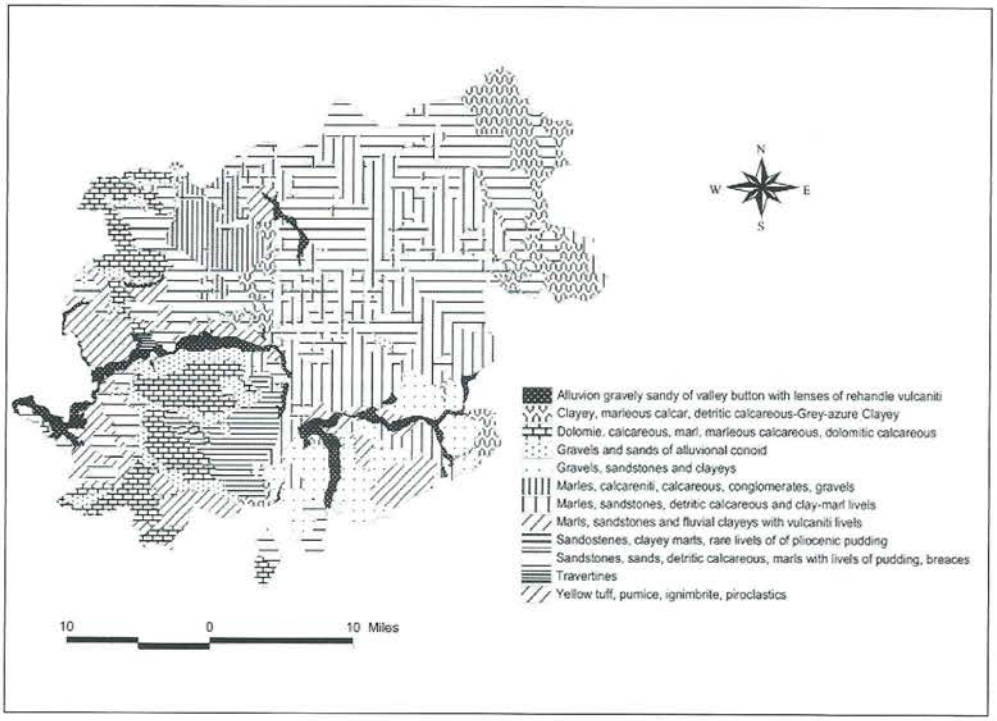

Fig. 2. Geolithic map of the Province of Benevento (Cartographic archive of Benevento province, via Calandra – 82100 Benevento).

The clays unit (Oligocene, Pliocene) lies in a small sector in the westernmost part of the province and feature lithotypes such as clays, calcareous marl, calcareous debris, and blue-grey clays.

The Ariano (Messinian) basin unit, is a single area of the province, with the uppermost part in Torrecuso and the southernmost part in Montesarchio. In this unit sandstone, clay marls, and scarce Pliocene pudding stone levels occur.

The biochemical continental unit (mid/late Pleistocene) only includes Telese in the Telese Valley and is characterised by travertine stone and deposits, resulting from karstic phenomena ensuing from sulphurous water flow both above and below the surface.

The debris-alluvial continental unit (Pleistocene) is mainly at the foot of the mountainous area of the carbonate Taburno-Camposauro complex and is adjacent to the carbonate platform and the Ariano unit. The lithotypes are sands and gravel from alluvial cones, as well as screes from ancient and recent slopes.

The fluvial-alluvial continental unit (Holocene late Pleistocene), on the other hand, lies north of the Taburno-Camposauro carbonate complex, precisely at the bottom of the Telesino Valley where the River Calore flows until it reaches the River Volturno. It is made up of alluvial pebble/sand from the valley bottom with gravely/sandy alluvial material and altered vulcanite lenses.

The fluvial-lacustrine continental unit (Pleistocene) is found in various parts of the Sannio territory, particulary in the areas corresponding to the sector to the north of the

Taburno-Camposauro complex. There are the two southernmost areas, one of which is to the south of Montesarchio and the other at San Giorgio del Sannio. The final element of this unit is in the western part of the Sannio territory, directly to the north of Amorosi. In this unit we find sand, gravel, fluvial-lacustrine clay and sometimes altered vulcanite.

The volcanic continental unit (Holocene-upper Pleistocene) is only to be found in the westernmost part of the province and forms a belt interrupted by fluvial-lacustrine continental units, fluvial-alluvial units and the carbonate platform. It is characterized by yellow tufa, pumice, ignimbrite, ash tuff and altered pyroclasts. The transitional facies unit (Mesozoic-Caenozoic) is only one sector of the northern part of the province within the Miocene flysch unit. The lithotype is composed of marl, calcareous matter, conglomerates and fine scree.

The miocene flysch unit (Early-mid Miocene), however, being one of the largest units in the whole province, spreads over most of the northern area from the border with Puglia and Molise continuing southward. From the middle region towards the Avellino area, the unit begins to break up until completely disappearing. The lithotype is mainly sand, sandstone, calcareous debris, and marl with levels of pudding stone and fine scree.

The red flysch unit (Langhiano-Tortoniano) is mainly in the centre of the province even though it is also in the north east. It extends more or less continuosly, though there is a little fragmentation in the actual central part. The lithotype is marl, sandstone, calcareous debris, with clay-marl layers.

The marine transitional (Pliocene) unit is only to the south of the provine and is made up of gravel, sandstone and clays.

Finally, the carbonate platform (Mesozoic-Caenozoic), is on the highest mountain range of the Sannio territory in the Taburno-Camposauro complex and Sannio-Matese. It is made up of dolomite rock, limestone, marl, calcareous marl, and calcareous dolomitics.

This set of characterisics is due to a complex series of processes and derives from frequent overlapping involving all the elements of the Southern Appenines. Many authors have identified various tectonic phases as the cause of this complexity, from the Early Miocene on. Phases dating to the Early Tertiary have also been recognised which have deformed the innermost domains in the opposite direction from the Appennines.

During the deformation of the Appenine domains, anticlockwise rotation began, reaching over sixty degrees with an apparent increase in the tectonic elements growing from top to bottom. The tectongenetic episodes of the late-Tertiary period, which determined the later deformation of the Apennine domains, can be classified into four phase groups. The first is the Burdigaliano-Langhiano when the highest tectonic elements, originated from the deformation of the inner domains, took their position. In this phase, the variously coloured clays (Sicilids) tended to slide towards the front of the range, causing the Irpinia Basin, the largest of the Miocene Avanfossa ones. The Tortonian phases cover the deformation of the far side of the Lagonegro basin and the Abruzzo-Campana platform colliding with already tectonised areas. The front of the range probably began to have a certain number of minor arches at this time. At the end of such phases, the formation of the Tyrrhenian Basin began. After the Messinian phases and up to the early Pliocene, the Appenine facies began to be less varied, while the more internal structures moved further, contributing also to the deformation of the Milese Basin. In the middle Pliocene, the tec-

tonic phases thrust the Appennine range onto the Apulian domain, while backflow developed in a few minor examples of deformation.

The current formation was established at the end of the Pliocene period. The vertical tectonic pushed the whole peninsula up which developed mainly in the late Pliocene with a gradual shift in the upward movement from west to east, while the Tyrrhenian basin deepened. It is possible to identify various phases alternating at lengthy intervals. From the late Pliocene to the early Pleistocene, the eastern sectors underwent deformation due to compression, while on the western side there was tensile tectonic action. The neotectonic action of the last twenty thousand years has preserved minor characteristics.

Geo-Morphology

The orographic organisation of the Sannio belonging to the province of Benevento is mainly hill country, with few fluvial valleys and a strictly localised distribution of carbonate ranges mainly in two sectors over the whole territory. The geomorphological units which can be identified in the region are:

- The mountainous zone of Matese and Taburno-Camposauro;
- The hill zone of the Sannio Appenines and the carbonate mountains;
- The Caudina and Telesina valley zones;
- The Benevento valley area.

The Matese mountainous zone and the Taburno-Camposauro complex have a typical limestone morphotype. The Matese range, running mainly East-West, has a sharp ridge with a jagged outline as well as gorges and deep ravines, which sometimes open out into larger valleys. The middle altitude places, however, are softer and more homogeneous, whose geomorphological features being modelled in a more uniform way by various anthropic activities. The limestone setting in this area has also determined the formation of the morphological characteristics typical of the carbonate context, made up of swallows and Karst plains documenting the seismic phenomena and the erosion working on the superficial hydrographic network (Carannante & al. 1988). At the base of the steep slopes, with ravines and deep gullies, there are often alluvial conoids of remarkable dimensions, causing geomorphological units and resulting into a more complex territory showing at the same time a flat physiography in sharp contrast with the karst.

To these features in the Matese area, must be added other characterisitcs of the Taburno-Camposauro area where it is possibile to observe a series of peaks and pinnacles along with various plateaux and valleys making the territory particularly varied and originating a geological morphotype of particular interest.

This carbonate massif is divided into two main ridges, the former lying NW-SE and the latter E-W, setting sub-eliptical parameters. The morphological phenomena are widespread Karsts, especially on Mt. Taburno (1.394 m. a.s.l.). In fact, the Campi di Trellica and Cepino fields show numerous of truncate-conical cavities due to the fracturing of the local limestone. At the base, in this area too, we can find alluvial conoids of varying dimensions making up a ring of foothills linking the sharp forms of the mountain to the depths of the Telese Valley where there are numerous dwelling areas.

The valleys, mainly made up of recent alluvial fragment and gravel deposits, sand,

muddy silt, are crossed by the rivers Calore to the north, and Sabato to the south, with fluvial terraces at various levels. The valleys also have ravines and seasonal torrents furrowing the base level of the carbonate structures. Against this kind of geomorphology is offset the hillcountry of the Sannio Appenines, with its prevalently softer features and heights not exceeding 900 m. The phenotype of this territory arises mainly from the outcropping nature of the lithography, particularly plastic continental debris, which is impermeabile and so continually exposed to erosive and gravitational phenomena which cause the slopes to develop in a more or less continuous and relentless way. To these lithographic characteristics, human activities such as deforestation and agricolture which increase the morphoevolution and the spread of imbalance are to be added. The surface orography has knolls formed of flysch material in constant downward movement. The repetitive occurrence of the low, rounded forms is interrupted by the presence of a network of watercourses on the surface characterised by a succession of channels, ravines, small streams eroding the lower levels of the flysch layers and causing landslides. Sometimes, the landslides silt up the streams, originating new ones, which feature the landscape. Lastly, the Benevento basin, extending from the lower Sabato valley to the mid Calore valley, is made up of a series of low, clastic hills of volcanic origin, which offer the local people a highly fertile soil cultivated since time immemorial.

Phytoclimatic setting

The morphology of the Benevento Sannio area is particularly varied with altitudes ranging from 50 to 1800 m. a.s.l. bringing about a remarkable special diversification in the meteo-climatic parameters.

There are no specific reference studies dealing with the the climatic features of the Benevento area. There are only a few studies on lesser geographic units of Sannio. An APO homogeneous area, extending to the valley of the River Calore (De Paola & Diodato 1999), has been identified. To determine the climatic conditions of this territory, we referred to the 38 weather stations of the Italian Hydrographic and Mareographic service, 27 of which are in the province of Benevento, and the other 11 are distributed along neighbouring territory. The data used to assess rainfall levels cover the period from 1951 to 1988. From this information, it can be assumed that the average annual rainfall goes from a minimum of just over 700 mm in the eastern section running N-S between San Bartolomeo in Galdo, Baselice, Pago Veiano, Montecalvo Irpino, Apice, to a maximum of 1.800 mm in the Titerno Basin, to the NW, and on the Parthenian mountains to the south.

Particulary heavy annual rainfall is typical of the northern foothill of Camposauro and the southern foothills of Mt. Taburno (Fig. 3).

From the correlation between the average, annual isotherms, considered on a regional scale and the distribution of the types of vegetation, the phytoclimatic areas or climatic-forestal zones have been identified and mapped (Fig. 4).

These areas are distributed over the territory mainly following the variations in temperature determined by altitude and topographic exposure (Iovino & Menguzzato 1990).

So, starting from the plain-level and proceding upwards, a sequence of the various for-

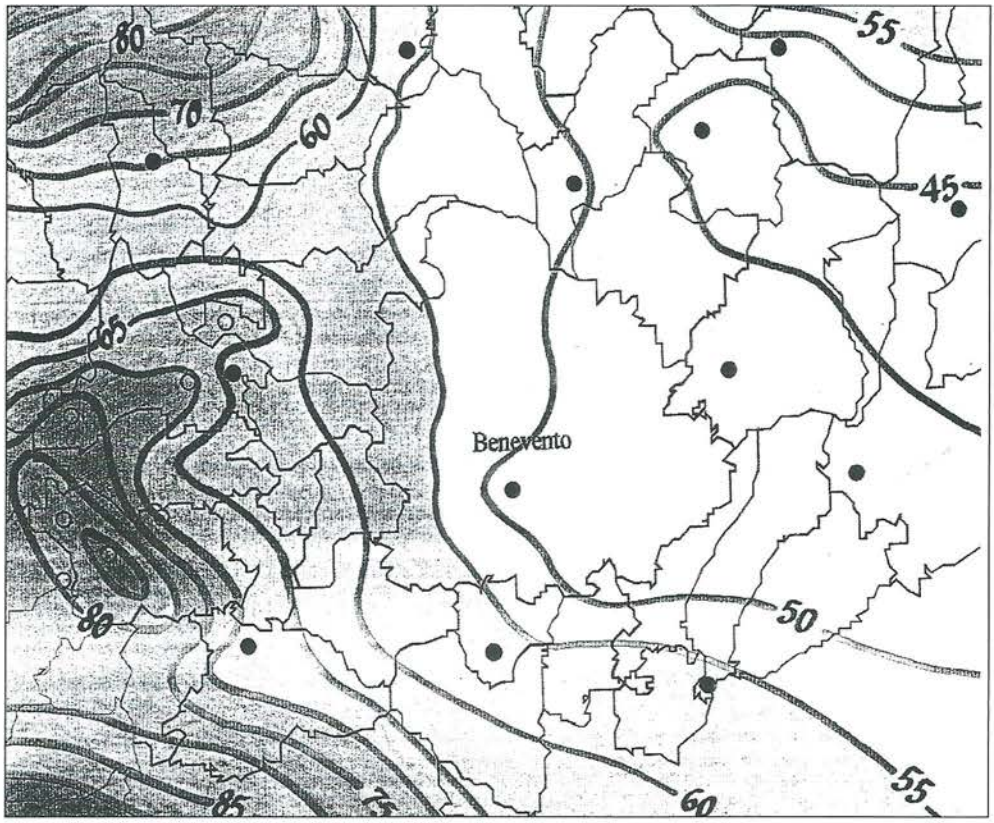

Fig. 3. Spatial distribution of the maximum annual rainfall in 24 hours in the APO.

est climate zones can be detected each one including a specific group of wild species, if there is no human interference.

At the lower levels of the bio-geographic area in question, up to ca. 800 m a.s.l., the phytoclimatic zone known as *Lauretum* is found. This, in turn, is subdivided into three distinct sub-zones, as follows: a warm subzone; a medium subzone; a cold subzone. The first one extends outside the average annual isotherm of 16° C over a surface of around 498,288, 068 mq and largely occupies the area of the Telese valley, which continues in the northern area of Taburno-Camposauro from the town of Benevento to the eastern most part of the province. It forms a uniform band around the carbonate complex verging to the south and reaching the Volturno Valley at S. Agata dei Goti where it forms a narrow corridor which then opens onto the Plain of Campania. The middle subzone, ranging from the average annual isotherm of 16° C to 13° C, extends over a surface of around 757, 624,343 m^2. It runs mainly along the hill area and forms a particularly irregular margin with various subdivisions. The cold subzone, comprised between the average annual isotherm of 13° C and 10° C, covers the smallest area: 410,032,268 m^2; it runs mainly over the northernmost area of the province. Generally speaking, the climate in the *Lauretum* is typically Mediterranean sub-humid, with a hot, dry summer, and a wet winter with heavy rain.

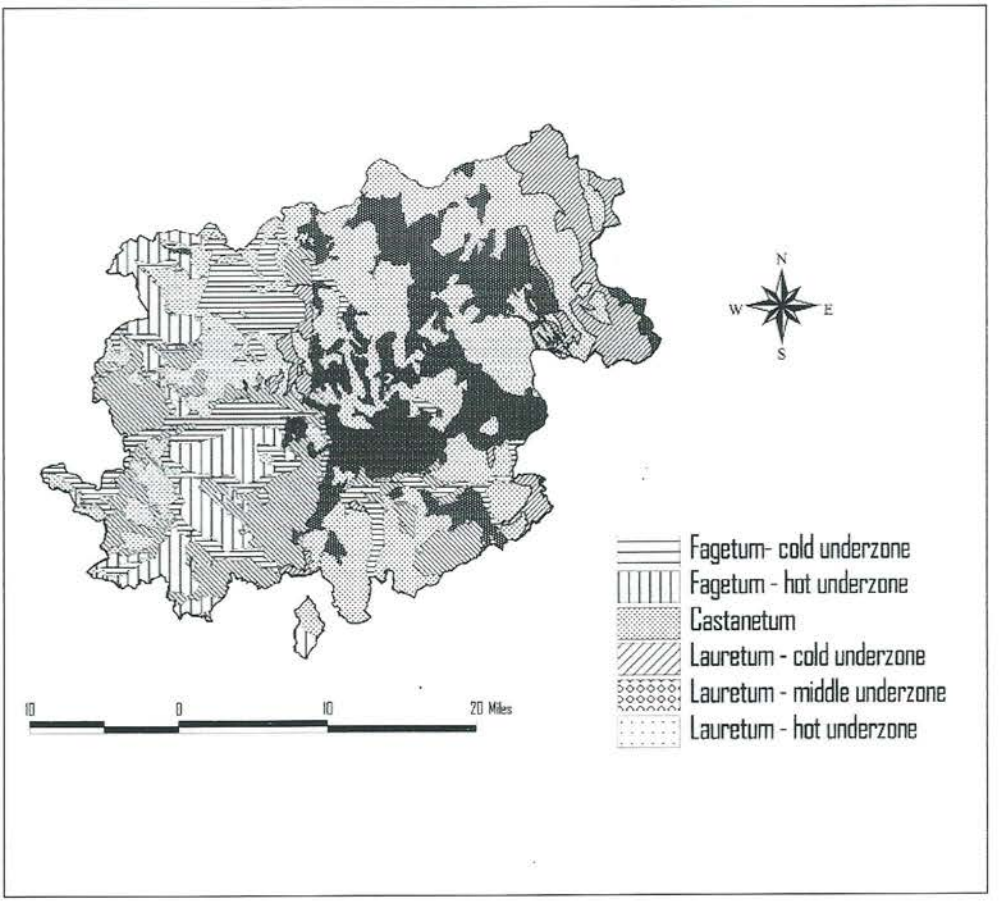

Fig. 4. Phytoclimatic zones of the Benevento Area (Cartographic archive of Benevento province, via Calandra – 82100 Benevento).

Above 800 m. a.s.l., the phytoclimatic zone, known as *Castanetum,* occurs. This reaches an average annual isotherm of 7° C at a height of around 1,200 m. a.s.l., taking in all the areas belonging to the submountainous vegetation-bearing level. It covers an area of around 339,656,691 m^2 and corresponds to the medium-high level of Taburno-Camposauro where it forms a small, narrow belt. It is also found in the northernmost part of the Sannio territory and forms a narrow, uniform belt in the Sannio Matese region and a NW-SE band over the NE area of the Province of Mt S Marco and Mt Calvello.

Then comes the phytoclimatic zone called *Fagetum*, at an altitude of over 1,200 m a.s.l., between the average annual isotherm of 7° C and 4° C, with beech hight forest. This phytoclimatic zone covers barely 78,868,141 m^2 of the territory. It is mainly distributed over the highest level of the Taburno-Camposauro complex and the Matese Sannio area. The phytoclimatic zone, known as *Picetum,* which coincides with the upper mountainous and subalpine planes to a height of around 2,200 m a.s.l. is not represented in the Benevento Sannio area.

Hydrological setting

The Benevento Sannio area is rich in water courses wich feature the landscape in different ways. They flow mainly in the N-S and E-W directions.

The whole province is divided into the following four basins: the river Calore including the subbasins Tammaro, Ufita-Miscano, Sabato and Corvo Serretalla; the river Fortore; the Titerno, and the Isclero (Fig. 5). Of these, the largest basins are, in descending order, the Calore (60385 hectares), Tammaro (53082 hectares), Fortore (25104 hectares) and Titerno (17137 hectares), after which follow, still in descending order, the Isclero (15783 hectares), Ufita- Miscano (15748 hectares), Volturno (9865 hectares), Corvo-Serretella (6521 hectares), Sabato (3998 hectares). In total, there are 9 rivers and 2 streams. Of these, only the Fortore and the Titerno rise in the Province of Benevento.

The main confluences of the provincial hydrographic network are in Benevento itself, where the Tammaro, Ufita, Sabato and Serretella intersect, opening into the Calore; at Fragneto Abate, and Pesco Sannita where Tammaro, Tammarecchia and T. Reinello converge; between Limatola and Dugenta, where Calore, Volturno and Iscelro intersect (. 5a).

The Tammaro and the Calore rivers cross the majority of the territory, and in particular the former flows NW-SE from the border with Molise, flowing between Paduli and Benevento where it joins the River Calore. This flows east-west, crossing Benevento and

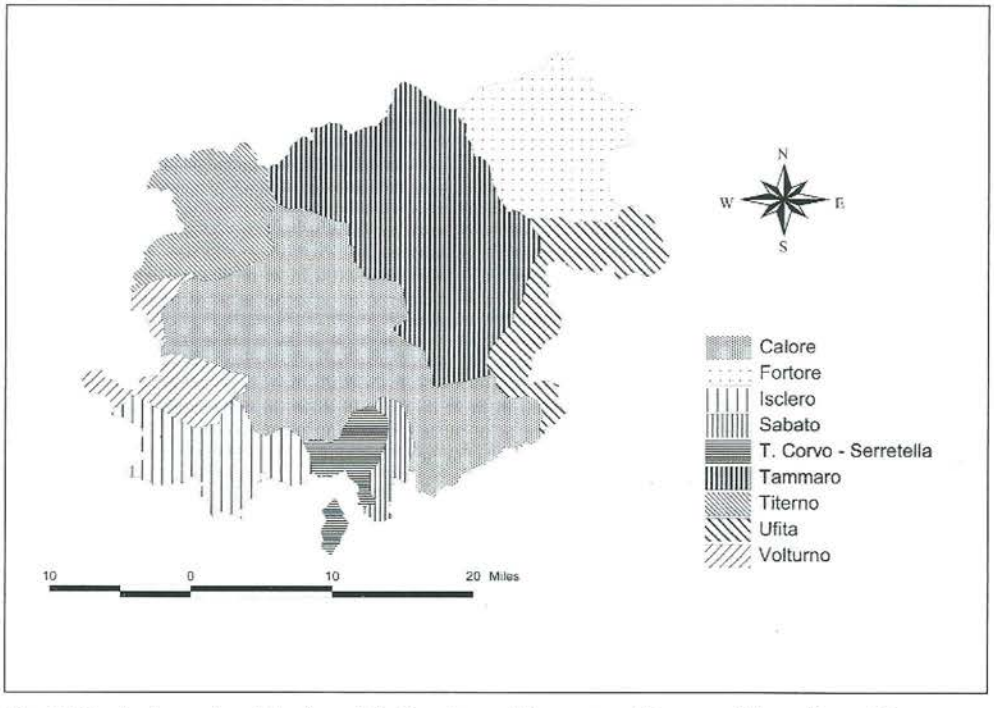

Fig. 5. The basins and sub-basins of the Province of Benevento (Cartographic archive of Benevento province, Via Calandra – 82100 Benevento).

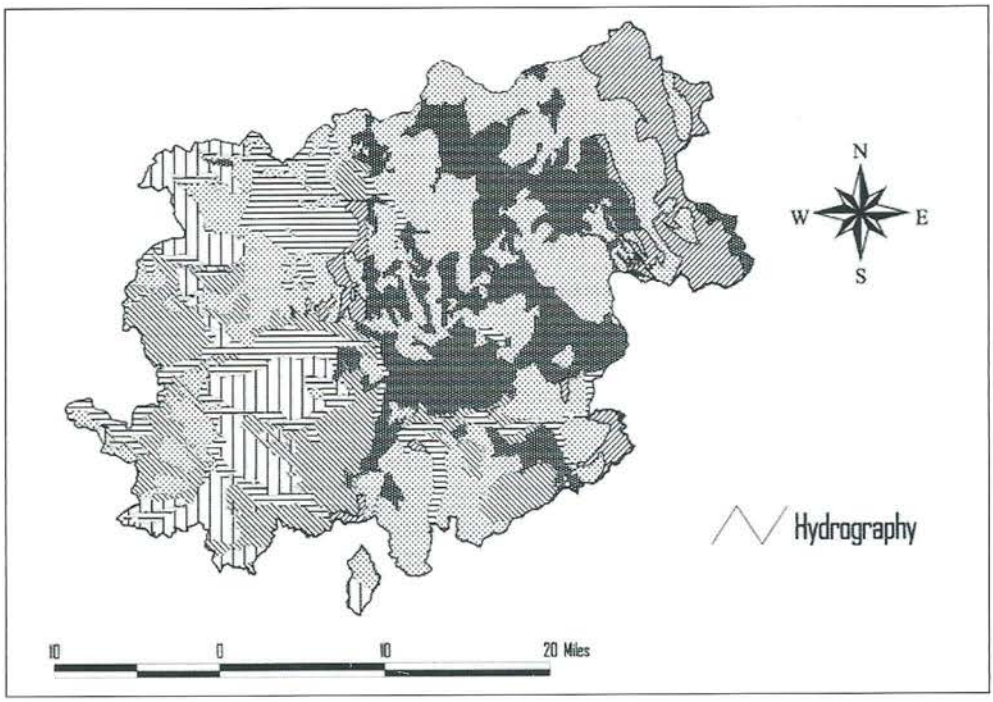

Fig. 5a. Hydrographic map of the Benevento Area (Cartographic archive of Benevento province, Via Calandra – 82100 Benevento).

heading north towards Ponte and then Telese (Sorrento). These two rivers form an almost complete ring around the municipality of Benevento.

The local hydrographic system consists mainly of streams and tortuous ravines, sometimes deeply embedded in the limestone structures and flysch, otherwise almost on the surface. In most cases, the banks of both the major and minor water courses are particularly eroded and show signs of structural instability, due to both the unconsolidated nature of the material and the dimensions of the riverbank vegetation (both tree and brush).

Furthermore, data concerning springs amounting to 102 in number all across the territory should be added. They are not present in the southernmost areas, the only one being at San Donato between Apica and San Giorgio del Sannio.

Vegetation and Use of the Land

The vegetation is only one relevant aspect of the landscape undertood in the broadest meaning of the worl, built up from various types of vegetation and which are found in a specific portion of the territory (Ingengoli & Pignatti 1996).

The Sannio plant landscape is greatly diversified depending on both the orographic features, including plateaux, mountains and hills, and the human pressure. Apart from the villages, infact, there are small and isolated clusters of dwellings. Furthermore, agricultural

areas, such as grape-growing around the Telese Valley, forestry destined for timber, and natural forest and thick, homogeneous woods which are mainly found in the mountainous areas, and sometimes on the hillside, the existence of open oakwoods, which connect the natural territorial environment and the distribution of tall and ground-level riverbank vegetation along the main watercourses make the Benevento Sannio a remarkably "natural" region, which grants the local population a natural heritage of considerable importance (Fig. 6).

The mountainous Taburno-Camposauro and Sannio Matese areas comprise high-forest beech trees among which fir trees sometimes take hold and form single layers of homogeneous units rising above the beech trees and constitue the evergreen phenotype of the carbonate hill country. Immediately beneath the vegetation facies, chestnut woods may nearly always be found. They may be of varying age and dimensions, be it dense, when young, or sparse when old.

Chestnut trees may most commonly be found in the Taburno area where the trees are looked after by the municipality bearing the same name. Below these we can often find mixed deciduous woods where the dominant element is almost always the oak. This is the plant which establishes the phenotype for the Sannio landscape as it forms mesophylic woods. Its distribution generally depends on the agricultural activity which leads to a somewhat fragmentary presence which nonetheless does not take away the oak's role as the matrix in Sannio's environmental mosaic (especially in the easternmost area of the territory).

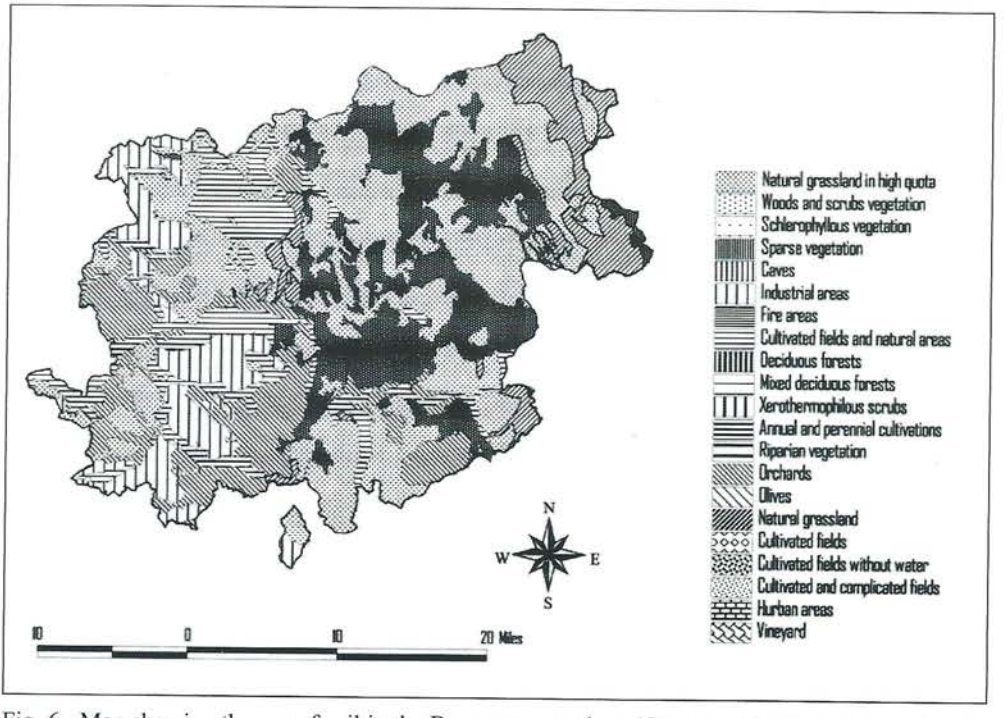

Fig. 6. Map showing the use of soil in the Benevento province (Cartographic archive of Benevento province, via Calandra – 82100 Benevento).

While the mountainous zones are mainly covered with natural vegetation, in the areas of the middle/low hillcountry, and on the plains, we find cultivated areas distributed so as to form broad areas spread out by sector. In the alluvial Telese plain, which has been a vinegrowing area since the war, various species of vine have been cultivated, producing prized grapes such as Trebbiano toscano, Falanghina, Coda di volpe, Malvasia toscana, Malvasia di Candia, Sangiovese, Aglianico, Piedirosso, Sciascinoso and other non-aromatic species.

Furthermore, in some areas *Populus tremula* L. (European Aspen) is widely cultivated. To the vine growing tradition, we must add grain-growing on the hillsides and plains in all the basins and sub-basins in the area creating a rich and varied landscape, enriched by irregular plots with deciduous oak wood expecially where the soil is most pebbly. Sometime they grow alongside, or are even substituted by, olive groves. These are usually of modest proportions, yet may be found throughout the territory.

To this scenario we must add the high value of a component of the landscape with low vegetation represented by the Pescasseroli-Candela sheep path. This path covers dozens of kilometers of the land belonging to 18 municipalities in the Benevento area, crossing fluvial areas and following limestone and flysch hillsides. This sheep path, defined by the Heritage and Environment ministry as "the most important monument in the economic and social history of those areas where the seasonal migration of herds takes place". It covers the Camapania region starting from the hills to the far south of the plateau which goes down from Candela into the Carapelle Valley, flanking the Cervaro Valley and the Ariano Saddle reaching Casalbore. It reaches the Tammaro and the Biferno before continuing for Isernia. Unlike in the past, when it crossed various water courses in the Sannio, such as Tammaro, it now follows agricultural areas and fixed stock farms, as well as roads and bridges, yet it maintains its physiographical identity.

The presence of hanging valleys and abandoned fields allows for the developement of a significant biodiversity in the herbaceous flora which, depending on the physiological needs of each species, is distributed in different ways across the whole area, creating plant formations which differ from each other somewhat.

The alternation of the seasons and the subsequent chromatic alteration in the plant life, the relatively moderate human impact in the area, the low level of urbanization and the widespread sylviculture, all grant the biogeosystem of the Sannio area a fairly high position in terms of landscape value, even though rather simplified compared with the local territorial biopotential.

Historical notes

In ancient times the Sannio region had two locations, the former and original one was more limited while the latter was wider and derived from the partition of Italy into regions made by Emperor Augustus.

Originally, the term referred to a region, inhabited by the Samnites, whose geographical extension, anyway, was not very precise since it included also other areas, the Irpinia region and the valley of Caudio, that were occupied by other peoples. According to some historical source these populations, however, were sometimes considered as members of

the Samnite people. Anyhow, we can state that the term Sannio referred to an internal, mountainous region, closed between the Latium, Campania, Lucania and Apulia regions and the villages of the so called "Peligni" and "Frentani" populations. It included the high valleys of the Sangro, Volturno, Triferno and Trigno rivers. Moreover, it spread out towards the Irpinia region and the territory of the valley of Caudio, the high valley of the Tammaro river and the whole valley of the Calore river - an affluent of the Volturno river. Therefore, it corresponded to the current north-central area of the Campania region, bordering on Molise and Apulia regions.

In the partition by Emperor Augustus, the fourth region was given name of Sannio and it had a much wider extension, including, besides the real Sannio region - from which the territories of the Irpinia region and the valley of Caudio were separated and annexed to the Apulia region – all the territories of the Marsi, Peligni, Frentani, Marrucini, Vestini, Equi and Sabine populations, consequently the region was often called by the more comprehensive name of "Sabina et Samnium". This region, which had suffered heavy damage during the social war, and afterwards even more at the time of Sulla, took revenge against the Samnite people for their unfaithfulness to Marius' party. For this reason the Samnite geographical region underwent land reclamations at the time of Caesar and the first emperors, who, moreover, promoted the municipal development of the various towns (Nista 2000) (Fig. 7).

The Samnite people was an ancient Italic people who inhabited the Sannio region and the surrounding areas, peopled by a certain number of tribes more strictly connected

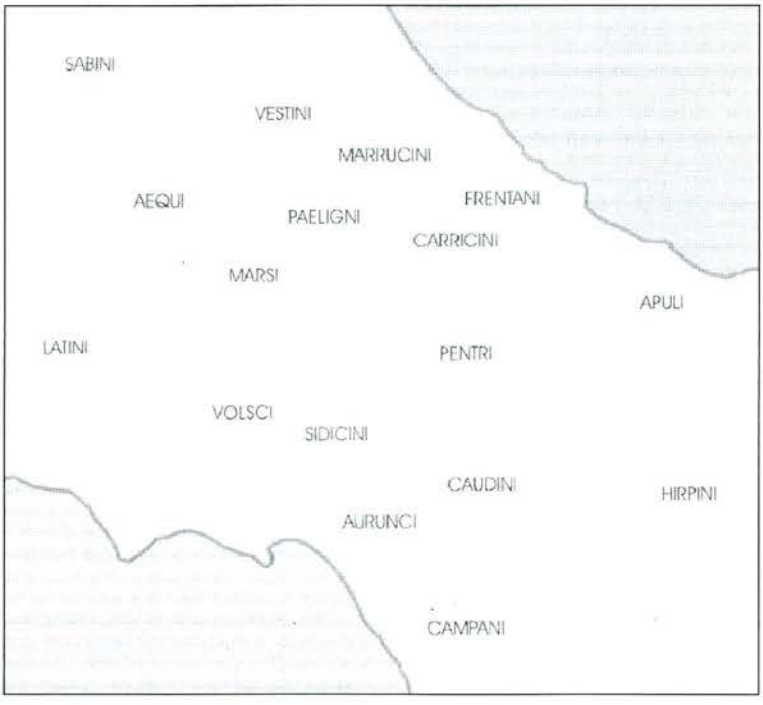

Fig. 7. Territorial distribution of the italic populations.

among themselves (Carecini, Pentri, Caudini, Irpini) as well as more or less similar allies (Frentani and Larinati to the north-east, Alfaterni to the south-west).

According to tradition (Strabo V 250), the Samnite people were Sabines who, owing to a "sacred spring", reached the land of the Opici, led by a bull. The tradition is worth believing not only for the essential part of the migration northward, generally acknowledged, but also for the detail concerning the land of the Opici, anyway this part of the legend is rejected by many experts.

The original name is preserved in its authentic form on a coin, *Safinim*, which derives from a *safnio* theme. The Romans by saying *Samnites* established a contact with the Latin name of the place, *Samnium*, but kept the Greek final letter. However, the real meaning of the word is still mysterious.

The historical data contain interesting information on the customs of the Samnite people such as the gladiators' games as well as on the arms: oval bucklers, cuirasses called "sponges", bronze discs, plumy helmets. Among the others, the cult of Marmete was remarkable and corresponded to the Mars of the Latins (Tagliamonte 1996).

Among the Samnite people the town code was based on the *meddices* documented in Sannio and exactly in Boiano. In fact, if the end of the wars against Rome had caused the end of the political independence of the Sannio region it had not, anyway, abrogated its administrative autonomy. The political offices, in fact, even if democratically conferred by election, were reserved exclusively to the well-to-do classes (Livio VIII, 39, 12; X, 38, 12; X, 41, 11), which managed the power through the institution of the *meddix*, a role probably corresponding to the Roman office of the *magistrates* (Festo p. 10L).

In areas more easily in contact with the Roman world, thanks to the construction of large communication routes, such as the *Atilia*, the Roman *Saepium*, a sort of urban settlements could be found where, due also to their position on the plain, we can observe an articulate town planning developed on roads, while the single buildings – houses with atriums, impluvia, mosaic and crushed terracotta floors – derived from analogous urban models.

In a mainly agricultural culture, a particular importance was given to the oil production, celebrated by several authors of the first half of the imperial age, such as Pliny and Horace, but it was also well-known in the previous centuries, at the point to be even mentioned by Cato (Agriculture 35) (Figs 8, 9).

In the Irpina region it is worth remembering the dairy production and the wool commerce, especially with the nearby Apulia (Strabo VI, 3, 9; Horace Carmina III, 15, 14) as well as the fruit trees and vegetables growing, especially on the eastern uplands of the region, and finally the vine-growing, documented since the 5th century B.C. (Ateneo I, 57) and particularly renowned in the city of Benevento.

Diachronic survey on magic, religion and transformations of the Territory

This paragraph deals with a very particular aspect of the history and culture of the city of Benevento. This city represented a contact point for different civilizations such as the Samnite, Romana and Lombard ones, each of them influenced the culture of the local populations, leaving, especially in the magical-superstitious field, many traces which still persist particularly among common people (Giordano 1976).

Fig. 8. Bisaccia, tumb 66: achroma ceramics (VII century b.C.).

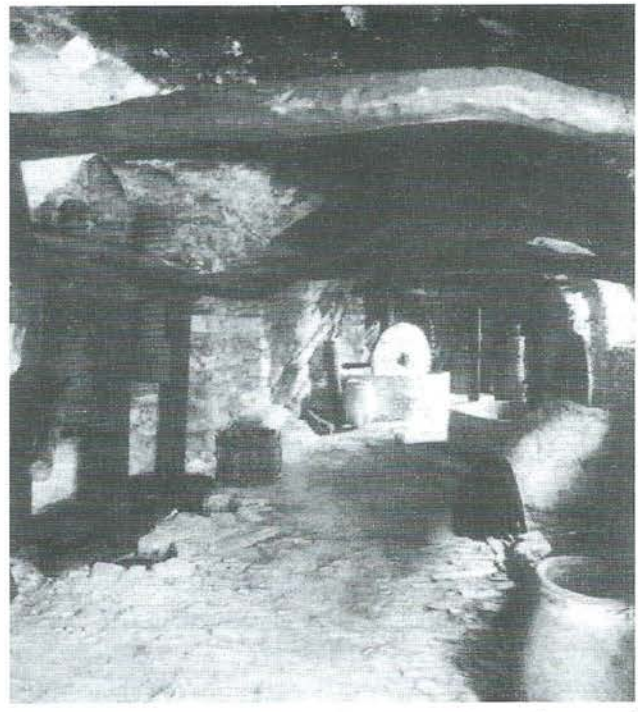

Fig. 9. Evidence of the rustic industry: an antique oil-press of XV-XVI century.

The legend of the walnut tree of Benevento is linked to the Lombards present on the local territory. According to many writers of the past, Benevento became a sort of capital of the magical world. A lot of magical rituals were chiefly based on vegetable products (Fig. 10).

After conquering the Samnite territories, the Lombards were progressively converted to Catholicism, but, anyhow, conserved traces of idolatry. Among the numerous naturalistic cults, they worshipped trees, perhaps considered as symbols of life and fertility, and, in particular, for their rituals they chose a walnut tree whose location has long been argued.

Other beliefs concerned local people. According to one of these, the unmarried women of the Sannio region, beyond a certain age, on Saint John's night and at the full moonlight, used to pick a particular kind of thistle called "pine- thistle" (*Dipsacus sativus*) and after having burnt its petals, they observed them the following morning. If the small plant, burnt on the previous night, showed a vegetative resumption this was considered a good omen for their possible marriage.

There are many legends as well as particular and disconcerting customs, among these definitely the one linked to the *Artemisia campestris* subsp. *glutinous* is really interesting.

This species, known in the Sannio with the name of "Tamarisk", was used to perform a magical ritual whose aim was to cure warts. Accordingly, the person suffering from warts used to turn to experts who would go to riversides, especially those of the Tammaro river where the mugweed grew abundantly, and tied a knot in a plant saying three times the following refrain: "Tamerice, Tamerice,…….. (the name of the sick person) tè o puorr e nun

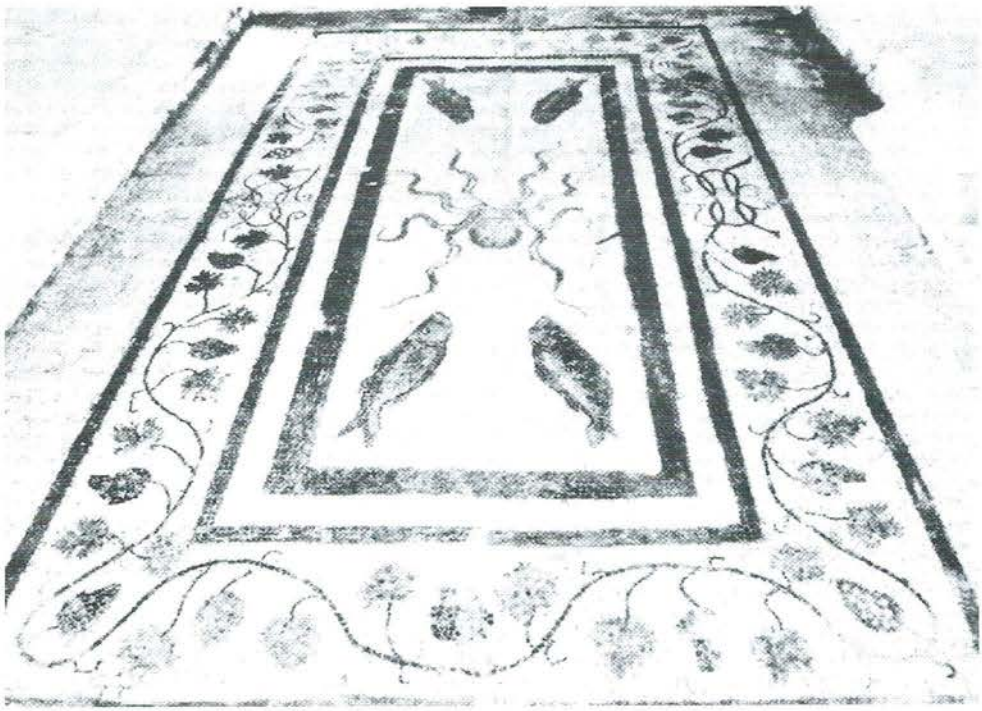

Fig. 10. Impluvium with polychrome mosaic from a *domus* of Larino, loc. Torre Sant'Anna.

o dice". The twisted twig, would get dry and the warts with it definitively (Morrone 1972; Zeppa 1959).

In the centuries, together with these rituals and superstitions, a progressive change in the environment took place, especially in the vegetable landscape which decreased remarkably because of the cultivation of new lands.

In 1681, a geographer of the Dominican Order wrote: "...In Cercello, Soffiano, Santa Croce, there is a very large wood, which embraces the Apennine on both sides" and continues by saying "it is really dreadful and shadowy due to the multitude of high and ramous oaks".

Moreover, in 1770 Giuseppe Maria Galati a historian from Santa Croce (a village in the Benevento's area of the Sannio region) described the landscape aspect and the configuration of the town of Morcone pointing out the presence of wide and thick beech-woods called "*faglia*" by the local people. The memory that a large part of the eastern area of the town was planted with tree is still alive in the toponymy where *cerrito* means grove of Turkey oaks, *refoglito* stands for grove of hollies, *strepparo* means scrub (Plensio 1978; Jamalio 1918). Moreover this toponymy informs us that oaks throve in the whole area where the Calore river flows, between the towns of San Bartolomeo in Gaudio and Cerreto Sannita, where at times they were enormous (remarkable the oak groves of San Bartolomeo, Molinara, Cercemaggiore, Circello, Pietraroia e Paduli).

Always on the mountains there were beeches, and in the woods thorn thickets, cornel-trees, manna-ashes, ash-trees, plane maples, irises, opium, Turkey oaks, holm-oaks and

along the banks of the rivers and the perennial brooks, poplar trees, willow trees, and basket-willows".

However, Jamalio realized that the situation was very different compared with that of the previous century, and in fact he wrote: " Once the territory of our province used to be so rich to be envied by all the other areas of southern Italy: it was covered by large and old woods and forests, which made its air really salubrious, protected its villages and lands from the violent speed of winds, floods and invasions by lethal microbial colonies. Thanks to those woods and forests the territory was rich in game, combustible materials and many tasty wood products. But since 1860 the deforestation mania of new people, inflicted the shameful baldness to our poor mountains causing the lack of combustible materials, the ruin of the fields, unhealthy air, the exposition of villages to the fury of the winds and the consequent agricultural crisis". In fact, not all the villages managed to produce a sufficient amount of wheat to meet the population's needs and, as a consequence, people had to turn to other less all-round cereals. Buckwheat, rye, spelt, barley and even bran deriving from wheat, were therefore used to make unleavened bread, "polenta" (thick maize porridge) and "focaccia" (kind of flat bread), which together with pulses, vegetables and the wild herbs represented the main nourishments for the whole population.

All this historical information seems to concern completely different areas compared with the current ones of the Sannio region which in the centuries has undoubtedly undergone a remarkable peopling phenomenon.

Even the exploitation of the spontaneous flora, despite the presence of liquor industries whose activity is mainly based on the use of numerous spontaneous aromatic herbs growing along the banks of the Tammaro river, cannot be imputed to this large transformation. In Campolattaro, the aromatic herbs of the area were used by a distillery, now closed, to make the "Doppio Kummel"- a liqueur.

The Alberti distilleries produce, still today, the famous liqueur "Strega", made by the hot distillation in small alembics of about 75 herbs and spices, chiefly picked in the area where the Tammaro river flows and then left to infuse in alcohol, with the addition of some saffron to give the liqueur its typical yellow colour; then it is let to mature in durmast vats to make the spices and aromatic herb harmonize. The recipe, jealously kept secret since 1860, make it a completely natural liqueur.

There are numerous witnesses of old customs and beliefs as well as of altered vegetable landscapes. We think it right to report all the material gathered, from various sources and historical witnesses, in the commentary of every single surveyed species (Fig. 11).

Materials and methods

This study began on september 2000 and lasted two years and was organised first as a piece of bibliographical research of both floral and medicinal interest. The field trips started in the Benevento area in the next spring. The final escursion took place on September 2002 in the upper Tammaro area in Castelvetere, Baselice, San Bartolomeo in Galdo and Montefalcone di Valforte which are the north-easternmost settlements in the province.

The plants mentioned here were selected on the basis of the use recorded in the last few hundred years in the Benevento Sannio district.

Fig. 11. Sacrilegious walnut tree, on which the witchs. It was fell by S. Barbato.

The plants list provides specific botanical information for each species. To this end, the scientific name, the author, together with the biological form and sub-form, habitat, and occurrence are given. For each plant, one or more common names are mentioned. Sannitic vernacular names are in italic character. Each plant is marked by the same serial number as in the general species list at the end of the paper. For each species a description of its use along with some interesting chemical properties (e.g. poisonous plants) is given. A simple code has been created in order to allow the reader to see at a glance the degree of use concening each species. The code is as follows:

UU: used very much
U: used quite frequently
U!: rarely used
U?: not always used
The uses are devised as follows:
α = edile consumption
υ = veterinary use
ψ = human medicine
π = particular

The plant list follows the classification of Cronquist (1988), while for the specific names reference to Pignatti (1982) and Tutin & al. (1964-80) is made.

The officinal flora

PTEROPSIDA

ADIANTACEAE

U! 001. ***Adiantum capillus-veneris*** L.
Capelvenere comune – Common maidenhair fern.
G. rhiz – Submountainous zone: cool, humid places in the crevices of wells and limestone rocks; V. del Sabato, R. Calore, T. Teunza.
ψ α υ Uses: the emmenagogue properties of this plant, in decoction with other sedative and detoxifying species, meant that it was used by women who had just given birth (Cirelli 1853) in order to restore menstrual blood. The presence of bitter principles explains the use, albeit infrequent, of the decoction of maidenhair leaves. as a vermifuge. It is an emollient, and adjuvant in bronchial diseases (Benigni & al. 1962-1964, Lodi 1957, Negri 1943). The concentrated decoction was also used as an anthelmintic for young cattle.

ASPLENIACEAE

U! 002. ***Asplenium adiantum-nigrum*** L.
Asplenio adianto nero – Black Spleen Wort.
H ros – Siliceous, damp earth, mixed woodland in the mountain foothills and on rocks.
ψ α υ Uses: see *Adiantum capillus veneris.*

U! 003. ***Asplenium ceterach*** L.
Cedracca comune, *cresta di gallo* – Common ceterach.
H ros – Damp, calcareous earth in woodlands all along the river Fortore, walls and cliffs (Fig. 12).
ψ Uses: Where it occurs, the ceterach was used only as an astringent and anti-inflammatory on reddened or pustulating skin, applied using poultices of crushed, fresh leaves. It is also known as an expectorant (Lodi 1957, Negri 1943, Palma 1958).

U! 004. ***Asplenium ruta-muraria*** L.
Asplenio ruta di muro – Wall rue.
H ros – Fractured cliffs in the mountainous zone of the Sannio Matese.
ψ Uses: the fronds contain mucilage and were used for their astringent, diuretic and ophthalmic properties. Used in infusion (Palma 1964).

U! 005. ***Asplenium trichomanes*** L.
Asplenio tricomane – Maidenhair spleenwort.
H ros – Beech and mixed shady woods in all the Sannio area.
ψ α υ Uses: see *Adiantum capillus-veneris.*

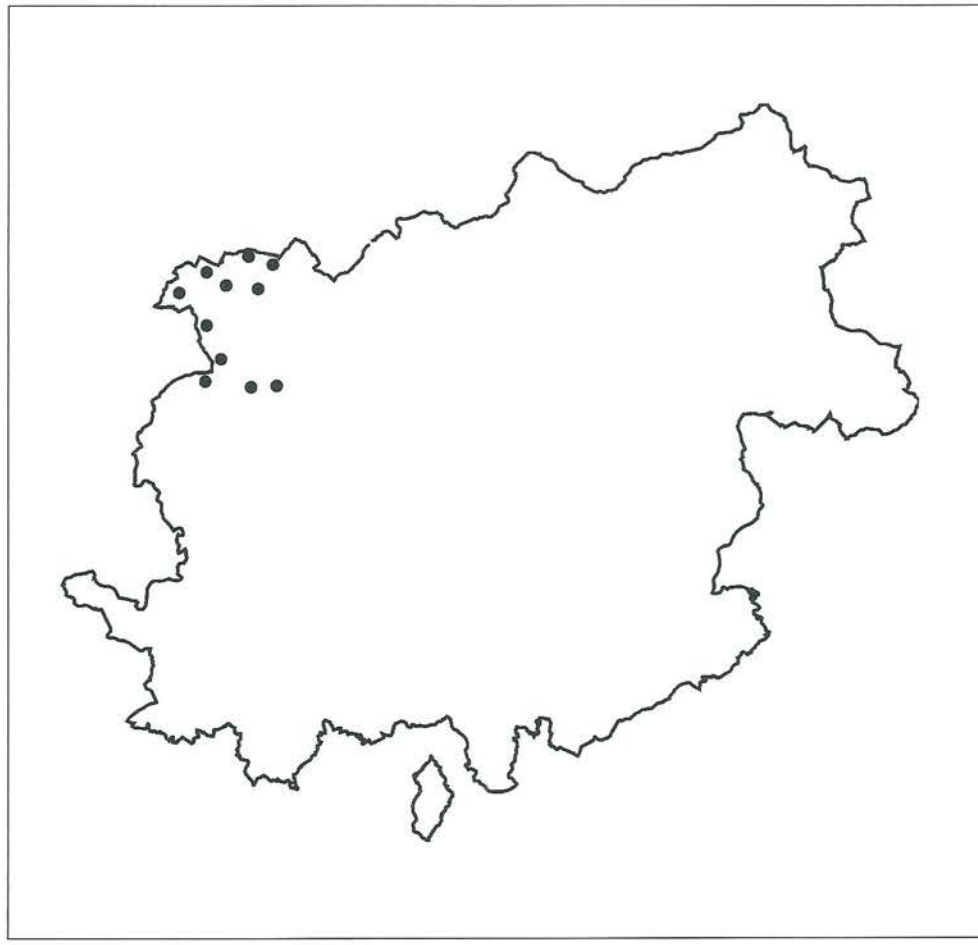

Fig. 12. Distribution of *Asplenium ruta-muraria* in Sannio.

DRYOPTERIDACEAE

UU 006. ***Dryopteris filix-mas*** (L.) Schott.
Felce maschio – male fern.
G rhiz – Shady woods all along the River Fortore and in the beech woods of the province.
ψ υ Uses: the plant was used as a very effective vermifuge thanks to the principles contained in the rhizome. This made the male fern an excellent remedy against tapeworm and scaroids. Since it was not suitable for children under four years of age, anaemics, or people with heart or renal problems, other less dangerous herbs, even though less efficient, were usually preferred. Neverthless, the use of the rhizome decoction was not entirely unheard of, because of its vermifuge qualities. Furthermore the

leaves, crushed and applied to the parts of the body suffering from arthritic or rheumatic pain, released very effective active ingredients. More well known was the use of this plant on animals with intestinal worms. The drug paralyzes them and causes the scolices to detach from the intestine wall, but doesn't kill the parasyte. A strong purgative would then be taken, for example decoction of mercury or soapy water, in order to combine the strong laxative and paralysis.This procedure, carried out several times, was extremely efficient. The purgative had not to be oily, as in the presence of fats, filicic acid would be absorded and would become poisonous (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964).

U? 007. ***Dryopteris villarii*** (Bellardi) Woynar ex Schinz & Thell.
Felce di Willars.
G rhiz – Grows on calcareous stones in the Sabato Valley.
ψ υ Uses: the rhizome was used as it contains small quantities of the principles found in the male fern (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964).

EQUISETACEAE

U 008. ***Equisetum arvense*** L.
Equiseto dei campi, *coda di cavallo* – Horsetail.
G rhiz – Bushes in damp, gravelly zones by the Rivers Calore, Sabato, Tammaro, Tammarecchia and Marfiello.
ψ Uses: the aerial part of the plant was used in infusions for its antiphlogistic and vulnerary porperties. It was used to clean wounds and especially to soothe haemorrhoidal inflammation by washing and applying compresses soaked in the preparation to the affected parts (Benigni & al. 1962-1964, Negri 1943, Palma 1964).

U? 009. ***Equisetum telmateia*** Ehrh.
Equiseto massimo – Giant Horsetail.
G rhiz – Dampy and shady soil and marshland.
ψ Use: see *Equisetum arvense*.

PINOPHYTA
PINOPSIDA

CUPRESSACEAE

U 010. ***Cupressus sempervirens*** L.
Cipresso comune – Common cypress tree.
P scap – Ornamental, mainly in cemeteries throughout the Sannio area.
ψ Uses: the astringent and vasoconstrictor properties, due to tannine,

were locally exploited. Little branches were boiled with other aromatic herbs and the vapours were directed towards the swollen areas. The resin taken from the trunk was burned and the smoke inhaled. The cones were used to prepare an extract used as an astringent and vasoconstrictor (Lodi 1957, Negri 1943, Palma 1964).

SPERMATOPHYTA
MAGNOLIOPSIDA

LAURACEAE

UU 011. ***Laurus nobilis*** L.
Alloro, *lauro* – Laurel.
P caesp (P scap) –Wild in brush and shrubland or mountainous and submountainous places. It is cultivated everywhere.
α ψ Uses: the laurel stimulates digestion. The infusion of the leaves was used to this end. If combined with oregano, it proves efficient at curing migraines caused by indigestion. Rue-based vermifuge preparations could have laurel leaves added as a sedative and to improbe the flavour. The painkilling factor was effective in cases of dysmenorrhea. The decoction of the leaves, which also has expectorant qualities, when sweetened with honey was used for colds. The leaves are usually imployed in cooking for their aromatic qualities (Negri 1943, Palma1964).

RANUNCULACEAE

U? 012. ***Adonis annua*** L.
Adonide annua – Pheasant's eye.
T scap – Cereal fields, frequently on limestone.
ψ Uses: all parts of the plant contain alkaloid whose activity is cardiotonic and diuretic. It does not build up in the organism, unlike digitalis. Excessive quantities are poisonous (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1958, Palma 1964).

U? 013. ***Anemone nemorosa*** L.
Anemone bianca – Wood anemone.
G rhiz – broadleaved woods of the Matese area (Fig. 13).
ψ Uses: the whole plant was picked before flowering. The rubefacient and vesicant actions of the plant were used for rashes, rheumatism and sciatica (Negri 1943, Palma 1964).

U? 014 ***Anemone hortensis*** L.
Anemone fior-stella.
G bulb – dry meadows, copses.
ψ Uses: see *Anemone nemorosa.*

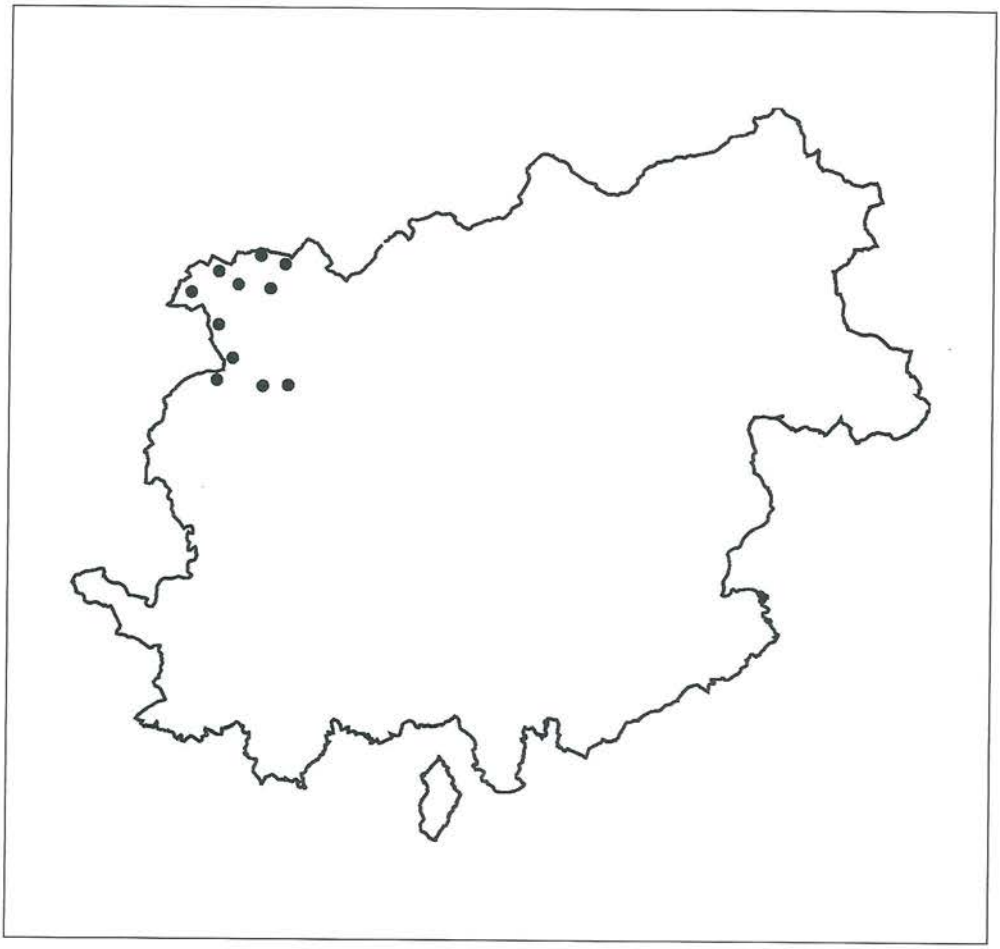

Fig. 13. Distribution of *Anemone nemorosa* in Sannio.

U! 015. ***Actaea spicata*** L.
Barba di capra – Baneberry.
G rhiz – mountain woods especially beech woods of the Matese area.
ψ Uses: the rhizomes and leaves containing bitter principles were used. The dried powdered were considered a strong purge also active to kill fleas and scabies mites. The fresh leaves were also used as a revulsive. All parts of the plant give off an unpleasant, acrid odour, and are poisonous. For this reason, internal use was abandoned (Negri 1943, Palma 1964).

U! 016. ***Aquilegia vulgaris*** L.
Aquilegia comune – Columbine.

Photo 1. *Clematis flammula.*

of excess mucus. The green parts of the plant are particularly rubefacient and vescicatory and were used for rheumatism and gout. It is very toxic and is for external use only (Negri 1943, Palma 1964, Viola 1965).

U! 018. ***Clematis vitalba*** L.

Clematide vitalba, *vitacchia* – Old man's beard, vitacchia (Photo 2).

P lian – hedges by roadsides, woodland and any hedges across the territory (Fig. 15).

α ψ Uses: the leaves are revulsive and sedative. Internal use was abandoned because it could cause inflammation of the digestive and urinary tracts (Negri 1943, Palma 1964). The shoots were boiled and eated with olive oil (Zazo 1968).

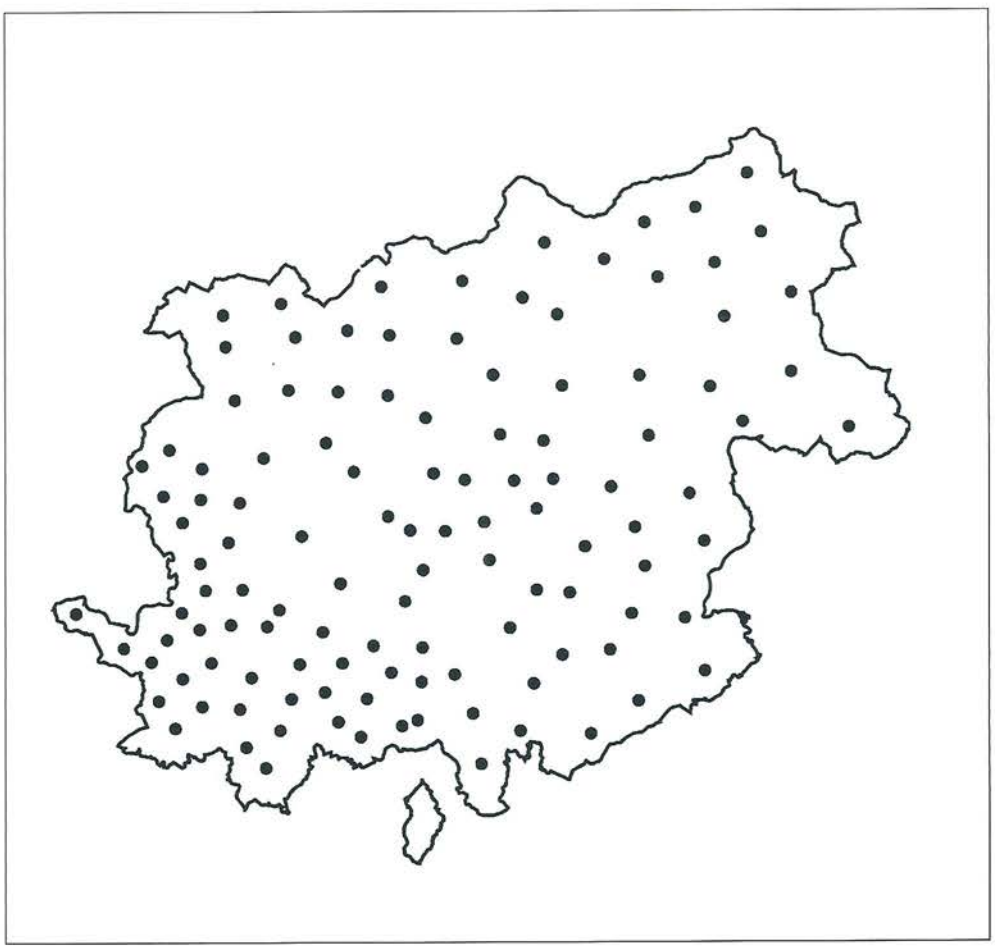

Fig. 15. Distribution of *Clematis vitalba* in Sannio.

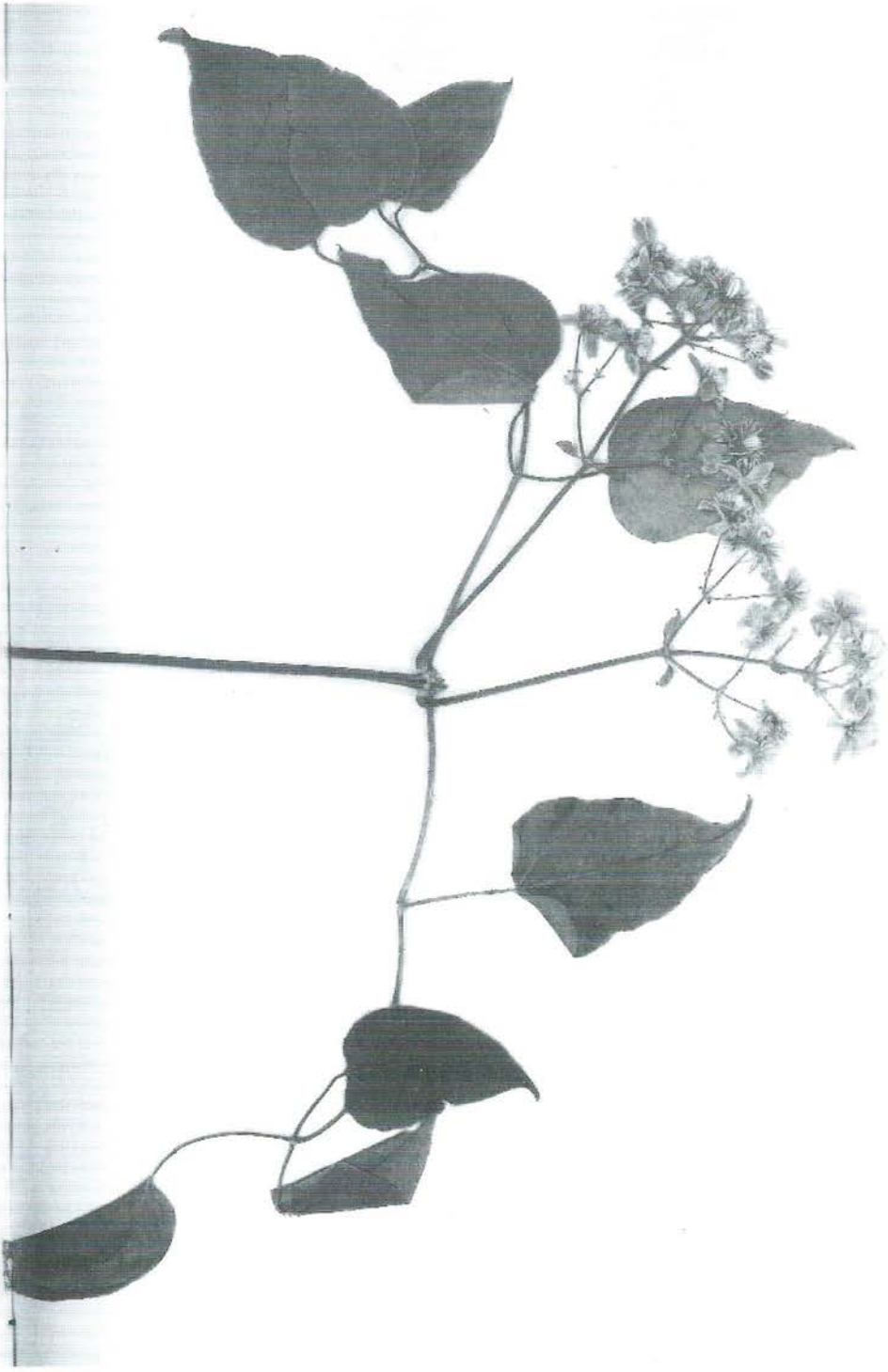

Photo 2. *Clematis vitalba*.

U! 019. ***Consolida regalis*** S. F. Gray
Speronella consolida, erba ornetta – Forking, larkspur.
T scap – a weed in the crops and in the abandoned fields in the Tammaro Valley.
ψ Uses: the seeds have pharmacological properties but they are not cited. The flowers were used as diuretic, astringent, and antiphlogistic as well as to stimulate the appetite. The whole plant is toxic (Negri 1943, Palma 1964, Viola 1965).

U 020. ***Delphinium staphisagria*** L.
Speronella stafisagria – Stavesacre.
T scap – fields, wastes and ruins.
ψ Uses: mature seeds were used only externally for eczema, muscle cramp, toothache. It was not used commonly because of its poisonous nature. Tinctures and infusions were used to kill parasites (Negri 1943, Palma 1964, Viola 1965).

U ! 021. ***Helleborus foetidus*** L.
Elleboro puzzolente, *lebbre bianca* – Stinking hellebore.
Ch suffr – woods along the upper and lower Tammaro (Fig. 16).
ψ υ Uses: the root is a heart stimulant, and a cumulative diuretic, but extremely poisonous. The plant was mainly used for its poisonous qualities. Preparations based on hellebore were poisonous if ingested. They were used to procure illegal abortions at no small risk to the mother. Decoctions were used on parasites and against fleas. A very strong concentrate was used in veterinary medicine against parasites. (Negri 1943, Palma 1964, Viola 1965).

U? 022. ***Helleborus bocconei*** Ten.
Elleboro di Boccone (Photo 3).
G rhiz – copses, open submeditteranean woods and hedges in the Matese.
ψ Uses: the rhizome contains poisonous substances and had to be used very carefully even externally. Antispasmodic, sedative antiparasitic (Negri 1943, Palma 1964, Viola 1965).

U! 023. ***Hepatica nobilis*** Garsault
Erba trinità – Liverflower, liverleaf.
G rhiz – deciduous or coniferous woods on the summits of the Matese Sannio Mountains.
ψ Uses: the whole plant could be used, but as it was toxic caused a lot of problems. It could be used as a painkiller, antispasmodic or diuretic (Negri 1943, Palma 1964, Viola 1965).

Photo 3. *Helleborus bocconei.*

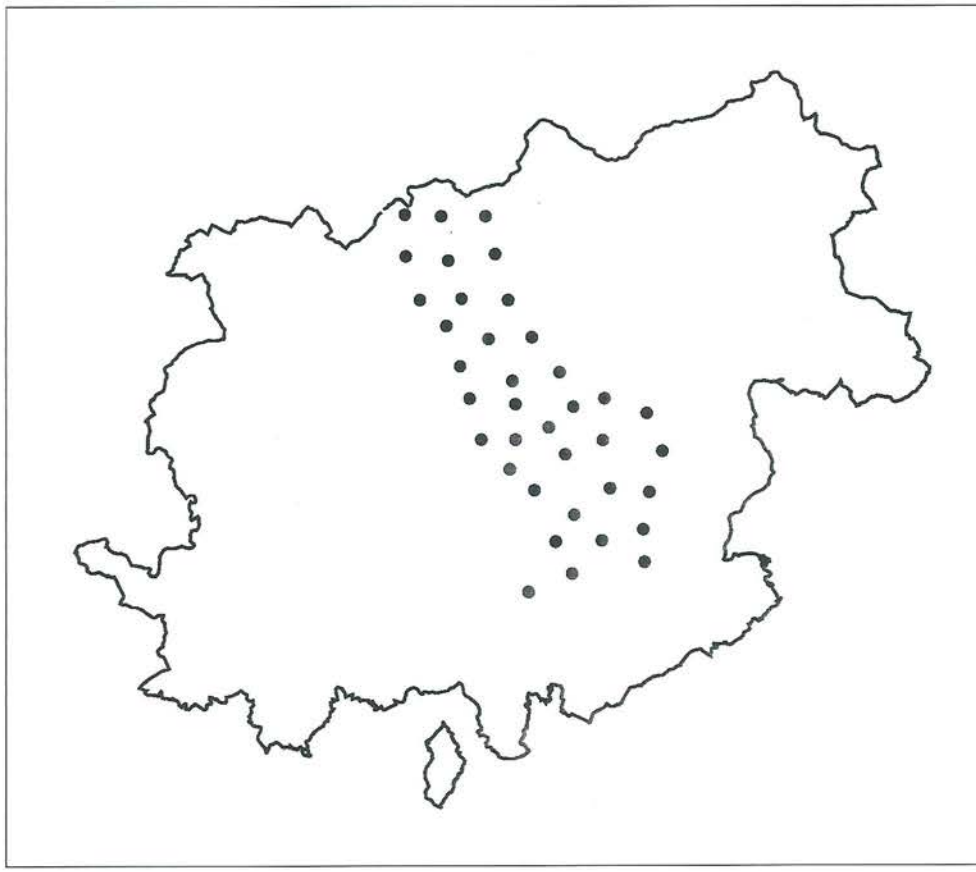

Fig. 16. Distribution of *Helleborus foetidus* in Sannio.

UU 024. ***Nigella damascena*** L.
Damigella scapigliata, animella, fanciullacce – Love-in-a-mist.
T scap – dry, uncultivated fields in southern Sannio.
α π Uses: the seeds of this plant were used in pastrymaking and the liquor industry on account of the strong perfume (Lodi 1957, Negri 1943, Viola 1965).

U? 025. ***Ranunculus acris*** L.
Ranuncolo comune, piè di nibbio – Meadow buttercup.
H scap – meadows and uncultivated land.
ψ Uses: see *Ranunculus bulbosus* L.

U 026. ***Ranunculus bulbosus*** L.
Ranunculo bulboso – Bulbous buttercup/crowfoot.
H scap – meadows and uncultivated fields in the Sabato Valley.
ψ Uses: the fresh plant is revulsive and rubefacient, which made it use-

ful for rheumatism, arthritis and sciatica. The plant is toxic and may only be used externally (Negri 1943, Palma 1964).

UU 027. ***Ranunculus ficaria*** L.
Ranunculo favagello – Lesser celendine, pileworth.
G bulb/H scap – broadleaved woods, hedges, damp areas throughout Sannio.
ψ Uses: the tuberised roots were used as a painkiller, antihaemorrhoid and haemostatic. The plant is toxic (Lodi 1957, Negri 1943, Palma 1964).

U? 028. ***Ranunculus neapolitanus*** Ten.
Ranunculo napoletano.
H scap – damp meadows in SE Sannio.
ψ Uses: see *Ranunculus bulbosus.*

U 029. ***Thalictrum aquilegifolium*** L.
Pigamo colombino – French meadow rue/greater meadow rue.
H scap – Thickets in the Matese region starting from the high hills.
ψ Uses: the leaves were used as sedative and local anaesthetic (Viola 1965).

U? 030. ***Thalictrum flavum*** L.
Pigamo giallo – Common meadow-rue.
H scap – marshland, damp woods, peaty meadows in the mountainous zone of southern Sannio.
ψ Uses: the root has diuretic and purgative properties (Negri 1943).

PAPAVERACEAE

U! 031. ***Chelidonium majus*** L.
Erba da porri, *celidonia* – Celandine.
H scap – everywhere in the woods and damp, shady shrubs all over Sannio.
ψ Uses: due to the high alkaloid content, it was little used. It is poisonous when fresh. Only the fresh latex obtained before flowering was used because of its caustic properties able to remove warts with the same degree of success as liquid nitrogen. (Plensio1978). The alkaloids are similar to opium and have antispasmodic, narcotic, cathartic, cholagogue and diuretic qualities (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 032. ***Corydalis cava*** (L.) Schweigg.
Colombina cava – Bird-in-a-bush.

G bulb – broadleaved woods, especially oak, hornbeam and beech throughout the Sannio province.
ψ Uses: the parts used were the tubers, rich in pharmacological properties. For this reason it is not possible to speak of a particular use of the plant. Here are a few of the more common: infusion and decoctions of the tubers were used as sedatives and narcotics. The plant can be extremely poisonous. Because of the presence of bulbocapnine, the plant is currently used in medicine against Parkinson's Disease and similar illuesses (Benigni & al. 1962-1964, Negri 1943, Palma 1964, Viola 1965).

U? 033. ***Fumaria capreolata*** L.
Fumaria bianca.
T scap – vegetable gardens, vines, abandoned fields; in the Tufara Valley.
ψ Uses: see. *Fumaria officinalis*.

UU 034. ***Fumaria officinalis*** L.
Fumaria comune, fumosterno, feccia – Common, fumitory.
T scap – weed alongside hedges and escarpments of the rivers Fortore, Tammaro, Tammarecchia.
ψ Uses: the presence of the alkaloid fumitory makes preparations from this plant almost unusable for domestic use. Jamalio (1918), mentioned it as effective against herpes. Indeed, in external use, it has an emollient, resolvent action and can be used as a topic-dermopathic cure. Used as a bitter, diaphoretic purifier, it stimulates the secretions of the digestive system (Lodi 1957, Negri 1943, Palma 1964).

U 035. ***Papaver rhoeas*** L.
Papavero comune, rosolaccio – Common red poppy.
T scap – a weed wild among cereal crops, also among ruins and rubble.
α ψ Uses: in the past, the petals were used for their tussive, diaphoretic, narcotic-sedative, broncho-sedative effects (Benigni & al. 1962-1964, Negri 1943, Palma 1964, Viola 1965). The young plants substituted or complemented vegetable gardens and often, because of their particular flavour, were used in local recipes (Zazo 1968).

UU 036. ***Papaver somniferum*** L.
Papavero domestico, *papavero romano* – Garden poppy, opium poppy, white poppy.
T scap – once cultivated, now it grows wild.
ψ Uses: the decoction of mature capsules, with their sedative properties, were used (very carefully) as an aid to sleeping, especially in the case of children. The seeds were crushed to extract oil with its lenitive and emollient properties (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1958, Palma 1964, Viola 1965).

ULMACEAE

U? 037. ***Celtis australis*** L.
Bagolaro, *cirasiello* – European Hackberry.
P scap – grown everywhere for ornamental purposes and for its small fruit.
α ψ Uses: the leaves gathered after flowering were used as an astringent (Palma 1964). The drupes are edible and in the past were particularly popular (Zazo 1968).

UU 038. ***Ulmus minor*** Miller
Olmo comune – Field elm.
P caesp /P scap – hedgerows and bushes in the hill; Colle Sannita, Croce del Sannio.
υ ψ π Uses: The most common use of this plant concerned the bark of the tender branches, which were placed over wounds as bandages (Morrone 1972). The active cicatrising principles, were gradually released until the bark dried out was removed. The liquid found in the galls, the coccus, formed by insects biting the young branches and leaves, was also used. The cicatrising power of this liquid was preferred to that of the bark. The young leaves were used in poultice for absorbing oedemas and also to supplement the nutrition of herbivores, especially goats and rabbits (Palma 1964). The plantlets are currently used for naturalistic engineering and for the control of seasonal watercourses in the Tammaro Valley.

MORACEAE

UU 039. ***Ficus carica*** L.
Fico comune – Common fig.
P scap – grown in flat and hilly country.
α ψ π Uses: the decoction of dried figs as an emollient and sedative for coughs is popular. Various lenitive ingredients were added to these decoctions. The cooked fig was eaten because of its action on the inflammation of the upper respiratory tract. Although modern, less painful remedies are now employed, use is still made of "the latex of a ripe fruit to remove warts" in the country (Garofalo 1987-1988); less specifically, the latex is also used as a corn remover. A drop placed on an insect bite has local antihistamine properties.

U 040. ***Morus alba*** L.
Gelso comune, moro bianco – White mulberry.
P scap – cultivated for the nurturing of silkworms, and rarely subspontaneous.
α ψ Uses: the fruits, immature and mature, and the leaves have astringent and refreshing properties. The bark has stomach easing and ver-

mifuge properties (Palma 1964). It is used for conserves and confectionary (Zazo 1968).

U 041. ***Morus nigra*** L.
Gelso nero, moro nero – Black mulberry.
P scap – cultivated for its fruit and rarely subspontaneous.
α ψ Uses: the fruit of the black mulberry was used locally to prepare an expectorant syrup with slight laxative properties. The leaves were used as a mild astringent and to reduce blood-sugar levels in diabetics (Lodi 1957, Negri 1943, Palma 1964). It is used for conserves and confectionary (Zazo 1968).

URTICACEAE

UU 042. ***Parietaria officinalis*** L.
Vetriola comune, *erba di muro* – Common pellitory, pellitory-of-the-wall.
H scap – in all Sannio, among ruins, in damp, shady areas.
ψ Uses: pellitory, known for its, real or supposed, medicinal properties, was and still is one of the most used plants. Crushed together with hemlock, it was applied to the painful parts of the body, to cure pleurisy (Cirelli 1853). It would probably have been better to take the juice of the fresh leaves or a decoction because of their potassium salts content, especially nitrate and flavonoids, responsible for the elimination of water through the renal apparatus, and so, useful for hydropsy, nephritis, and the oedemas resulting from heart deficiency. Pellitory used externally was used to reduce swelling after blows to the skin and sprains. It was commonly crushed together with thistle and parsley to accelerate absorption. The decoction, drunk on an empty stomach, was an effective cholagogue against hepatic calculosis. The pure decoction was used for stomach aches, probably because of its anti-inflammatory properties. Couch roots were added for pregnant women. One use to be avoided, as stated not only by Cirelli (1853), was the use to cure small cysts under the eyelids. These cysts used to be treated using a Pellitory leaf until the cysts broke. Then oil and crushed parsley were rubbed on to eliminate the inflammation. If the plant is mixed with ox-tongue and the common fleabane, it can be used for rheumatic pains and arthritis. It can also be used for chronic dermatitis (Benigni & al. 1962-1964; Lodi 1957; Negri 1943; Palma 1964).

UU 043. ***Urtica dioica*** L.
Ortica comune – Common nettle.
H scap – wild in uncultivated land all over Sannio.
α ψ π Uses: the stinging characteristics of the plant were made use of in popular medicine. The leaves, lightly crushed, were applied to the parts of the body suffering from rheumatism, causing an allergic reaction due

to the irritant liquid in the hairs of the leaves. This liquid contains acetilcoline and histamine which work as rubefacients. Boiling for a short period was enough to neutralise the stinging effect, and so the nettle, cooked in a little water and dressed with olive oil, when eaten favoured the elimination of uric chloric acid and oxalate, and was used in cases of gravel. A boiled nettle poultice was applied to the painful parts of those suffering from pleurisy (De Blasio 1900). The same holds for the decoction applied to the elbows and knees of those suffering from psoriasis. The nettle and couch decoction, when swallowed, reduced inflammation arising from cystitis. It was also useful when rubbed onto the skin as a treatment for dandruff or greasy hair. Decoctions or alcohol where nettle leaves had been soaking were applied (Lodi 1957, Negri 1943). The oots boiled, with olive oil added, were eaten in omelets (Zazo 1968).

JUGLANDACEAE

UU 044 ***Juglans regia*** L.

Noce comune – Walnut.

P scap – widely grown in the Caudina region, naturalised in various localities.

α ψ π Uses: walnut leaves have bitter-tonic, purifying and digestive properties, and so they were used to make decoctions. According to Cirelli (1853), hypochondriacs with an obstruction of the liver or the spleen were cured by making them put the sole of the right foot on a piece of bark cut to the same shape. This, acting as a resolvent, caused an immediate burning sensation on the sole of the foot, which indicated, somehow, that the patient had been cured. A digestive liquor called "nocino", is prepared from the unripe fruit, gathered, according to tradition, on June 24th, Saint John's day, the time of year when the hull of the fruit is at its most aromatic and best able to favour digestion. A small piece of walnut kernel, heated up and placed in the cavity of a decayed tooth was used as analgaesic. The leaves and the hull of the fruit have laxative and vermifuge properties. Besides the leaves seem to have antibiotic activity (Benigni & al. 1962-1964, Lodi1957, Negri 1943, Palma 1958; 1944).

PORTULACACEAE

U 045. ***Portulaca oleracea*** L.

Porcellana comune, *erba vesciulella* – Common purselane.

T scap – common in the fields all over Sannio.

α ψ Uses: Its properties are due to the high content in mucilage. Placing the crushed leaves on corns softens them and reduces the inflammation of sores. Medicinal and culinary use go hand in hand when the leaves are

boiled and served with pasta to cure patients with bronchial inflammation. Furthermore, it was used to enrich salads and cooked sidedishes (Negri 1943).

CARYOPHYLLACEAE

U? *046.* ***Agrostemma githago*** L.
Gittaione comune – Corn cockle.
T scap – wheat fields in the mountains of the upper Sannio Calore.
ψ Uses: The root was used to prepare poultices for inflamed skin or rashes. The seeds, once used in popular medicine as expectorants and diuretics, are no longer recommended because of their toxicity (Negri 1943, Palma 1964).

U? 047. ***Dianthus carthusianorum*** L.
Garofano dei certosini – Clusterhead pink.
H scap – stony places, slopes and arid cliffs; dry meadows all over the area.
ψ Uses: Infusions, syrups or the fluid extract of petals, were used as tussives, diuretics, diaphoretics, stimulants for the nervous system in cases of feebleness or nervous exhaustion (Palma 1964).

U! 048. ***Saponaria officinalis*** L.
Saponaria comune – Soapwort.
H scap – roadsides and damp grassy areas all over Sannio.
ψ Uses: the root was used mainly to increase mucus production in the inflamed upper respiratory tracts, or the gastrointestinal, hepatic and urinary ducts. In large doses, the plant is toxic, and must be used with care (Benigni & al. 1962-1964, Negri 1943, Palma 1964).

U 049. ***Stellaria media*** (L.) Vill.
Centocchio comune, paperina, budellina, *mervoglina* – Chickweed.
T rept/H bienn. – Shady loose earth, thickets and field borders in the Sabato Valley.
ψ Uses: poultices were used for sores and bruises as this plant is astringent and anti-inflammatory. The chickweed juice is galactofuge too and is used poultices with parsely against the mammalian glands affected by the so called "pelo di menna" Cirelli (1853).

POLYGONACEAE

U? 050. ***Polygonum aviculare*** L.
Poligono centinodia – Knotgrass.
T rept – trampled, uncultivated round, abandoned fields and ruins.
ψ Uses: the plant was used as an astringent for internal haemorrhaging

and, thanks to its silica content, in mineral cures. It was also known as a mild laxative and blood purifier (Negri 1943, Palma 1964).

U 051. ***Polygonum hydropiper*** L.
Poligono, *pepe d'acqua* – Waterpepper.
T scap – flat stream-rich zones in the Telese Valley and the lower Fortore.
ψ Uses: water pepper is an astringent, haemostatic vasoconstrictor occurring near streams. It was used in infusions for controlling excessive menstrual flow, and in higher doses as abortifacient (Benigni & al. 1962-1964, Negri 1943, Palma 1964). Besides, the fresh, crushed seeds when applied in a poultice to the chest, seemed to help bronchitis.

U? 052. ***Polygonum lapatifolium*** L.
Poligono nodoso – Curlytop knotweed.
T scap – ruins and damp, cultivated land, with regular rainfall in the Sabato, Calore and Fortore Valleys.
ψ Uses: see *Polygonum hydropiper.*

U? 053. ***Rumex acetosa*** L.
Romice acetosa, erba brusca, *lampazzo* -Common sorrel.
H scap – everywhere, bordering fields and streets.
ψ υ Uses: compared with the other two species with similar uses, the taste is a little more acidic so that it was only used externally. The leaves heated and added with oil were placed on carbuncles to bring them out. For veterinary use, the dried seeds were mixed with fodder as an excellent remedy for animals' respiratory ailments (Negri 1943, Palma 1964, Viola 1965).

U? 054. ***Rumex acetosella*** L.
Romice acetosella – Sheep's sorrel.
H scap – Uncultivated land on arid sandy soil bordering Apulia.
ψ Uses: the aerial parts of the plant have refreshing, diuretic, aperient, laxative and anstiscorbutic qualities (Viola 1965).

U! 055. ***Rumex alpinus*** L.
Romice alpino, rabarbaro alpino, lavazzì – Alpine dock
H scap – around alpine summer pastures, well fertilized fields and dunghills.
ψ Uses: the root especially was used for its tonic, diuretic, diaphoretic, purifying and antiscorbutic properties. The young leaves, when eaten like spinach, also have refreshing properties (Lodi 1957, Negri 1943, Viola 1965).

U? 056. ***Rumex crispus*** L.
Romice crespo, *lampazzo* – Curled dock.

H scap – everywhere, along roadsides and wet fields at the foot of mountains and midway up.
ψ Uses: the root can be used to treat chlorosis and in tubercular chloroanaemia. It is also slightly purgative (Palma 1964, Viola 1965).

U? 057. ***Rumex obtusifolius*** L.
Romice commune, *lampazzo* – Broadleaved dock
H scap – everywhere, by the roadside and along the edges of fields.
ψ Uses: it is still used locally for a sole purpose. The decoction of the seeds is in fact tussive, emollient and fluidiser. A decoction with the same properties can also be prepared from the leaves and the roots. The use of the decoction from the leaves as an iron-rich tonic (Plensio 1978) is now a thing of the past.

U! 058. ***Rumex sanguineus*** L.
Romice sanguineo – Bloody dock.
H scap – damp deciduous woods, occasionally beechwoods, cerris woods and oakwoods. Sabato Valley.
ψ Uses: see *Rumex obtusifolius.*

TILIACEAE

UU 059. ***Tilia platyphyllos*** Scop.
Tiglio – Large- leaved, lime.
P scap (P caesp) – mixed mountain woods.
ψ Uses: lime infusions were the most common and useful remedies for respiratory ailments, owing to the emollient effect of the mucilage was associated with a strong diaphoretic, antispasmodic, tussive, diuretic, and a bronchopulmonary antiastringent (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). In the town of Roccabascenara, a lime infusion used to be prepared with camomile and elderflower to treat coughs.

MALVACEAE

U! 060. ***Althaea hirsuta*** L.
Altea ispida – hairy marsh-mallow.
T scap – fields and dry pastures, vines on calcareous substrata.
ψ Uses: see *Althaea officinalis.*

U 061. ***Althaea officinalis*** L.
Altea comune, bismalva, malvavischio, buonvischio, benefichi – Marsh-mallow, mallards.

H scap – marshes and banks of channels.
ψ Uses: the drug is in the roots, the leaves and in the flowers. The root, with it refreshing and emollient properties was used for coughs, bronchitis and even digestive ailments. The decoction is useful for mouth infections, gargling and placing poultices on sores, carbuncles or phlegmons. The leaves and flowers are emollient and can be used for coughs and sore throats (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 062. ***Malva sylvestris*** L.
Malva – Common mallow.
H scap (T scap) – anywhere along escarpments and in the cool areas of the Fortore Valley and the Paduli district.
ψ υ Uses: the mallow was always considered a treasure of the Valforte and Paduli, on account of the vast quantities growing there and the number of medicinal uses it had (Jamalio 1918). It was the most widespread local tussive. There were many emollient decoctions where it was the main ingredient. Mixed with camomile or barley, coughwort root, couchroot and grains of corn, mallow is effective against every type of cough, dry or chest cough. In popular decoctions, it is added to spotted thistle (Garofalo 1987-1988) for bronchitis. The antiphlogistic effect is best seen on the oral mucus where the juice of fresh leaves is used. Mallow roots are mildly analgaesic and anti-irritant. Crushed, they can be used on wounds. The marrow root, boiled with cyclamen tubers, with lettuce and camomile gave a decoction which, on account of its antiphlogistic, refreshing and astringent qualities was excellent in treating haemorrhoids. Paradental ailments were effectively treated by suffumigations of mallow. Poultices of boiled mallow, applied to dental abscesses caused reabsorption. The anti-irritant properties were made use of by placing poultices on purulent areas (Benigni & al.1962-1964; Lodi 1957; Negri 1943; Palma 1958; Palma 1964; Viola 1965). The root decoction was used in enemas on account of its laxative and refreshing qualities. The decoction made from marrow roots, lettuce and camomile, was given to bovines with abdominal colic.

VIOLACEAE

U 063. ***Viola arvensis*** Murray
Viola dei campi – Field pansy.
Tscap – uncultivated fields, vines and olive groves along the Calore.
ψ Uses: see *Viola odorata.*

U 064. ***Viola alba*** Besser
Viola bianca.

H ros – light woods, clearings, hedges, grassy areas in the Sabato Valley.
ψ Use: see *Viola odorata.*

U 065. ***Viola odorata*** L.
Violetta mammola – Blue violet.
H ros – woods in the mountainous and sub-mountainous area, on shady hillside slopes, San Martino. V.C.
ψ Uses: the flowers have pharmacological properties. The whole plant in flower is used in the treatment of dermatosis accompanying arthritic diathesis. Large doses have a laxative and emetic effect. The drug is also in the cure of chest coughs, and less commonly as paediatric laxatives (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Poultices from the whole plant mixed with millet were used in the milk scabs and other skin ailments, as well as for sunburn (Zazo 1976).

U 066. ***Viola reichenbachiana*** Jord. ex Bor.
Viola selvatica – Early dog violet.
H scap – broad-leaved violets, beechwoods, less commonly among oak woods Sabato Valley.
ψ Uses: see *Viola odorata.*

U? 067. ***Viola riviviana*** Reichb.
Viola di Rivinus – Common dog violet.
H scap – broadleaved forests, oakwoods, beechwoods.
ψ Uses: see *Viola odorata.*

CUCURBITACEAE

U! 068. ***Bryonia dioica*** Jacq.
Brionia commune – White bryony.
G rhiz/H scand – often found in hedges, damp thickets and ruins.
ψ Uses: the drug is the root. It is a strong poisonous purgative and irritating the mucus of the digestive tract. For this reason, its use as an emetic or purgative was generally supplanted by softer drugs. Externally, it was used as a revulsive against rheumatism and sciatica, and has been recommanded as a diuretic and against whooping cough and pulmonary inflammation (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 069. ***Cucumis sativus*** L.
Cetriolo – Cucumber.
T scap – cultivated.
α ψ Uses: The fruit has good diuretic, refreshing and purifying properties. Cosmetically, it had many external uses, as a lightening deconges-

tant and hydrator for the skin. The pulp worked as a decongestant balm. Grown for alimentary use, the smaller fruit are also used in conserves (Viola 1965, Zazo 1968).

UU 070. ***Cucurbita pepo*** L.
Zucchini, zucchette, *zucca* – Courgettes.
T scap – cultivated.
α ψ Uses: the pulp is laxative. The seeds have a specific medicinal use as vermifuges effective on tapeworms and roundworm (Palma 1964). This is due to the amino-acid cucurbitine, which paralyses the worm and causes it to come away from the intestine wall. The use of courgette seeds as a vermifuge is well tolerated, without side effects, though the result is not so reliable as is with the male fern. It is generally grown for culinary purposes (Zazo 1968).

UU 071. ***Ecballium elaterium*** (L.) A. Rich
Cocomero asinino, schizzetti, sputaveleno – Squirting cucumber.
G bulb – A weed spread in uncultivated field and ruins.
ψ Uses: from ancient times, *Ecballium alaterium* together with other elements, was known as the "electuario" a violent purgative. In 1488, the doctor Carlo di Leo, from Benevento, holding the chair at Naples university in medicine and surgery, experimented with this plant on one of his patients, the future king, Alphonse II of Argon. The patient, suffering from "indispositio corporis" recovered from a long and debilitating illness after taking this cure. The juice of the plant is poisonous, but the juice of not yet ripe fruit is not and was used as if it were poison on grapes, to keep thieves away.

SALICACEAE

U? 072. ***Populus alba*** L.
Pioppo bianco, gattice – White poplar.
P scap – damp or wet areas, riversides, lakesides all across Sannio.
ψ Uses: the bark, collected in March-April, contains tannin, which gives it antirheumatic properties. It is slightly astringent, tonic-bitter (Lodi 1957, Negri 1943, Palma 1964).

U? 073. ***Populus tremula*** L.
Pioppo tremolo – Aspen.
P scap – damp mainly mountainous woods, also cultivated for sylviculture and as an ornamental plant.
ψ Uses: see *Populus alba.*

U? 074. ***Populus nigra*** L.
Pioppo nero – Black poplar.

P scap – spontaneous along the river in Amorosi.
ψ Uses: the gemmae were used before flowering. They were used for arthritis, gout, as an antiseptic and to calm coughs (Lodi 1957, Negri 1943, Palma 1958, Palma 1964, Viola 1965).

U 075. ***Salix alba*** L.
Salice comune – White willow.
P scap – Along water courses all over Sannio, especially the river Tammaro.
ψ Uses: the white willow contains glycosids of salicylic alcohol and analogous derivatives, which are useful for treating temperatures, rheumatic, muscular pain, the symptoms of influenza and gout. The infusion of the flowers was used to treat rheumatic pains. To treat prolonged temperature there is a tradition of preparing a febrifuge wine from red wine with willow bark and leaves. The bitter infusion of willow and olive leaves was effectively used against malarial fever Jannuzzo (1888).. Due to the high level of tannin, the bark, when applied externally, has a strong astringent action on the skin and mucus cells, and favours cicatrisation. The willow, boiled with fenugreek was used as an abortifacient.

U? 076. ***Salix purpurea*** L.
Salice rosso, *salice muzzillo* – Purple willow.
P scap/P caesp – Border of watercourses.
ψ π Uses: its properties are similar to those of the common willow, but in this species, there is more of the active principle. This plant was used, ground, and placed on the sciatic nerve for its antineuralgic qualities (De Blasio 1900). It is also an efficient abortifacient when boiled with fenugreek.

UU 077. ***Salix viminalis*** L.
Salice da vimine, vetrice, vinco – Basket willow.
P caesp/P scap – damp and wet lands, along watercourses in Sannio.
π Uses: since antiquity, the plant has been used to make baskets of various sizes. This custom is dying out.

BRASSICACEAE

U? 078. ***Alliaria petiolata*** (Bieb.) Cavara & Grande.
Alliara commune – Garlic mustard, Jack-by-the-hedge.
H bienn – soil rich in nitrates and organic substances, mesophilius beech woods.
ψ Uses: the whole plant has an antiseptic, purifying, vulnerary action and was taken as a stimulant for gasto-enteric secretions and as a spasmolytic (Negri 1943, Palma 1964, Viola 1965).

U? 079. ***Barbarea vulgaris*** R. Br.
Erba di S. Barbara comune – Common winter-cress, winter-cress.
H scap. – mixed thickets and damp beech woods in Sannio.
ψ Uses: the plant has antiscorbutic and purifying properties (Viola 1965).

U! 080. ***Brassica napus*** L.
Cavolo navone – Rape.
T scap/H scap – uncultivated land.
ψ Uses: the seeds, rich in oils, are a bland stimulant and revulsive (Negri 1943).

U 081. ***Brassica nigra*** Koch
Cavolo senape – Near, black mustard.
T scap – rare, uncultivated cereal fields and barnyard areas.
α ψ Uses: the seeds and were used as a strong revulsive and as condiments (Zazo 1968).

U 082. ***Brassica oleracea*** L. *s. l.*
Cavolo comune – Cabbage.
Ch suffr – naturalized on calcareous rocks around S. Giorgio la Molara.
υ ψ Uses: like *Brassica oleracea* subsp. *robertiana*.

UU 083. ***Brassica oleracea*** subsp. ***robertiana*** (Gay) Bonnier & Layens
Cavolo comune, *cavolo di mandria* – Cabbage (Photo 4).
Ch suffr – a few individuals occur in arid cliffs of Mt. San Giorgio la Molara and of Montefalcone (Fig.17).
ψ υ Uses: Although the galactogenic properties of the genus *Brassica* are well known in the Italian tradition (La Sorsa 1941), only the subsp. *robertiana* is still used. Since ancient times, its properties were renowned as far as the borders with this purpose Apulia, and people came from all around to the cliffs of Mt. San Giorgio la Molara, to the "Castello", where it still occurs. The local name "cavolo di mandria" or "herd cabbage", shows the past use for farm animals, especially cows.

UU 084. ***Brassica rapa*** L.
Rapa – Field mustard.
T scap/H scap – grown around Benevento.
ψ Uses: the emollient virtues of field mustard calm convulsive coughs. The tubers, if crushed and blended with honey were given to patients. An emollient made from the bark boiled in vinegar and water was used to heal chilblains. Rich in oils, it can have a bland stimulating and revulsive action (Negri 1943). Eaten as a vegetable (Zazo 1968).

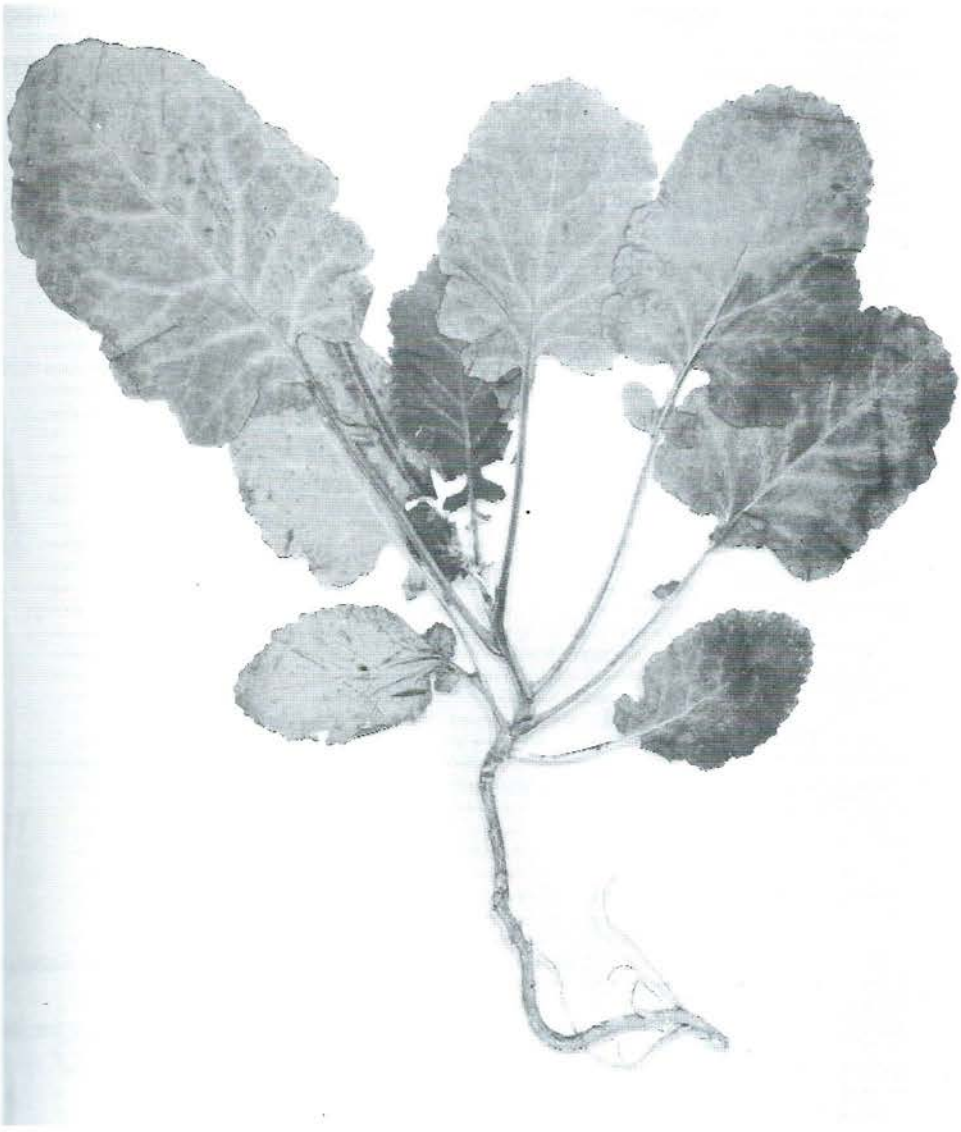

Photo 4. *Brassica oleracea* subsp. *robertiana.*

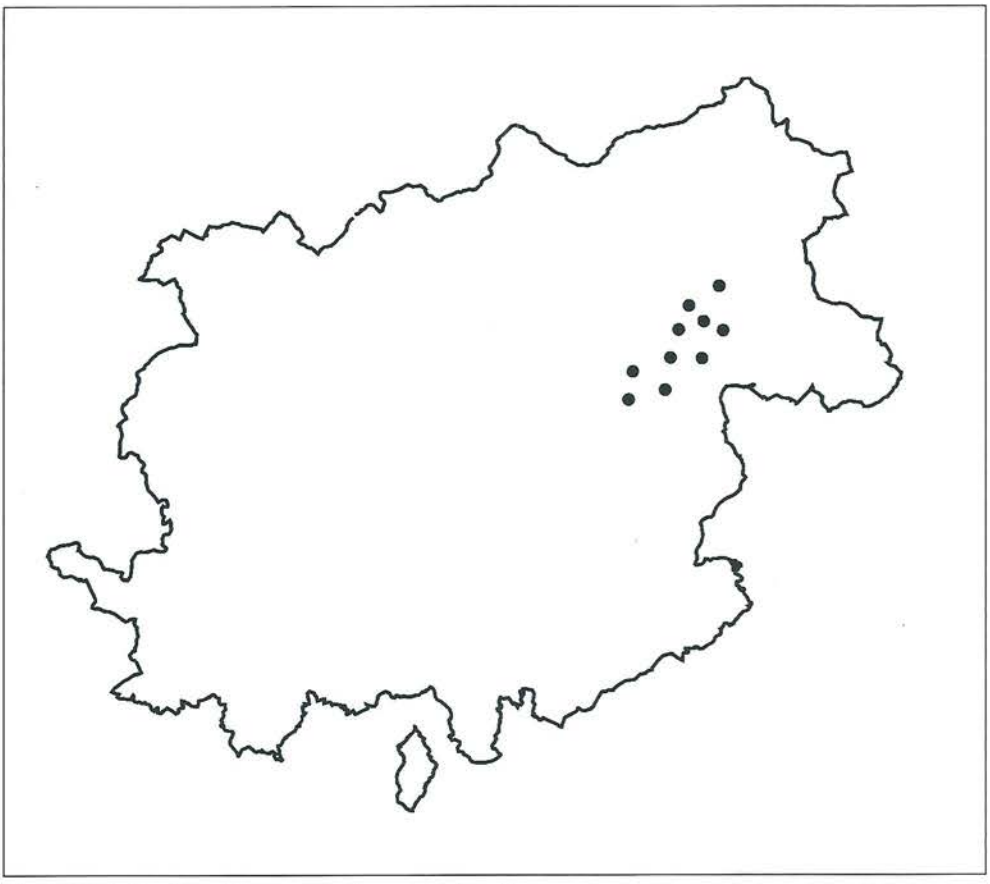

Fig. 17. Distribution of *Brassica oleracea* in Sannio.

U? 085. ***Bunias erucago*** L.
Cascellore comune – Southernwarty cabbage.
T scap – ruins, uncultivated grassland, weeded fields in the Sabato Valley, and the territory to the east of Benevento.
ψ Uses: the plant has diuretic properties. It was appreciated also for its ability to eliminate ascitic liquid from the body (Negri 1943).

UU 086. ***Capsella bursa pastoris*** (L.) Medicus
Borsa del pastore – Shepherd's purse (Photo 5).
H bienn – Roadsides, paths, and uncultivated land (Fig.18).
ψ Uses: the plant's antihaemorrhaging qualities are the basis of its use. An infusion of the dried plant was given to women after childbirth to prevent uterine bleeding and also to block excessive menstrual flow. It is also used as an astringent and diuretic (Negri 1943, Palma 1964, Viola 1965).

U 087. ***Capsella rubella*** Reut.
Borsapastore annuale – Pink shepherd's-purse.
H scap – arid cultivated land and by the roadside in the south of Sannio.
ψ Uses: see *Capsella bursa pastoris*.

U? 088. ***Cardamine enneaphyllos*** (L.) Crantz
Dentaria a nove foglie – Drooping bittercress.
G rhiz – broadleaved and coniferous woods, especially beech woods.
ψ Uses: both the aerial parts and root provide the drug wich was used in popular medicine to cure catarrhal ailments, the respiratory tract, the gastro-intestinal tract and the urogenital system. The infusion was used as a mouthwash for mouth and larynx inflammation (Nefgri 1943; Palma 1964).

U? 089. ***Descurainia sophia*** Webb
Erba sofia, erba falcona – Herb sophia.

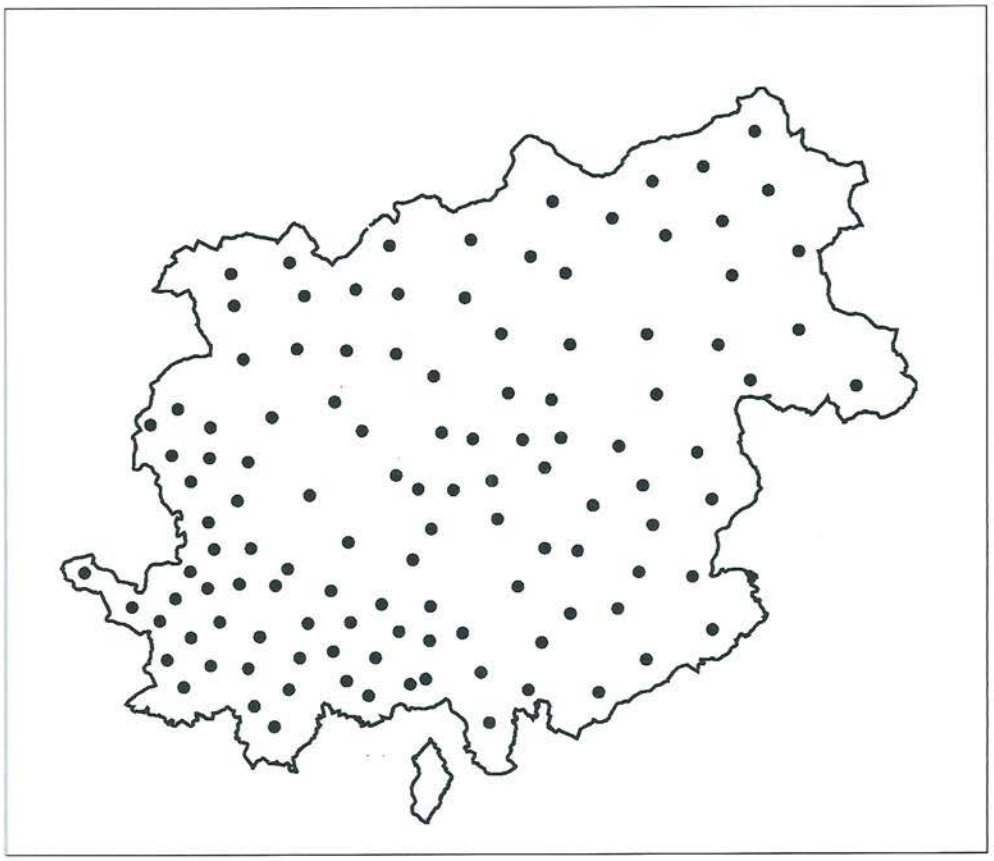

Fig. 18. Distribution of *Capsella bursa pastoris* in Sannio.

Photo 5. *Capsella bursa pastoris.*

T scap/H bienn – uncultivated places, ruins or near stables in Sannio and bordering with Molise.
ψ Uses: the leaves and the seeds were used in the past on intestinal worms and for vesical calculosis (Negri 1943).

U? 090. ***Diplotaxis erucoides*** DC.
Ruchetta violacea, *rapesta* – White rocket, r*ipesta.*
T scap – both wild in grassland and cultivated fields.
α Uses: often used in cooking to substitute or supplement vegetables and prepare typical recipes (Zazo 1968).

UU 091. ***Eruca sativa*** Mill.
Rucola comune – Garden rocket.
T scap – ruins and vegetable gardens.
α ψ Uses: the leaves and flowers were much used as stimulants and antscorbutics. The seeds, rich in mucilage and oils, were used as antiphlogistics and emollients (Negri 1943, Palma 1964). Much used in cooking.

U? 092. ***Erysimum cheiri*** Crantz
Leucoio, *violacciocca gialla* – Wall flower.
Ch suffr – grows on ruins, on rocks and in dry calcareous soils along the R. Sabato.
ψ Uses: the leaves contain cheirantine , a glucoside affecting the heart, and have cardioregulatory and cardiotonic uses. The seeds, with many toxic active principles, were used in decoctions as abortifacients, putting the mother's life at risk, due to the poisonous effects of the drink (Negri 1943, Palma1964).

U? 093. ***Hesperis matronalis*** L.
Violaciocca antoniana, esperide – Dame's violet; dame's rocket.
H scap – common in damp woods in the Matese, sometimes cultivated.
ψ Uses: the infusion of the leaves has stimulating, antiscorbutic, diuretic, diaphoretic and expectorant qualities. When fresh, the leaves are rubefacient, resolutive, and detergent (Viola 1965).

UU 094. ***Isatis tinctoria*** L.
Glasto comune, guado – Dyer's woad.
H bienn – dry, uncultivated areas and mountain pastures, abandoned fields around Benevento.
ψ π Uses: the leaves have anabolic, antiscorbutic and astringent properties. Used in dyeing (Palma 1964).

U? 095. ***Lunaria annua*** L.
Lunaria mediterranea, erba d'argento – Annual honesty.

H scap – gorges, damp and shady cliffs, on the Mediterranean and sub-Mediterranean plains of the whole Sannio.
ψ Uses: this plant is much used in popular medicine as diuretic and anti-scorbutic.

U 096. ***Nasturtium officinale*** R. Br.
Crescione d'acqua – Water-cress.
H scap – watercourses of the Telese Valley and along the River Tammaro.
α ψ Uses: the plant is tonic and dietetic. It is pleasant in salads and has antiscorbutic properties and positive effects on the liver, much needed in the past (Jamalio 1918, Plensio 1978). Eaten in cold salads with remarkable purifying qualities. Rich in vitamins (Zazo 1968).

UU 097. ***Raphanus raphanistrum*** L.
Ravanello selvatico – Wild radish.
T scap – a weed spead in ruins, vegetable plots and other cultivated fields.
α ψ Uses: the upper parts of the plant were used in popular medicine as a gastric stimulant. The roots substituted mustard in the kitchen. The oily seeds, be mixed with wheat produce a particular kind of food poisoning called "raffina" in local dialect (Negrei 1943).

UU 098. ***Raphanus sativus*** L.
Ravanello commune – Common radish.
T scap/H scap
α ψ Uses: the expressed juices or the roots (Negri 1943) were used to treat bilious lithiasis, helping diuresis and for liver complaints. Eaten raw in salad.

U 099. ***Sinapis alba*** L.
Senape bianca – Yellow mustard.
T scap – cereal fields, uncultivated round and ruins, cultivated and subspontaneous, on the border between Irpinia and Apulia.
ψ Uses: The seeds were used as a strong stimulant of the gastric secretions in cases of atony. It is also an effective antiscorbutic (Lodi 1957, Negri 1943, Palma 1964).

PRIMULACEAE

UU 100. ***Anagallis arvensis*** L.
Centochio dei campi, bellichina, *anagallide* – Scarlet pimpernel.
T rept – garrigues, uncultivated and cultivated fields.
ψ υ Uses: the plant contains saponins, thanks to which it is an expecto-

rant, and is used as a fluid extract. It stimulates glands and mucus, including skin cells, the liver and kidneys. For this reason, the plant is used as a diaphoretic, diuretic and cholagogue. The use of the fresh juices has also been known, as well as a decoction and an unguent prepared from *Anagalis arvensis* L. extract, to heal sores, ulcers and other skin ailments. It was used to heal animal wounds, as it contains glycoside saponins with strong haemolytic power and high toxicity. It was applied to the wounds of animals after being crushed. In this way, given its antiseptic and toxic effect, the parasite larva of insects were killed, allowing parasitic ulcers to heal (Negri 1943, Palma 1964, Viola 1965).

U 101. ***Cyclamen hederaefolium*** Aiton
Ciclamino napoletano, pamporcino – Ivy, leaved speedwell.
G bulb. – woods and shady hedges of the mountainous and sub mountainous areas, Sabato Valley.
ψ Uses: no longer used as a cathartic, or in strong doses as a purgative (Jamalio 1918).

U? 102. ***Primula vulgaris*** Hudson
Primula comune, primavera, occhio di civetta – Primrose.
H ros. – all over the territory, in open broadleaf woods, especially beech and oak woods.
ψ Uses: the drug is the based part of the plant, which gives off a typical odour in water and has an expectorant, diuretic, diaphoretic and antispasmodic action (Viola 1965).

CRASSULACEAE

U 103. ***Sedum telephium*** L.
Borracina maggiore, *Erba di S. Giovanni* – Orphine.
H scap – sunny, rocky places, grown for ornamental purposes.
ψ Uses: the fresh, crushed leaves were used, or rather, the detached cuticle, for repeated application on corns, which were gradually eliminated in this way. The leaves themselves are cicatrising and the juice can be used after crushing (Negri 1943, Palma 1964, Viola 1965).

U 104. ***Sempervivum tectorum*** L.
Semprevivo maggiore – House leek.
Ch succ – Sun-exposed rocks along the River Fortore.
ψ Uses: the pulp and juice, if applied to corns and hard skin, soften them and help elimination. They also calm burns and irritation (Negri 1943, Palma 1964, Viola 1965).

U 105. ***Umbilicus rupestris*** (Salisb.) Dandy
Ombelico di Venere comune – Navelwort.

G bulb. –On the cliffs crevices and ruins all over the region.
ψ Uses: the peeled leaves are applied to corns and hard skin which they can soften (Plensio 1978). Cirelli (1953), describes the use of the leaves on small abscesses.

U? 106. ***Umbilicus horizontalis*** (Guss.) DC.
Ombelico di Venere minore – Narrow navelwort.
G bulb – damp cliffs and walls.
ψ Uses: see *Umbilicus rupestris*.

ROSACEAE

U? 107. ***Agrimonia eupatoria*** L.
Agrimonia comune, eupatoria – Agrimony, stickwort.
H scap – deciduous woods on clayey soil; lower Fortore.
ψ Uses: the use of this plant in the past was limited to decoctions for the stomach and tonics (Jamalio 1918); some used it for its anti-inflammatory and astringent properties for glossitis, stomatitis, tonsillitis and besides varicose ulcers and sores (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 108. ***Crataegus oxyacantha*** L.
Biancospino selvatico – Hawthorn, whitethorn.
P caesp – brush and hedgerows, especially in the sub mountainous areas of Sannio.
ψ Uses: the hawthorn has an antispasmodic effect on the heart and blood vessels working on the sympathetic nervous system. The infusion of the flowers was used for palpitations, hypertension and for angina, as well as spastic disorders in the lower extremities and varicose veins, in arterioschlerosis and insomnia. Mature berries are used as an infusion helping also to relieve toothache. The decoction of the fruit calms diarrhoea and urine retention (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 109. ***Cydonia oblonga*** Miller
Mela cotogna, *cotogno* – Quince.
P scap – wild on the hillsides and cultivated to line borders and lanes.
α ψ Uses: the quince fruit, mainly used as a foodstuff, is also an intestinal astringent and anti-inflammatory. The decoctions were used as emollients and anti-inflammatories for the mouth and throat, and especially for dry coughs. Another use of the plant involved the juice of the fruit in Ginestra di Schiavoni, where it was used to ease intermittent fever. The seeds are a good emollient for the skin. Besides, as unguent

made from powdered quince seeds soaked in white wine was used to treat rhagades of the breast Cirelli (1853).

U? 110. ***Filipendula vulgaris*** Moench
Olmaria peperina – Dropwort.
H scap – dry mountain meadows in the Matese mountains.
ψ Uses: the infusion of the inflorescence are used as an astringent, diaphoretic and diuretic. The tuberised roots have the same properties and were used mainly as intestinal and diuretic astringent (Negri 1943, Palma 1964, Viola 1965).

UU 111. ***Fragaria vesca*** L.
Fragola comune – Strawberry.
H rept – Shady woods in the mountainous zone of Beselice and Foiano.
α ψ Uses: the strawberry, especially in its cultivated form is considered a stomatic plant. The decoction of the rhizome is usually considered a stimulant for the appetite. In Sannio, however, an infusion of the leaves, with similar properties, and which give the same results, is preferred. They are considered as cutaneous astringents, with antihaemorraging and cicatrising activity and were ground and mixed with other herbs, such as blackberry leaves and navelwort, and then placed on the wounds (Lodi 1957, Negri 1943, Palma 1958, Palma 1964, Viola 1965).

U? 112. ***Geum urbanum*** L.
Cariofillata comune – Herb bennet.
H scap – wasteland or at the edge of hardwood woods, especially beech.
ψ Uses: the rhizome has tonic pharmacological properties and is aromatic, astringent and febrifuge (Viola 1965).

UU 113. ***Malus domestica*** Borkh.
Melo commune – Apple.
P scap – commonly grown on the plains and low hill country of the whole province.
α ψ Uses: the fruit was used to refresh and to stimulate digestion. Cooked in various ways, it is an emollient, and a laxative. Very sweet cooked apples are emollient and active against inflammation of the respiratory tract (Garofalo 1987-1988). It is mainly consumed as a foodstuff (Zazo 1968).

U 114. ***Mespilus germanica*** L.
Nespolo volgare, nespolo d'inverno – Medlar, open-arse fruit.
P caesp/P scap – Mountainous woods.
α ψ Uses: in the local tradition, only the fruits and the leaves were used. The former especially when were unripe considered intestinal astringents. The leaves were used in a decoction, which was drunk on an

empty stomach, to treat diarrhoea. A decoction prepared with medlar leaves and couch stela, chickory, and oak bark drunk on an empty stomach was a carminative for the intestine during colic attacks. Eaten as fresh fruit (Zazo 1968).

U! 115. ***Potentilla anserina*** L.
Cinquefoglia piè d'oca, argentina – Silverweed, wild agrimony.
H rept – In the Matese area, in soil rich in soluble salts.
ψ Uses: the rhizome was considered having astringent, tonic, febrifuge and sometimes antihaemorraging properties.

U? 116. ***Potentilla erecta*** subsp. ***strictissima*** (Zimmeter) Beck
Cinquefoglia tormentilla – Tormentil.
H scap – meadows, moorland and woods in Sannio.
ψ Uses: see *Potentilla anserina.*

U! 117. ***Potentilla micrantha*** Ram. ex DC.
Cinquefoglia fragola secca.
H ros – open woods, coppices, shrublets in the Sabato valley.
ψ Uses: see *Potentilla anserina.*

U 118. ***Potentilla reptans*** L.
Cinquefoglia comune, erba pecorina, *erba rumo* – Creeping cinquefoil.
H ros – Cool and marshy areas.
ψ υ Uses: the drug is produced from the rhizome, which, being rich in tannin, has astringent, tonic, stomatic, antiscorbutic and febrifuge properties in decoction. The plant is also used for animals to free ruminatory blockages. When a cow ingested its omasum, this remedy would infallibly save it from certain death. The plant, left to grow near dwellings so as to have it handy when necessary, was crushed and mixed with lard to make a ball which was placed into the throat of the animal to make it swallow. The bitter taste of the preparation stimulated the digestive function and restarted rumination.

UU 119. ***Prunus cerasus*** L.
Marena, marasco, *amarena* – Sour cherry.
P scap – grown in the valleys and low hills especially in the Sant'Agata dei Goti area.
α ψ π Uses: a popular remedy known since ancient times for nephritis, cystitis, gout, renal and vesical lithiasis was prepared from the decoction of sour cherry peduncles. This diuretic property seems to be due to a group of substances of great therapeutic and polyphenol interest. There has been a lot of interest in its chemical properties in recent years. It is used for food and in liquor-based conserves (Zazo 1968).

UU 120. ***Prunus domestica*** L.
Pruno, susino, *pruma* – Plum.
P scap (P caesp) – grown and naturalised on the low hills of the Fortore and Caudina Valley.
α ψ π Uses: the plum is an excellent foodstuff, rich in sugars, vitamins and mineral salts. When dry, raw or cooked, it is a good food supplement for old people and children. Thanks to the large amount of pectin and vegetable fibre which increase faecal mass, it stimulates intestinal movement and absorb toxins, acting as a laxative and intestinal regulator. The dried fruit, when boiled, releases emollient principles which give the water carminative powers for the respiratory apparatus. Eaten as fruit (Zazo 1968).

UU 121. ***Prunus dulcis*** (Miller) D.A. Webb
Mandorlo, *mensola* – Almond.
P scap – grown in the lower Fortore and upper Tammaro area.
α ψ π Uses: generally used as a foodstuffy, the fruit of the *dulcis* variety doesn't have therapeutic use. The bark was, however, added to tussive decoctions, as in the local culture, it was considered an anti-inflammatory and emollient. The *amara* variety, toxic in large doses, has antispasmodic and carminative qualities. A remedy for convulsive coughing was made from a decoction of bitter almonds. Used for food and in the conserve industry (Zazo 1968).

UU 122. ***Prunus persica*** (L.) Batsch
Pesco – Peach.
P caesp/P scap – grown in the Telese and Caudina valleys.
α ψ π Uses: the leaves are used medicinally for home treatment of worms. The presence of amygdalina in the leaves and flowers (poisonous) is responsible for the medicinal power. The decoction made from the leaves, which is very bitter, is used to treat intestinal worms. Used in the food industry and in conserves (Zazo 1968).

U 123. ***Prunus spinosa*** L.
Pruno selvatico, prugnolo, vegro, *trigna* – Blackthorn- sloe.
P caesp – grows in hedgerows and is used to mark paths and borders.
α ψ Uses: sloeberries, called trigne in the vermacular, are small green stonefruits which become blue when mature. Their flavour is very bitter, which means children don't like them. Only when they are a little sweeter and dry are they used for their astringent properties. Even if this property is present in both the unripe and the ripe fruit (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Eaten also unripe (Zazo 1968).

UU 124. ***Rosa canina*** L.
Rosa selvatica comune, *rosa di siepe* – Briar rose, dog rose.

NP – hedgerows and brush all over the Sannio area.
ψ Uses: the petals of *Rosa canina* have similar properties to the other roses. The infusion of fresh or dried petals was preferred to that of camomile or the elder for conjunctivitis because of their anti-inflammatory properties. The tonic, decongestant, and lightening virtues made infusions popular as a facewash. The boiled fruit release polyphenols with astringent and anti-inflammatory action, helpful in controlling intestinal ailments. Also the gallae on the branches are considered effective in an infusion as a diuretic, tonic antihydrotic and probably as a uterine contraction carminative (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 125. ***Rubus ulmifolius*** Schott
Rovo comune – Common blackberry.
NP – Common in the scrubland of Sannio; also forms hedgerows.
α ψ Uses: the plant has astringent active principles in all its parts. The fruit and derivative preparations, when taken internally, are intestinal astringents. When used externally, they are used as rinses and gargles for the treatment of aphthae and mucus membrane inflammation. The leaves, which are especially rich in tannin, are used in decoction to stop diarrhoea and to calm intestinal inflammation, especially in children. The decoction of fresh leaves alleviates sore throat. Leaves coated in oil and cooked can be applied as poultices to carbuncles, burns, abscesses and all skin inflammation. A decoction can be made of the turions, with the addition of couch, and if drunk as a diuretic, helps elderly men with prostate problems (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). The annals of the Aragonese Court state that a doctor and Chief Medical Examiner from Benevento, Carlo di Leo, professor at the University of Naples and court physician, used "certain black berries" in 1489 to cure the future King of Naples, Alphonse II of Aragon of "indispositio corporis" (Zazo 1976). The fruit is often gathered to prepare jams or fruit salads, and were eaten in the fields in hot periods to combat thirst (Zazo 1968).

U? 126. ***Sanguisorba minor*** Scop.
Salvastrella minore, bibinella – Salad burnet.
H scap – Dry meadows, garrigues, uncultivated land in southern Sannio.
ψ Uses: the whole plant contains tannin and so is astringent and can be used for both acute and chronic intestinal ailment (Negri 1943, Palma 1964, Viola 1965).

UU 127. ***Sorbus domestica*** L.
Sorbo comune – Service-tree.
P scap – Grown on the low hills, S. Martino and the Caudina Valley.
α ψ Uses: the fruit of the service-tree, to be taken internally, is above all

an intestinal astringent and the best results are from the use of still slightly unripe fruit. The fruit, if taken together with broad beans was an excellent remedy for diarrhoea. Externally, it could be applied, very ripe and squashed, to chilblains as a lenitive astringent (Palma 1964). The fruit is consumed ripe (Zazo 1968).

FABACEAE

U 128. ***Anthyllis vulneraria*** L.
Vulneraria comune – Kidney vetch.
H scap (H bienn/T scap) – Arid meadows and rocky slopes over all the area.
ψ Uses: the flowers were gathered to prepare purifying infusions. The flowers were used to heal wounds which received slightly astringent medication (Negri 1943, Palma 1964, Viola 1965).

U? 129. ***Astragalus glycyphyllos*** L.
Astragalo, falsa liquirizia – Wild liquorice.
H rept – Mesophilous deciduous woods, especially oak woods all over the Sannio area.
ψ Uses: the roots and leaves were used for their refreshing, purifying, and diuretic properties. They were also used for kidney ailments, gout and rheumatism (Palma 1964, Viola 1965).

U? 130. ***Astragalus monspessulanus*** L.
Astragalo rosato – Milk Vetch.
H scap – Arid slopes at Montefalcone.
ψ Uses: the plant is used as a diuretic, but it contains very few active principles (Viola 1965).

U? 131. ***Ceratonia siliqua*** L.
Carrubo – Carob, St John's bread.
P caesp/P scap – Cultivated, rare.
α ψ υ Uses: this plant is not native to Sannio, so there is little local use. The fruit is sold at fairs and on local feast days. It is helpful for people with intestinal inflammation. Furthermore, the seeds contain a gum and fatty oils which provide mucilage which is useful as an expectorant (Benigni & al. 1962-1964, Negri 1943, Palma 1964). It is a foodstuff for human beings and animals, especially the horse family (Zazo 1968).

UU 132. ***Cicer arietinum*** L.
Cece – Chickpea.
T scap – Grown in arid and sunny hills all over Sannio.
α ψ Uses: the nutritional value of chickpeas is well known, and from the

pharmacological point of view, the seeds are used in decoction for jaundice (Garofalo 1987-1988). At the beginning of the twentieth century, the decoction of black chickpea was given to jaundice sufferers together with the dust of old bricks (De Blasio 1900). The seeds were widely eaten as food (Zazo 1968).

U? 133. ***Colutea arborescens*** L.
Vesicarica, *colutea* -Bladder senna.
P caesp. –thin woods and among light bushes along the rivers Fortore, Reinello, Torti and the valleys of Mt. Mafariello.
ψ π Uses: the infusion of the dry pods was used as a cholagogue, laxative, diuretic and purifier. The leaves were often used to adulterate sena.

U! 134. ***Coronilla emerus*** L.
Cornetta dondolina – Scorpion senna.
NP – Open woods.
ψ υ Uses: the seeds can have cardiotonic properties. In Sannio, this plant was used for animal care, to help swine with hyperthermia. The tender plants were crushed to give juice, which was then rubbed on the ears of the pigs. The ears were full of blood because of the fever, and so easily absorbed the active principles. The plant is, however, poisonous (Negri 1943, Viola 1965).

U? 135. ***Cytisus scoparius*** (L.) Link
Citiso scopario, ginestra dei carbonai – Broom, scotch broom.
P caesp – moorland, deforested areas on the acid soil of the Sabato Valley, the Tammaro and the Pannarano.
ψ π Uses: the use of the flower was as a cardiocynetic, cardiotonic, diuretic, and hypertensive. The ashes of the burnt wood were used for their slightly diuretic action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 136. ***Galega officinalis*** L.
Capruggine – Goat's rue.
H scap – Damp uncultivated areas. Imported in the middle ages, it has now become naturalized in the Sabato area.
ψ Uses: the drug is obtained from the flower. It is hypoglycemising. The rue extract was once used in mild diabetes cases as it helped in the integration of sugars. It was also known to help in the formation of mother's milk (Negri 1943, Palma 1964, Viola 1965).

U? 137. ***Genista tinctoria*** L.
Ginestra minore, finestrella, baccellina – Dyer's greenweed.
Ch suffr – Submediterranean woodland, oakwoods, chestnut woods.
ψ Uses: many parts of the plant were used in decoctions as a purgative

and diuretic, but even when the seeds were not used, the plant could bring about a violent haemocathartic reaction (Negri 1943, Viola 1965).

U? 138. ***Laburnum anagyroides*** Medicus
Maggiociondolo, avorniello, cantamaggio – Laburnum.
P caesp/P scap – Mixed broadleaved woods, especially beech, cultivated for ornamental purposes all around Sannio.
ψ Uses: all parts of the plant can be used pharmacologically, but only the leaves were actually used, because they are the least toxic. They are cholagogue, choloretic and laxative (Negri 1943, Palma 1964, Viola 1965).

UU 139. ***Lathyrus vernus*** Bernh.
Cicerchia comune, cece nero, *chichierca* – Spring Vetch.
T scap – Grown in dry, cultivated land, in all the hill country of Sannio.
ψ Uses: the rhizome has an astringent pharmacological action, calming the hypercrinia of the intestine. Vulnerary (Palma 1964).

U? 140. ***Lotus corniculatus*** L.
Ginestrino – Common bird's foot-trefoil.
H scap – Sunny, dry areas.
ψ Uses: the common bird's foot-trefoil is a humble plant, whose yellow flowers have useful properties. These are mainly sedative and regard the nervous and cardiac systems. They have an antispasmodic effect on the digestive tract. In the Sannio region, the diluted infusions were used to calm anxiety, insomnia and exhaustion (Negri 1943).

UU 141. ***Lupinus albus*** L.
Lupino bianco – White lupin.
T scap – Cultivated in dry areas in all of Sannio.
α ψ υ Use: the presence of alkaloids, including the terrible lupanina, makes this a very dangerous plant if ingested. The seeds, used as a foodstuff, have to be boiled and immersed for a long time underwater to take away the bitter taste and the poison. Despite the danger, the water the seeds were prepared in was used as an effective vermifuge for children. The extremely bitter seed decoction was most effective in small doses as a hypotensive. Some treated hypertension with dry seeds swallowed as pills. In the absence of quinine, lupin seeds were given which had a bland antipyretic effect, probably due only to its hypotensive properties (Benigni & al. 1962-1964, Negri 1943, Palma 1964). Boiled seeds are eaten to this day. The cooking water is an effective antiparasitic and was used to kill fleas on animals, to kill scab mites and even as a treatment for the fungus responsible for ringworm.

UU 142. ***Medicago sativa*** L.
Erba medica, erba Spagna – Lucerne.

H scap – Uncultivated fields, dry meadows.
ψ π Uses: the leaves were used for their analeptic, antirhachitic, anti-scorbutic eutrophic and vitamin-giving powers (Palma 1964). Hay plant.

U? 143. ***Melilotus altissima*** Thuill.
Meliloto altissimo – Tall melilot.
G rhiz – Damp, uncultivated areas, in particular riversides and pond-sides. Rivers Sabato and Calore.
ψ Uses: see *Melilotus officinalis.*

U 144. ***Melilotus officinalis*** Lam.
Meliloto commune – Common melilot, ribbed melilot, ribbed meliot.
H bienn – Rubble, uncultivated fields and grassy areas all over Sannio.
ψ Uses: the flowers contain principles acting as antispasmodics and indirectly as a hypnotic. The infusion of the plant was used as a collyrium on the nerve centres and an antiphlogistic for conjunctivitis and internal nasal irritation (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 145. ***Onobrychis alba*** (W. & K.) Desv.
Lupinella bianca – Lupinella bianca.
H scap/Ch suffr – Dry pastures, sliding slopes of Sannio uplands.
ψ Uses: this plant is astringent, diuretic and a sedative for ailments of the urinary tract (Palma 1964).

U? 146. ***Onobrychis montana*** DC.
Lupinella montana – Mountain Sainfoin
H scap – dry mountain meadows.
ψ Uses: see *Onobrychis alba.*

U 147. ***Onobrychis viciifolia*** subsp. ***altissima*** Scop.
Lupinella comune, fieno-santo, crocetta – Sainfoin.
H scap – Fields and meadows.
ψ Uses: see *Onobrychis alba.*

U? 148. ***Ononis spinosa*** L.
Ononide spinosa, bonaga, arrestabue – Cammock, rest-harrow, spiny rest-harrow, wrest-harrow.
Ch suffr – Dry places, small bushes and grassland.
ψ Uses: the roots were used for their diuretic and anti-inflammatory properties. They were used to alleviate oedemas and ascites, to treat nephritis, cystitis and chronic dermatosis (Benigni & al. 1962-1964, Negri 1943, Palma 1964, Viola 1965).

UU 149. ***Phaseolus vulgaris*** L.
Fagiuolo – Bean.
T scap – Grown all over Sannio.

α ψ Uses: the pod is used in infusion as it can reduce arterial pressure and the amount of sugar and cholesterol in the blood. The pods, gathered when fresh, are dried out and kept over the winter in little paper or canvas bags. Often eaten as a foodstuff for humans.

U 150. ***Robinia pseudoacacia*** L.
Robinia, acacia, gaggia – Black Locust.
P caesp/Pscap – Escarpments, uncultivated round, hedgerows. Native to America, it is now naturalized to Sannio.
ψ π Uses: the flowers are slightly carminative, antispasmodic, emollient and cholagogue. The bark and root are tonic and laxative in small doses, while in stronger doses they are purgative and toxic (Negri 1943, Palma 1964, Viola 1965). Used on hillsides to block landfall, it used to be planted in rows, which thanks to their side roots, created a butresslike underground barrier.

U 151. ***Spartium junceum*** L.
Ginestra comune, ginestra odorosa – Spanish broom.
P caesp – Small bushes in sunny parts, clearings and abandoned cultivated land all over the area.
ψ Uses: the whole plant, but especially the flower and seeds contain a very poisonous alkaloid. The flowers were used for their diuretic and purgative properties (Palma 1964, Viola 1965).

U? 152. ***Trifolium pallidum*** Bory & Chaub.
Trifoglio pallido.
T scap/H bienn – Damp, grassy, uncultivated land in the Telese area.
ψ Uses: see *Trifolium pratense.*

UU 153. ***Trifolium pratense*** L.
Trifoglio pratense, trifoglio violetto, *trifoglio rosso* – Purple clover.
H scap –Dry, uncultivated land in the mountainous and sub-mountainous zones of Sannio.
ψ Uses: the decoction of the leaves has well-known diuretic and purgative qualities, but they are not made much use of. The flower was used for an infusion with to control glandular secretions and mucosis, even if medical evidence is still insufficient (Negri 1943, Palma 1964).

UU 154. ***Trigonella foenum graecum*** L.
Fieno greco – Classical fenugreek.
T scap – Grown for forage in the Sannio hill country.
α ψ Uses: the plant can be used as a convalescent tonic and as a stimulant in anaemic or undernourished patients, or feeble children. The seeds contain mucilage and so they can be used as expectorants and emollients (Lodi 1957, Negri 1943, Palma 1964). The only known preparation is a

decoction of fenugreek leaves and purple willow used in ancient times as an abortifacient.

UU 155. ***Vicia faba*** L.
Fava – Broad bean.
T scap – Grown in all Sannio to increase nitrogen content in the soil by green manuring.
α ψ Use: the broad bean seed is highly nutritious and so, cooked in the pan with a little water, were eaten to combat anaemia and above all to check the menstrual flow. The best known use was as an astringent, so a surfeit of broad beans was recommended as a remedy for diarrhoea and dysentery (Jamalio 1918), preferably with sorb berries (Cirelli 1853). The fresh shoots were also eaten as food (Zazo 1968).

U 156. ***Vicia sativa*** L.
Vicia dolce, *veccia* – Broadbeen.
T scap – Infests grassland along the R. Fortore
α ψ Uses: see *Vicia faba.*

MYRTACEAE

U 157. ***Myrtus communis*** L.
Mirto, mortella – Myrtle, true myrtle.
P caesp – Typical of the maquis around Buonalbergo.
ψ Uses.: the drug comes from the leaves gathered in September. They contain an essential oil and a bitter principle wich are balsamic, expectorant for the respiratory system, and diuretic. It was used with care as overdoses are poisonous. The leaves were used as an astringent for running sores (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 158. ***Eucalyptus globulus*** Labill.
Eucalipto – Eucalyptus.
P scap – Grown for ornamental use.
ψ Uses: the drug is extracted from the leaves gathered in summer or autumn and dried in the sun. They contain essential oils with eucalyptol, an antiseptic anticatarrhal with benefits to the respiratory and urogenital systems. It is effective against miners' anaemia as it affects the duodenal anchilostoma The bitter principle in the leaves make it useful for the preparation of eupeptics (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 159. ***Eucalyptus camaldulensis*** Dehnh.
Eucalipto – Redgum eucalyptus.
P scap – Grown for ornamental use.
ψ Use.: see *Eucalyptus globules.*

PUNICACEAE

UU 160. ***Punica granatum*** L.
Pomo granato, *melograno* – Pomegranate.
P scap. – Grown in the lower hill country of the whole Sannio.
α ψ Use: modern analysis has confirmed the presence of vermifuge alkaloids effective against tapeworms, but despite widespread infantile helminthiasis, the bark of the pomegranate tree was not much used. A decoction of the fruit peel was used to stop bleeding in labour and as an antidiarrhetic. It was also used as a mouthwash and sedative for toothache. In addition, the flowers are a strong astringent due to the large quantity of tannin they contain, while the seeds, with their pleasant taste, were sometimes used pharmaceutically as a flavouring (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). The plant is commonly used for food (Zazo 1968).

CORNACEAE

U? 161. ***Cornus mas*** L.
Corniolo maschio – Cornelian cherry dogwood, cornelian-cherry.
P caesp/P scap – Rare, in sub-Mediterranean broadleaved forests, Sabato Valley, Calore Valley.
α ψ Use: a slightly astringent, pleasant tasting conserve was prepared from the mature fruits. The bark also contains a bitter substance (cornina) which gives it an essentially tonic-astringent quality (Lodi 1957, Negri 1943, Palma1964, Viola 1965).

LORANTHACEAE

U 162. ***Loranthus europaeus*** Jacq.
Vischio quercino – Yellow-berried mistletoe.
P ep – Woods; hemiparasite on deciduous oaks and chestnut trees around the Sabato.
ψ Use: it was once used as a sedative to treat epilepsy (Lodi 1957).

UU 163. ***Viscum album*** L.
Vischio comune – Common mistletoe.
P ep – On fruit trees and on oaks.
ψ Use: the therapeutic use of the mistletoe is limited to an infusion of fresh or dried leaves as a hypotensive. The decoction is used on chilblains as a stimulant for the blood system (Plensio 1978).

CELASTRACEAE

U 164. ***Euonymus europaeus*** L.
Fusaria comune, berretto da prete, *corallina* – Spindle.
P caesp (P scap) – Hedgerows and cool woods in the hill country of the River Fortore.
ψ Uses: the only use of this plant, whose whole parts are toxic, concerns the orange, ovoid seeds used as a vermifuge more than an external insecticide. Cirelli (1853) described a remedy for intestinal worms. "Children were given unleavened spindle flour bread, toasted and pulverised with mulled wine or water, or spindle omelettes." (Garofalo 1987-1988).

ACQUIFOLIACEAE

U 165. ***Ilex aquifolium*** L.
Agrifoglio – Holly.
P caesp/P scap – Very common in the woods of Baselice, Castelvetere and Montefalcone, Sabato Valley, Montenero.
ψ Uses: the plants contain a substance called ilicine which give the plant its febrifuge, tonic properties. It has similar characteristics to coffee. The decoction of the leaves was used as a febrifuge, antirheumatic and antiarthritic. It was used in preference to the bark which has the same properties. The fruit is a purgative (Lodi 1957, Negri 1943, Palma1964, Viola 1965).

BUXACEAE

U 166. ***Buxus sempervirens*** L.
Bosso comune, bossolo, *mortella* – Box, common boxwood.
P caesp – grown in gardens on the plains of the lower hill country all across the Sannio area.
ψ π Uses: the only use made of this plant in the region regards the leaves. They were boiled with peppercorns in white wine until the liquid reduced to a third. A powerful mouthwash with sedative qualities for toothache was thus obtained. Those who have tried it first hand claim that the tooth becomes devitalised, and is expelled from its setting. This property is made use of in the pharmaceutical sector. From the distillation obtained from the box wood, a pyro-oleose liquid with odontalgic properties is produced. One drop in the cavity of a decayed tooth will ease the pain. Buxine is a tetanising poison, and over-use of the leaves, bark or fruit of the plant can cause gastroenteritis with vomiting, diarrhoea, vertigo, pulmonary congestion and respiratory paralysis. The antinevralgic effect of the alkaloids present in the leaves is harmless if preparations are used

externally. Therapeutic doses are laxative, cholagogue and febrifuge. Box leaves were used improperly as flavouring for beer as they have a bitter flavour (Negri 1943, Palma 1964, Viola 1965).

EUPHORBIACEAE

U? 167. ***Euphorbia amygdaloides*** L.
Erba delle faggete – Almond spurge.
Ch suffr – Largeleaf forests, especially beech woods; on the River Taburno.
ψ Uses: the root is used; see following species.

U? 168. ***Euphorbia chamaesyce*** L.
Euforbia fico per terra, erba pondina – Groundfig spurge, hairy creeping milkweed.
T rept – Trodden uncultivated land, vegetable plots, gardens, roadsides.
ψ Use: the latex was used to burn off warts (Negri 1943).

UU 169. ***Euphorbia helioscopia*** L.
Euforbia calenzuola, erba verdona, *erba dei porri* – Sunspurge.
T scap – Uncultivated, arid pastures.
ψ Uses: the drug extracted from the roots is similar to the other species of the genus. The white latex, very poisonous, when placed on warts, eliminates them by caustic action. It seems to be a sedative if placed in the cavity of a decayed tooth (Negri 1943).

U? 170. ***Euphorbia lathyris*** L.
Euforbia catapuzia – Caper spurge.
H bienn – Rare, vegetable plots, ruins, banks of the Volturno.
ψ Uses: the whole plant and especially the latex, is very poisonous. The latex and seeds have been used since ancient times as medicine. The plant has been used as a drastic purgative and to remove skin warts (Negri 1943, Palma 1964, Viola 1965).

U 171. ***Euphorbia peplus*** L.
Euforbia minore – Petty spurge, milkweed.
T scap – Fertilised, nitrite-rich soil, weeded crops, vegetable plots, ruins.
ψ Uses: the leaves and flowers are the basis for the drug. They were used as an antispasmodic and sedative besides the normal uses of this genus (Negri 1943, Palma 1964).

U? 172. ***Mercurialis annua*** L.
Mercorella comune – Annual mercury.

T scap – Nitrophilous frequent in both cultivated and uncultivated all over Sannio.
ψ υ Uses: In decoction it is very effective as a drastic purgative and a galactofuge. The local people used give this preparation to large livestock suffering from tapeworm and roundworm as a complementary cure once the parasites had been paralysed (Negri 1943, Palma 1964, Viola 1965).

U? 173. ***Mercurialis perennis*** L.
Mercorella bastarda – Dog's mercury.
G rhiz – Rare, in mesophilous woods, especially beech woods; along the Sabato.
ψ υ Uses: see *Mercurialis annua*.

UU 174. ***Ricinus communis*** L.
Ricino – Castor oil.
P scap – grown for oil and wild.
ψ Uses: the seeds are purgative which allows them to eliminate intestinal parasites especially in children. Ricinine, a toxin contained in the oil, is very powerful and can cause serious poisoning (Negri 1943, Palma 1964, Viola 1965).

VITACEAE

UU 175. ***Vitis vinifera*** L.
Vite – Grape vine.
P lian – grown mainly at the foot of Mount Camposauro.
α ψ υ Uses: this plant represents one of the main economic resources of the local people thanks to the D.O.C. wine Aglianico, whose vineyards are at the foot of Mt Camposauro. Mulled wine, a wine in which a red hot iron was thrust, was used to help children with polio take their first steps. The must called *stufa* was used to ease arthritis pain, but also to relieve polio sufferers. Relief came about due to the fermentation of sugars, which caused a rise in temperature and with it an increase in the flow of blood to the painful areas. It was used to combat intermittent temperatures, in the form of a glass of wine containing crushed coal dug up from certain areas of the soil on Saint Lawrence's day (Nardi 1978). The high energy content and the tonic/stimulant effect on the blood, helped women in labour, to whom large doses of strong wine and liquor were given. Very often, the wine was used to extract medicinal substances. The plant has an antidiarrhetic action. The active principles contained in the leaves were put around caciocavallo cheese or slices of ham and roasted (Nardi 1978). Vinegar too is a strong astringent (Jamalio 1918). It was used to heal contusions, to help reabsorption; the method consist-

ed in soaking toast in vinegar and placing it over the painful parts. The red grape, containing anthocyan, is astringent and so the use of crushed red grape on temples was a treatment for ophthalmia (Cirelli 1853). The liquid that flows during pruning was collected and used as a collyrium for conjunctivitis, with sap to strengthen hair, by rubbing it into the scalp. Wine is also used to help treat colds. Wine fumes are decongestant for the nasal mucus, and an emollient for the throat if the upper respiratory tract is infected. The plant was used by vets because the vine helps the expulsion of the placenta, and there were various methods. Some burned the shoots of the white vine, diluting the ash in water and giving it to cattle to drink. Others used the decoction obtained from boiling the shoots of all kinds of vine. The leaves were used as a tonic, astringent and diuretic. The fruit was recommended for the so-called "grape cures" to purify the digestive tract (Negri 1943, Viola 1965).

LINACEAE

U? 176. ***Linum catharticum*** L.
Lino capitato – Fairy flax.
Ch suffr – Cliffs and screes of the Matese Sannio.
ψ Uses: the whole plant contains a bitter substance. It was used as a purgative and diuretic at the same time, to reduce local or widespread oedemas, or else to eliminate excess ascitic fluid (Negri 1943, Palma 1964, Viola 1965).

UU 177. ***Linum usitatissimum*** L.
Lino coltivato – Common flax.
T scap – Formerly grown in the plains all over the Sannio area.
ψ Uses: the crushed or round seeds provided linen flour used to make a warm, damp fomentation (poultice) both to ease the maturation of purulence and for phlogosis of the respiratory system and digestive tract.
The seeds were crushed thoroughly and cooked in very little water, the poultice applied to the abscesses and carbuncles and the swelling would go down if a leaf of *Tussilago farfara* without the epidermis was added. The pain would also diminish. To treat bronchitis, a poultice of whole, boiled seeds having an expectorant, resolvent effect would be placed on the chest. Linseed oil, mixed 50:50 with limewater constituted an oleo-calcareous liniment was used on burns (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

ANACARDIACEAE

U 178. ***Pistacia lentiscus*** L.
Lentisco, sondro, stinco – Lentisk, mastic tree.

P caesp (P scap) – Dry slopes and calcareous cliffs in the Buonalbergo area and in some areas by the Lenta.
ψ Uses: the plant is rich in resin which, when the cortex of the trunk and branches is cut, pours out and solidifies in light yellow, slightly balsamic smelling balls which solidify. The drug is the resin itself which, when made into pills, was used as an expectorant and astringent tonic. It has stomachic and haemostatic properties and was used in numerous preparations to cure the inflammation of the mouth and to make gum which can be chewed (Negri 1943, Viola 1965).

U 179. ***Pistacia terebinthus*** L.
Terebinto, spaccasasso, scornabecco, cornucopia – Turpentine, tree, terebinth.
P caesp (P scap) – Arid slopes and limestone cliffs at Buonalbergo.
ψ Uses: from incisions made in the cortex a yellow or green-brown sticky latex containing essential oils, bitter substances and resins was collected. Presented in various ways, it was used as an expectorant and as a balsamic. It was also used as a
preparation for unguents and vesical poultices (Negri 1943).

RUTACEAE

UU 180. ***Ruta graveolens*** L.
Ruta comune – Common rue.
Ch suffr – arid areas of the highland of S. Giorgio la Molara.
ψ Uses: Rue was used in many different ways, but in Sannio mostly for its anthelmintic action. The juice of crushed rue, mint and absinth, relieves aches in the abdomen caused by helminthiasis (Jamalio 1918). A decoction of rue, laurel, absinth, camomile and mint leaves was used for the same purpose (Plensio 1978). Besides the effective preparations for internal use, poultices of rue, mint and absinth boiled in vinegar were placed on the abdomen to eliminate worms (Cirelli 1853). Crushed rue mixed with lard, or oil (in which rue and incense had been boiled (Nardi 1978), or plain fresh juice were placed around the navel as an anthelmintic. Due to the healing properties of this plant, people used to wear a string of leaves round their throats when the pain in the abdomen grew sharper or forms of suffocation occurred. In small doses, rue was used to help bring on menstruation in amenorrhoea and dysmenorrhoea; in large doses, rue causes uterine contractions and was therefore illegally used to induce miscarriage. The dose needed to reach this effect is very close to the lethal dose, and its abortifacient action is due to the serious poisoning it causes all over the body rather than to a specific property. The crushed root, applied to wounds, had an antiseptic action (Garofalo 1987-1988). The juice extracted from crushed rue was an

effective decongestant of stye. For external use, rue leaves have revulsive, insecticidal and cleansing properties. Apart from the actual properties of the plant, the inhabitants of Sannio believed it could heal all illnesses – including jaundice – as an old saying went, "*la ruta tutti i mali strude*" ("Rue heals all illnesses") (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

ARALIACEAE

U? 181. ***Hedera helix*** L.
Edera – *Ivy.*
P lian. – Thickets, hedges and shady cliffs at all altitudes throughout the province.
ψ π Uses: the young leaves, on account of the saponins present when used in decoctions, can soothe bad coughs, dilate bronchi and help eliminate bronchial catarrh. The various parts of the plant – and above all its fruits, which were seldom used – contain several glycosides, including hederin which, even in small doses, acts as a powerful and haemolytic vasoconstrictor. There are limits to the use of this plant. Its fruit is toxic and, if ingested in a certain quantity, may cause serious poisoning. The infusion of ivy leaves is used in cosmetics to rinse hair after shampooing: this treatment makes the hair shinier and darker (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

APIACEAE

U 182. ***Aegopodium podagraria*** L.
Girardina silvestre – Ground elder, goutweed.
G rhiz – Hardwood, gorges and brook banks throughout Sannio.
ψ Uses: the leaves, green parts and fruit constitute the drug made from this plant. It was used in the treatment of rheumatism and gout, and to restore the proper functioning of the intestine (Lodi 1957, Negri 1943, Palma1964).

U 183. ***Ammi majus*** L.
Visnaga maggiore – Bishop's weed.
T scap – Wasteland, ruins, weeded crops.
ψ Uses: the fruit, in several preparations, has a carminative, bitter-tonic and diuretic action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 184. ***Angelica archangelica*** L.
Angelica arcangelica.

H scap – Grown in vegetable gardens.
ψ π Uses: the dried root produces inflammations and blisters. Angelica essence acts as a stimulant and digestive; preparations were often in the form of digestive liquors. The extract of the root used to be one of the constituents of some sedatives and its leaves are vulnerary (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 185. ***Angelica sylvestris*** L.
Angelica selvatica – Wild angelica.
H scap – Damp woods, watersheds and gorges in the area of Sannio; V.ne Castello, Mt. Mafariello.
ψ Uses: the infusion of leaves, roots and fruits was believed to be an effective anticatarrhal remedy and blood purifier. The plants gathered in dry mountainous places seem to have greater effect (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 186. ***Anthriscus cerefolium*** (L.) Hoffm.
Cerfoglio comune – Common chervil.
T scap – low hills of the river Fortore.
ψ Uses: it can be distinguished from the other Umbelliferae of the *Anthriscus* genus by its pleasant smell; it is no longer known for any medical use. It was used as a topical remedy to relieve pain caused by wasp and hornet bites (Lodi 1957, Negri 1943, Palma 1964).

U 187. ***Anthriscus nemorosa*** (Bieb.) Spreng.
Cerfoglio meridionale – Southern chervil.
H scap – Woods, gorges, shady places.
ψ Uses: see *Anthriscus cerefolium.*

UU 188. ***Apium graveolens*** L.
Sedano comune, *accio* – Celery.
H scap – Grown in the fertile irrigated plains throughout Sannio.
α ψ Uses: the various properties of celery are well known in Sannio. As a secondary effect, it is known to stimulate diuresis. The decoction of its leaves is useful against pharyngeal and bronchial catarrh. The juice of its leaves was believed to act as an antiscorbutic, and both the juice and the fruits are diuretic. Furthermore, if ingested in large quantities, it is useful in uricaemia, gravel, rheumatism and obesity. The wild plant should be considered as suspect, if not definitely poisonous (Lodi 1957, Negri 1943, Palma 1964). The small plants were grown in the vegetable garden, instead of, or alongside vegetables, and were often used in preparing typical local dishes (Zazo 1968).

U 189. ***Apium nodiflorum*** Reichb. f.
Sedano d'acqua, erba cannella, crescione, *accio selvatico* – Wild celery.

H scap/I rad –Along ditches and watercourses.
ψ Uses: see *Apium graveolens.*

U? 190. ***Bupleurum rotundifolium*** L.
Buplero perfogliato – Thoroughwax.
T scap – Infesting cereal crops on the sub-mediterranean limestone, clayey hills.
ψ Uses: the leaves gathered in spring contain a bitter principle having astringent and vulnerary action (Palma 1964).

U? 191. ***Caucalis platycarpos*** L.
Lappola carota – Bur-parsley.
T scap – Infesting cereal crops on calcareous soil.
ψ Uses: the whole plant contains a bitter principle which can be processed in different ways and, accordingly, has diuretic, dechlorinating, azoturic or uricolytic action (Palma 1964).

U! 192. ***Conium maculatum*** L.
Cicuta maggiore – Poison hemlock.
H scap – Widespread in wasteland, ruins, canals and hedges throughout Sannio.
ψ Uses: hemlock contains a poisonous principle affecting all the nerve centres of digestion, muscular and vasomotor activity, and paralysing the brain centres. Therefore, it has never been a popular herbal remedy. Poultices of leaves, having analgesic, antineuralgic, antispasmodic, tussive, galactofuge and revulsive proprieties, were used externally without problems (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 193. ***Coriandrum sativum*** L.
Coriandolo comune, coriandro, erba cimicina – Coriander.
T scap – Cultivated and wild as infesting weed of cereal crops.
ψ Uses: fruits, gathered in October and then dried in the sun, so as to lose the unpleasant smell and acquire a peculiar scent, have a carminative and stomachic action which is typical of many *Umbelliferae*. Also the essential oil in the green parts of the plant contains principles, but it has been shown to bring about harmful secondary effects (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 194. ***Daucus carota*** L.
Carota selvatica – Wild carrot.
H bienn (T scap) – Wasteland, ruins and along the roads and dry meadows in the hilly area of the region.
ψ Uses: the carrot root was effective in the treatment of vitamin deficiency. The essential oil contained in its root has carminative properties

while resins, which can be found in its leaves in small quantities, have diuretic action (Negri 1943, Palma 1964, Viola 1965).

U? 195. ***Eryngium amethystinum*** L.
Calcatreppola ametistina – Amethyst eryngo.
H scap – Arid razing lands and thin bushes around Mount Matese in Sannio.
ψ Uses: see *Eryngium campestre.*

U? 196. ***Eryngium campestre*** L.
Calcatreppola campestre, bocca di ciuco, *cardo* – Field eryngo.
H scap – Everywhere on uncultivated clayey soils.
ψ Uses: the root was mainly used for its diuretic action in the treatment of kidney stones or vesiculae; it can also be effectively used as an aperient, cholagogue and emmenagogue (Negri 1943, Palma 1964, Viola 1965).

U 197. ***Ferula communis*** L.
Ferula comune, finocchiaccio – Common ferula, wild fennel.
H scap – Garrigues, wasteland, arid soils and pastures throughout Sannio.
ψ Uses: the fruits and roots and used for antirheumatic purposes (Negri 1943).

UU 198. ***Foeniculum vulgare*** Mill. subsp. ***vulgare***
Finocchio comune, *finocchio di vigna* – Common fennel, vineyard fennel.
H scap – field and path edges throughout the region.
α ψ Uses: the root decoction was used for its digestion-stimulating action while, when combined with lettuce leaves, it was used as an antispasmodic in stomachache. It is an effective emmenagogue regulating menstrual flow, also exploited as a galactagogue. The root decoction was used as an expectorant. It also has slight antiseptic and cicatrizing action when it is used as a mouthwash. Its seeds still play a major role in the preparation of some typical mediterranean dishes to which they add a special flavour and taste. The fruits have aperient, carminative, diaphoretic and diuretic properties. The leaves are also cooked and mixed with other kinds of vegetables (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Zazo 1968).

U 199. ***Pastinaca sativa*** L.
Pastinaca comune – Common parsnip.
H bienn – Uncultivated land, in the valleys of the rivers Sabato and Calore.

ψ Uses: When distilled in water vapour, the fruits and roots produce a yellow essence which was once used as an antirheumatic (Negri1943, Viola 1965).

UU 200. ***Petroselinum sativum*** Hoffm.
Prezzemolo comune, *petrosino* – Common parsley.
H bienn – Grown everywhere in the gardens throughout Sannio.
ψ Uses: concentrated preparations of this plant were traditionally used as abortifacients. In fact the apiole, mostly contained in its seeds, excite uterine fibres. Consequently, its therapeutic use was limited to a sort of light infusion used to regularise menstrual flow. As to external use, its crushed leaves were extremely effective against bee and wasp bites. When crushed together with pellitory and thistle, these turn out to be an excellent remedy against burns. The plant leaves, reduced to pulp and mixed with oil and salt can immediately relieve toothache if applied straight to the tooth cavity (Plensio 1978). A poultice of its crushed leaves applied to wetnurses' breasts, made their milk flow regress. (Cirelli 1853). A decoction containing the leaves and roots of parsley, couch and chicory – drunk on a full stomach the day after its preparation – helped recovery from physical decline due to malaria, by detoxicating and mainly providing further vital mineral salts and vitamins.

U? 201. ***Peucedanum officinale*** L.
Imperatoria finocchio, porcino – Masterwort, hog's fennel, brimstonewort.
H scap – Arid wasteland surrounding Mount Matese in the Sannio region.
ψ Uses: The latex of its roots was useful in the cure of chronic catarrh as well as intermittent fevers (Negri 1943, Palma 1964, Viola 1965).

U? 202. ***Peucedanum oreoselinum*** (L.) Moench
Imperatoria apio montano – Mountain masterwort.
H scap – Arid grassland and open thickets.
ψ Uses: see *Peucedanum officinale.*

U! 203. ***Pimpinella saxifraga*** L.
Tragoselino comune – Common burnet.
H scap – Arid grassland, slopes.
ψ Uses: compared to the previous species, it has greater expectorant properties, especially when mixed in infusion with other species such as thyme, sundew, coltsfoot (Negri 1943, Palma 1964).

U? 204. ***Scandix pecten-veneris*** L.
Acicula comune, spillettomni, pettine di Venere – Lady's comb, shepherd's needle.

T scap – Infesting cereal crops on clayey soils.
ψ Uses: its root contains a bitter principle giving the plant an antiphlogistic, astringent and eupeptic action, therefore its decoction was used in dyspepsia, gastroenteritis, cystitis, nephritis and pyelitis (Palma 1964, Viola 1965).

U? 205. ***Sium latifolium*** L.
Sedanina selvatica – Water parnsip.
He – Stagnant waters, river banks and marshes.
ψ Uses: its roots are the drug whose ingestion is not recommended; in the past, given their affinities, these roots were replaced with those of valerian (Negri 1943).

U 206. ***Thapsia garganica*** L.
Firrastrina comune – Thapsia.
H scap – Arid pastures near the border with the Apulia region.
ψ Uses: its root provides the drug. It contains highly irritant substances and can cause serious cutaneous erythema. It is absolutely unsuitable for internal use, while its external application, for a vesicant purpose, was useful in cases of lumbago, ischialgia and, more generally, against rheumatic or neuralgic diseases (Negri 1943, Palma 1964, Viola 1965).

GENTIANACEAE

U 207. ***Centaurium erythraea*** Rafin.
Centaurea maggiore – Centaury.
H bienn/T scap – Open dry woods near Mount Matese in the Sannio region.
ψ Uses: The antipyretic property of this plant is the most useful. In fact, in order to prevent malarial fevers, drinking bitter infusions of centaury stems and leaves, maybe mixed with sweet marjoram, was recommended. The plant was also used, in infusion or tincture, as an activator in the process of digestion. Finally, for external use, it was used as a cleansing and cicatrizing agent (Negri 1943, Viola 1965).

U? 208. ***Centaurium pulchellum*** (Swartz) Druce
Centauro elegante – Branched centaury.
T scap – Muds, humid places in the valleys of the rivers Sabato and Calore.
ψ Uses: see *Centaurium erythraea.*

U? 209. ***Gentiana lutea*** L.
Genziana maggiore, *genziana gialla* – Gentian, yellow gentian.
H scap – grassland and pastures in mountainous areas near Mt. Matese

ψ Uses: the root supplies the drug, whose action, when it is treated to give a fluid extract, powder or tincture and also as infusion or syrup, produces a gastric juice increase; therefore each of these preparations is useful in the treatment of digestive disorders. Its febrifugal properties, now clinically proven, have been known for a long time. In the past, as soon as the symptoms of malaria were felt, a gentian and wall germander decoction was used immediately (Nardi 1978).

SOLANACEAE

UU 210. ***Atropa bella-donna*** L.
Belladonna – deadly nightshade.
H scap – Shady mountainous and submountainous woods.
ψ Uses: Its leaves and root provide the drug. Before its real properties were detected by clinical trials, belladonna enjoyed bad reputation for centuries. Known in the Middle Ages as "witches' herb" it was used in the preparation of hallucinogenic compounds for some specific rituals. An ointment derived from this plant together with hemlock, mandragora and henbane, in the past, was used. However, its medical applications are numerous and justified by its relevant pharmacological actions against spasms of the gastrointestinal muscular tracts and of the respiratory system; as an antipespirant in tubercular patients, in spasmodic constipation and above all in the treatment of parkinsonism. The drug, administered in different ways and appropriate therapeutical doses, can also be used for its antiemetic, antiepileptic, central nervous system-stimulation and sedative action. The toxicity of its active principles and numerous contraindications are to be taken into consideration (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 211. ***Capsicum annuum*** L.
Peperone, *pipino* – Guinea pepper.
T scap – Grown in.
α ψ Uses: this plant was commonly used for food purposes since it gives a pungent taste to dishes. However, its consumption was increased for people suffering from gastric and duodenal ulcers, although, for quite a long time, it has been considered as being even detrimental to patients' health. Furthermore, in popular culture, it was believed to have the property of decreasing the cholesterol level in the blood. Topically, guinea pepper has rubefacient properties, and therefore, rubbing it on those regions of the body affected with rheumatism and anywhere where it is necessary to add heat, is considered to be useful. A wad soaked in a concentrated decoction of this essence, placed in the cavity of the decayed tooth, acts as an odontalgic.

U 212. ***Cestrum parqui*** L'Hèrit.
Cestro, erba cappona, gelsomino del Cile – Green poison-berry.
NP – Grown as ornament and along hedges; native to America naturalized in S. Italy
ψ Uses: its leaves contain substances with anesthetic properties. The plant leaves were considered to be febrifugal in popular medicine (Negri 1943).

U 213. ***Datura stramonium*** L.
Indormia, *stramonio* – Thorn apple, jimsonweed.
T scap – spontaneous in the valleys of Sannio.
ψ Uses: in the Sannio its dried leaves were considered to be an excellent antiasthmatic and therefore were rolled and smoked like cigars. A particular use of the plant leaves – adopted by the Sepino municipality – that is as a remedy against little abscesses when applied topically – can be found in Cirelli (1853). The plant active principles may influence the respiratory rhythm and trigger remarkable mental reactions. Preparations of this plant are still used in the treatment of essential and postencephalitic parkinsonism. In fact, the drug has an antiepileptic, antispasmodic, narcotic-sedative and neuro-sedative action. Thorn apple preparations have to be dosed and administered under careful supervision (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 214 ***Hyoscyamus niger*** L.
Giusquiamo nero, alterco – Black henbane.
T scap/H bienn – Wasteland and ruins.
ψ Uses: the leaves are used in different ways. The administration of henbane preparations proves useful in the treatment of trigeminal neuralgia, shaking palsy, parkinsonism, and more generally in the relief, at least temporary, of senile tremor phenomena; its antispasmodic action is well-known too. The plant seeds, containing essential oils, have a pharmacological, sedative and hypnotic action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 215. ***Lycopersicon esculentum*** Miller
Pomodoro, tomatica – Tomato.
T scap – Grown in the Caudina Valley.
α ψ π Uses: the leaves and stem of the tomato, in its different varieties and grown for food purposes, are toxic since they contain solanin. The popular use of this plant is limited to its ripe fruit which is put on calluses in order to make them soft and easy to extirpate. Slices of tomato strewn with sugar provide a resolution for boils (Garofalo 1987-1988). It is widely grown for food and preserve purposes.

UU 216. ***Nicotiana tabacum*** L.
Tabacco, virginia – Tobacco-plant, virginia.

T scap/H scap – Grown everywhere in its numerous varieties.
ψ υ Uses: given its noxious properties if used internally, it was employed for external use as a parasiticide in both man and animals. A concentrated decoction of tobacco leaves was in fact very often used to wash animals afflicted with pediculosis, scabies and various forms of eczema.

U 217. ***Solanum dulcamara*** L.
Morella rampicante, dulcamara, corallini, vite selvatica – Woody nightshade.
NP – Humid woods, wasteland, usually in a shady environment.
ψ Uses: the young stems picked during the month of April or October and blended in infusions, extracts or decoctions, proved effective as depuratives and diaphoretics, as well as hypnotics and anaphrodisiacs. In high doses they are toxic (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 218. ***Solanum nigrum*** L.
Morella comune, *pomodoriella* – Black nightshade.
T scap – Cultivated fertile and humid soils, in lowland and low-hilly areas.
ψ Uses: it is a poisonous plant which provided popular pharmacopoeia with an effective odontalgic: its ripe berries, squeezed in the cavity of the decayed tooth, produce an immediate sedative effect. The fumes obtained by burning the dead plant and conveyed into the oral cavity are less dangerous but equally effective. All kinds of preparations derived from the plant drug, administered with caution because of their toxicity, were also used for their antiphlogistic, haemocathartic and spasmodic action, and also as a cure for rheumatic or sciatic pain (Benigni & al. 1962-1964; Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 219. ***Solanum tuberosum*** L.
Patata – Potato.
T scap – grown.
α ψ Uses: although also its leaves are rich in healing properties, especially antispasmodic ones, only the tubers were used which, sliced up and applied to burns, soothed the pain and stimulated cicatrization (Garofalo1987-1988). Another exploited property of the plant is its decongestive action: slices of potato put on one's eyelids or forehead, could solve the problem of reddened eyes caused by photophobia, gusts of wind or fatigue. It is widely grown for food purposes.

BORAGINACEAE

UU 220. ***Anchusa officinalis*** L.
Buglossa comune, *lingua di bue* – Bugloss, dyer's alkanet.

H scap (H bien) – Widespread along escarpments in the plain and hilly areas

ψ Uses: this plant is widely used for its antiphlogistic properties. If crushed and placed on lumps through a cloth, its crushed flowers help the swelling go down. The juice extracted from the roots of *Anchusa officinalis*, carefully crushed between two stones was considered effective against shingles (Herpes zoster). The same use is found in official medicine, where the plant is used in the topic treatment of skin eruptions caused by rubella, scarlet fever and scrofula. Its external action is simply antiphlogistic and emollient. The dried leaves and flowers prepared in infusion are used as an expectorant and diaphoretic action it shows when prepared in infusion (Negri 1943, Palma 1964, Viola 1965).

UU 221. ***Borago officinalis*** L.

Borragine comune – Borace.

T scap – Wasteland, uncultivated fields, etc.

α ψ Uses: when dried, the plant loses all its properties. The most widely used parts were the leaves which, raw in salad or cooked in soups, had purifying, diuretic, and biliary effects and stimulate peristalsis. The seeds, rich in mucilage, have a laxative effect (Plensio 1978). The preparation was in form of infusion or decotion. Both leaves and flowers are widely used beause of their emollient properties and were considered good blood purifiers (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). The flowers, gathered shortly before blooming where used to prepare the typical omelettes with pumpkin flowers.

U? 222. ***Buglossoides purpurocaeruleum*** (L.) I. M. Johnston

Erba perla azzurra.

H scap – Dry woods and bushes of San Giorgio del Sannio.

ψ Uses: see *Lithospermum officinale*.

U? 223. ***Cerinthe major*** L.

Erba vajola maggiore.

T scap – Wasteland along the borders of vineyards and olive groves.

ψ Uses: the leaves and flowers were used in infusion, having antiphlogistic, astringent, ophthalmic and cooling properties (Palma 1964).

U 224. ***Cynoglossum officinale*** L.

Lingua di cane vellutina – Hound's tongue.

H bienn – Sunny wasteland in the hills of Southern Sannio.

ψ Uses: Formerly used for its sedative effect, today it is only used for its emollient, astringent and soothing properties; crushed leaves are placed between two pieces of gauze on sores and burns. Since its root contains large quantities of tannin, it was used in decoction or in powder as an

intestine astringent and, less often, in the tannin treatment of intestine and lung tuberculosis. (Lodi 1957, Negri1943, Palma 1964).

UU 225. ***Echium vulgare*** L.
Viperina azzurra – Viper's bugloss.
H bienn – In waste grassland and dry pastures throughout Sannio.
ψ Uses: all the parts of the plant have pharmacologic properties. Tradictionally, the decoction of its leaves was known for having astringent, diaphoretic, diuretic and emollient properties (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 226. ***Lithospermum officinale*** L.
Erba perla, miglio selvatico – Gromwell.
H scap – A rare plant growing in wet, cool woods and in riverbeds; Apex.
ψ Uses: the active principles of this plant are not well known yet. The decoction of leaves was used in popular medicine as a light diuretic; its seeds were useful in the treatment of kidney stones. (Negri 1943, Palma 1964, Viola 1965).

U 227. ***Myosotis sylvatica*** Hoffm.
Nontiscordardimé dei boschi – Forget-me-not of the woods.
H scap(H bienn.) – Hardwood woods, especially beech-woods, in the uplands of Sannio; Mt. Mafariello.
ψ Uses: the drug is the rhizome, which is rich in mucilage and tannins, and also contains a dying substance. The pharmacological action of the root decoction is mainly astringent, ophthalmic and cicatrising (Palma 1964).

U 228. ***Pulmonaria vallarsae*** A. Kern.
Polmonaria della Vallarsa – Lungwort of Vallarsa.
H scap – sunny slopes of the hills and mountains of S. Giorgio la Molara, Valley of the river Sabato.
ψ Uses: the infusion of the leaves is used for its emollient and expectorant properties and a cough-soother. It has also diuretic effects (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 229. ***Symphytum officinale*** L.
Consolida maggiore, orecchia d'asino, sinfito, erba di S. Lorenzo – Comfrey.
H scap – Wetland, ditch edges and deciduous woods throughout Sannio.
ψ Uses: the fresh root was used for poultices; it had an activating action on contusions with ecchymosis, on septic wounds, on ulcers and varices, rhagades, aching scars. The effectiveness of the drug is due to the increased blood flow in the affected parts. It was also used internally for gastric and duodenal ulcers. In addition, due to the presence of tannin

and mucilage, it was administered to patients ill with chronic catarrh and infections of the respiratory tract (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

VERBENACEAE

U 230. ***Verbena officinalis*** L.
Verbena comune – Common vervain.
H scap – Gardens and in wasteland in the foothill and mountains.
ψ Uses: the only medicinal use of vervain in the popular tradition was related to its febrifugal action (Jamalio 1918); today even this use has been forgotten. The flowers and leaves are the drug of the plant. The bitter-tonic infusion is useful against liver, spleen and kidney disorders; it also has anti-rheumatic and febrifugal properties. In antiquity, it was also used as an aphrodisiac (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 231. ***Vitex agnus-castus*** L.
Legano, aino, agno casto, pepe falso – Chaste tree.
P caesp (P scap) – Riverbeds, rivers dry throughout most of the year, swamps, wet lowlands throughout Sannio.
ψ Uses: Since the old times, the leaves and fruits have been renowned for their emmenagogue and anaphrodisiac properties, though such properties have not been confirmed. The infusion or the fluid extract of the leaves and fruits could be used on nervous patients as antispasmodics in the disorders of the digestive system and of abdominal organs in general (Negri 1943, Palma 1964, Viola 1965).

LAMIACEAE

U! 232. ***Ajuga reptans*** L.
Iva comune, bugula, erba di S. Lorenzo – Common bugle.
H rept – Rare, broadleaf woods meadows in the Valley of the river Sabato.
ψ Uses: in the popular tradition, the whole plant – except for the rhizome – was used. The infusion and other preparations had astringent, tonic and vulnerary action (Negri 1943, Palma 1964).

U? 233. ***Ajuga iva*** (L.) Schreb.
Iva moscata.
Ch suffr – Dry grassland, uncultivated pastures of Mount Matese in Sannio.
ψ Uses: the infusion of the leaves had a tonic, diuretic, antispasmodic and aperient action. It is also believed to have vulnerary properties (Lodi 1957, Negri1943, Viola 1965).

U? 234. ***Ballota nigra*** L.
Cimiciotta comune – Black horehound.
H scap – Ruins, wasteland, and hedges in the Valley of the river Sabato.
ψ Uses: this plant was a widespread anthelmintic as early as the Middle Ages, and still today it is appreciated for its antispasmodic and sedative properties when it is used in infusion, as a tincture or syrup (Lodi 1957, Negri 1943, Palma 1964).

U 235. ***Calamintha nepeta*** (L.) Savi
Mentuccia comune – Wild mint.
H scap (Ch suffr) – Dry grassland, wasteland, road edges and walls.
ψ Uses: the whole plant was used, after being cut during blooming. It was treated in many different ways, and accordingly had cholagogue, expectorant, sedative and antibiotic actions (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 236. ***Calamintha sylvatica*** Bromf.
Mentuccia maggiore, calamenta – Calamint.
H scap – Grows in the uplands in the area of Fortore, in fresh wasteland in the Valley of the river Calore.
ψ Uses: like the more common mints, whose use is widespread in the popular medicine of Sannio, calamint is considered a good anthelmintic to be used only externally due to its strong smell. The apex of the plant was crushed and placed on the abdomen of children suffering spasms due to helminthiasis. In order to improve the application of the poultice, a small amount of unsalted lard was added (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Other uses: see *Calamintha nepeta.*

U? 237. ***Clinopodium vulgare*** L.
Clinopodio – Wild Basil.
H scap – Typical of the broadleaved woods on the arid mountains surrounding seasonal torrents, the tributary of the upper River Sabato in Sannio.
ψ Uses: the drug is taken from the flowers and leaves. Its preparations, have carminative, stimulating or emmenagogue actions (Palma 1964, Viola 1965).

U 238. ***Galeopsis angustifolia*** Ehrh. ex Hoffm.
Canapetta a foglie strette – Hempnettle.
T scap – Grassland, arid wasteland and uncultivated fields of Mount Matese.
ψ Uses: the leaves and flowers are treated in infusions, syrups or fluid extracts and have re-mineralising properties in the infections of the respiratory system. It also has diuretic, haemopoietic and fluidising effects in the bronchi (Lodi 1957, Negri 1943, Palma 1964).

U 239. ***Galeopsis tetrahit*** L.
Canapetta comune – Common hempnettle.
T scap – Fields, ruins and debris; nitrophilous plant.
ψ Uses: see *Galeopsis angustifolia*.

U 240. ***Lamium album*** L.
Ortica morta, ortica muta, *falsa ortica bianca* – White dead-nettle.
H scap – Along tracks and in the shady places of Sannio in the area of Mount Matese.
ψ Uses: white dead-nettle is known in popular medicine for its haemostatic, antileukorrhoeal, and decongesting properties. A decoction prepared with the root, grains of barley, corn and oat, is still used against uterine haemorrhage. In order to reduce excessive menstrual flow, a simple infusion of leaves and dried stems of white dead-nettle can be very useful. The same infusion, is also used externally for the douching of the genitals, acting as an astringent and decongestant. Today, the effectiveness of the plant has been confirmed against uterine haemorrhage, irregular menses and leuchorroea (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 241. ***Lamium maculatum*** L.
Falsa ortica macchiata – Spotted dead-nettle.
H scap – Coppices, hedges and wastland in Sannio in the area of Mt. Matese.
ψ Uses: see *Lamium album*.

UU 242. ***Marrubium vulgare*** L.
Marrubio comune, robbio, mentastro, *erba china* – White horehound. (Photo 6)
H scap – Uncultivated and arid lands in the area of Paduli (Fig.19).
ψ Uses: Jamalio (1918), mentioned the use of white horehound in the area of Paduli, where it was used to fight off intermittent fever, but above all intestinal fevers. The decoction, having a febrifugal action, was preferred to that of common centaury when, due to gastritis, the patient was intolerant to the latter herb. This decoction was used also to regulate poor menstrual flow. The use of this plant as a febrifuge has been widespread up to a few decades ago.

U 243. ***Melissa officinalis*** L.
Melissa vera, citronella, *erba limoncella* – Balm, sweet balm, lemon balm.
H scap – Hedges and thicket edges, especially along the river Fortore; also cultivated.
ψ Uses: the drug is made up of the leaves and flowers. The pharmacological action is slightly antispasmodic, antihysteric and tonic. Only Jamalio (1918) mentioned the balm among the spontaneous plants which were used in the popular medicine.

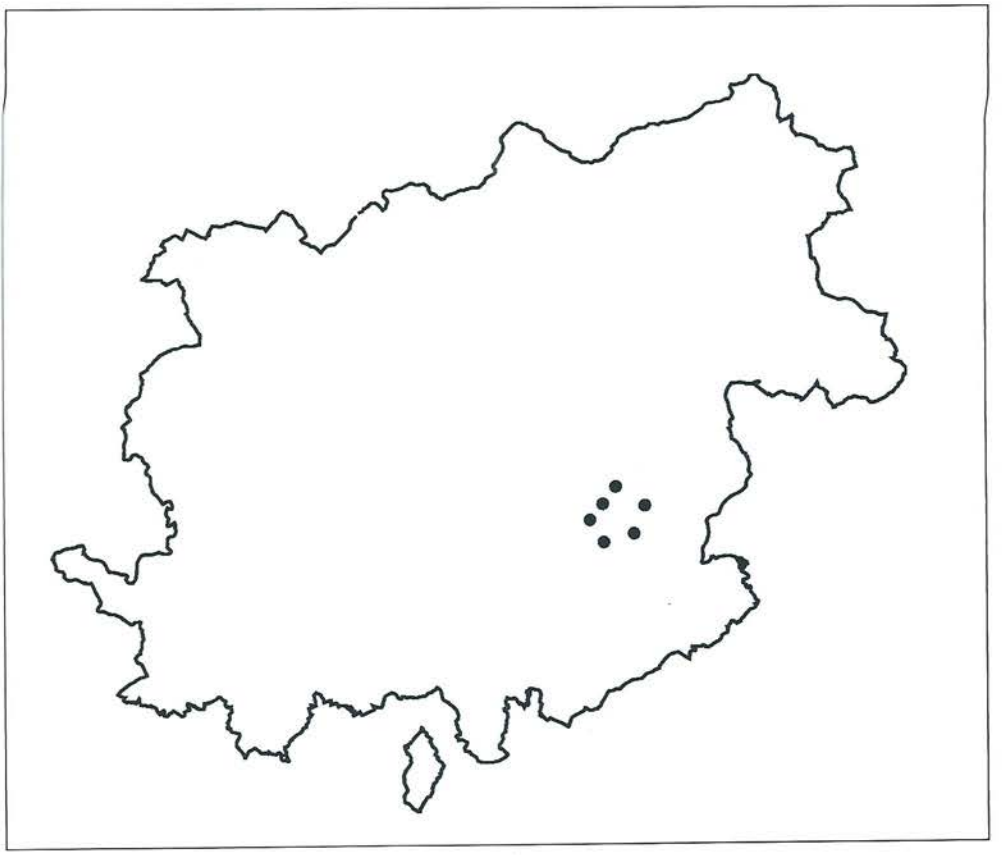

Fig. 19. Distribution of *Marrubium vulgare* in Sannio.

U 244. ***Mentha aquatica*** L.
Menta d'acqua – Water mint.
H scap – Embankments, river banks, and swamps.
ψ Uses: the infusion and other preparations of the flowers and leaves have antiemetic, antiseptic, antispasmodic, carminative and tonic action. The drug is recommended in gastrointestinal dyspepsia and in the disorders of the digestive system as a whole (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 245. ***Mentha longifolia*** (L.) Huds.,
Menta selvatica, *mentastra* – Wild mint.
H scap – Spread everywhee in cool areas.
υ Uses: this plant has the same beneficial properties as the better-known peppermint, but the chemical composition of its essential oil is different, and the smell is not as pleasant and fine as in other types of mint. In the

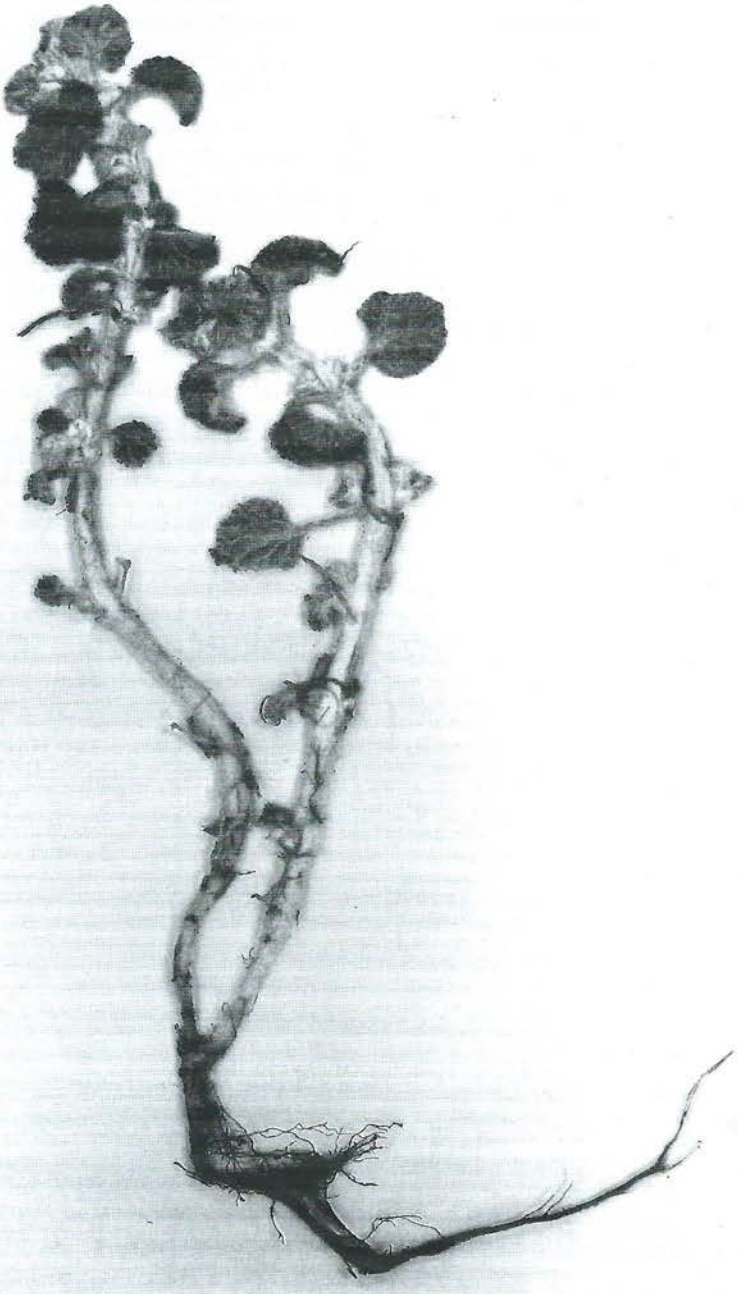

Photo 6. *Marrubium vulgare.*

Sannio, in fact, its use is exclusively veterinary. Fresh leaves, crushed and applied topically, relieve pain by reducing oedemas, and disinfect abrasions which are often caused by draught animals during work in the fields (Viola 1965).

U 246. ***Mentha pulegium* L.**
Poleggio – Pennyroyal.
H scap – Humid areas flooded in spring and dry in summer.
ψ Uses: the infusion, the extract or the tincture, or still other preparations of the flowers have tussive, colagogue, digestive, stimulating and tonic action. They are useful to fight off disorders of both the respiratory and digestive systems (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 247. ***Mentha suaveolens*** Ehrh.
Menta a foglie rotonde, *mentastra* – Round-leaved mint.
H scap – Along the river Calore and in humid areas.
ψ Uses: its unpleasant smell could explain why it has mainly been used externally as an antispasmodic. The crushed epigeal part was effective in relieving pain caused by arthritis and rheumatism. The root prepared in decoction was believed to be a purifier of the urinary tract. In popular medicine, the term "*mentastra*" refers to all the species of the Mentha genus having a quite strong smell. De Blasio (1900), referred generally to "*mentastro*" (horse-mint) which, crushed and applied around the navel, was an effective anthelmintinc.

UU 248. ***Mentha spicata*** L.
Menta romana, *menta* – Spearmint; mint.
H scap – grown everywhere in Sannio as a culinary herb.
α ψ Uses: mint has long been used mainly for its anthelmintic action. Children were given either the juice of mint, garlic and onion crushed together (Cirelli 1853), or small balls of crushed leaves. Also in external use it could fight off worms, so poultices of absinth, mint and rue cooked in vinegar were effectively placed on the abdomen to this purpose. Intestinal spasms due to internal parasites were soothed by mint, rue and absinth juiceapplyed externally. During feeds, wetnurses used to chew garlic and mint, since the substances – chewed and ingested – reached the baby through the milk, and were believed to be effective against worms. Mint was also used for its emmenagogue proprieties. Also used to flavour omelettes and mushroom dishes.

U? 249. ***Nepeta cataria*** L.
Gattaia comune – Common catmint, catnip.
H scap – Wasteland, ruins, rubble, old walls and humid places, especially along the river Sabato.
ψ Uses: the flowers can be processed in several ways and, accordingly,

can have sedative-spasmolytic, stimulating and emmenagogue action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 250. ***Ocimum basilicum*** L.
Basilico – Sweet basil.
T scap – Grown throughout Sannio.
α ψ Uses: widely popular in Mediterranean cooking, in herbal medical practice basil was used to prepare an infusion stimulating digestion and relieving stomach and intestinal cramps.

UU 251. ***Origanum heracleoticum*** L.
Origano meridionale – Seedless oregano.
H scap – Thin thickets, bushes, wood edges throughout Sannio.
α ψ Uses: see *Origanum vulgare*.

UU 252. ***Origanum majorana*** L.
Origano majorana, persia, *maggiorana* – Sweet marjoram.
H scap – Cultivated; found excaped in uncultivated arid and sunny soils.
α ψ Uses: the properties and uses of marjoram are similar to those of oregano. The infusion of sweet marjoram and common centaury was considered effective in the treatment of malarian fevers (Jannuzzo 1888).

UU 253. ***Origanum vulgare*** L.
Origano comune, arigano, riganò, regano, rianu, acciugaro, oregano.
H scap – Grassland, hedgebanks and scrub throughout the Sannio.
α ψ Uses: the pulverized small flowers of oregano were used on newborn babies' irritated skin as an alternative to the powder of old wormeaten beams or to oil with beaten egg white (Cirelli 1853). Its effectiveness as a sedative was used for toothache when pulverized oregano was placed inside the cavity of the decayed tooth; the same effect was obtained by steeping oregano in oil. In infusion, the flowers stimulate intestinal functions and help eliminate bronchial catarrh (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Widely used to flavour raw and cooked food.

U 254. ***Prunella laciniata*** L.
Prunella gialla – Heal all.
H scap – Arid, sunny grassland throughout Sannio.
ψ Uses: see *Prunella vulgaris*.

U 255. ***Prunella vulgaris*** L.
Prunella comune – Self-heal.
H scap – Grassland, pastures, hedgegrows and thickets in the foothills throughout the region.

ψ Uses: each and every part of the plant has pharmacological properties; if used in infusion, decoction or tincture, it is useful as an astringent in the diseases of the respiratory and gastro-intestinal systems (Negri 1943, Palma 1964).

UU 256. ***Rosmarinus officinalis*** L.
Rosmarino, osmarino, usmarino, smarino, ramerino, trasmarino – Rosemary.
NP – Extremely widespread on the sunny slopes of Mt. S. Giorgio la Molara, Mt. Molinara and the valley of the upper and lower Fortore.
α ψ Uses: the flowered apex, in infusion, stimulates bile secretion and helps digestion. For the same purpose, it is also used for patients with high cholesterol. The essential oil, if applied topically, has also stimulating and rubefacient properties, which prove useful in the treatment of contusions, aching muscles and joints, rheumatism and torticollis. When possible, the vapours released by the decoction of rosemary and other balsamic plants are used to relieve the above discomfort a largely widespread practice. Rosemary acts as a general and nerve stimulant, as a colagogue and choleretic, which justifies its widespread use as flavouring, mostly in the case of lack of appetite and debilitation. The physical antistress effect is evident in highly effective foot-baths and baths or partial poultices made with the rosemary infusion. In large doses, rosemary essence is a strong irritant of the gastro-enteric duct and kidneys (Negri 1943, Palma 1964). Largely used to flavour raw and cooked food.

UU 257. ***Salvia officinalis*** L.
Salvia domestica – Sage.
Ch suffr – Spontaneous in the sunny escarpments of the mountainous areas along the river Fortore.
α ψ Uses: sage has stimulating properties for the gastric and intestinal functions. The infusion of its leaves, sweetened with honey, has a balsamic and expectorant effect. In ancient medicine it was considered a powerful cicatrising agent, but domestic use – still largely widespread – consists in a decoction with antiseptic and vulnerary action for the inflammation of oral mucosae and the throat. In infusion, the leaves are indicated for their astringent, slightly antiseptic, hypoglycaemia-inducing and stomachic action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Largely used to flavour raw and cooked food.

U? 258. ***Salvia pratensis*** L.
Salvia comune – Common sage.
H scap – Uncommon in arid grassland and wasteland.
ψ π Uses: the leaves can be used to prepare tinctures, decoctions or fluid extracts and have antihydrotic, antispasmodic, astringent and tonic action. The plant is used externally in the treatment of gingivitis or

ulcers. In industry, it is used in the production of eau de cologne (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 259. ***Scutellaria galericulata*** L.
Scutellaria palustre – Marsh skullcap.
G rhiz – Marshes, humid grassland and river banks; the area near Mt. Matese.
ψ Uses: the drug is made from the leaves and flowers which were once used to make preparations with mainly astringent and diuretic action (Palma 1964).

U 260. ***Stachys officinalis*** Franch.
Betonica comune – Common betony.
H scap – Arid grassland, pastures, thin mixed woods.
ψ Uses: the leaves, gathered before blooming, provide the plant drug. In ancient times, the plant had a high reputation due to some properties that, however, lost credence in time. Today, the leaves are processed in several ways and are used mainly for their anti-jaundice, colagogue, diuretic and liver-protecting action (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 261. ***Teucrium chamaedrys*** L.
Camedrio comune, calamandrea, querciola, *erba cerzolla* – Wall germander.
Ch suffr – In stony, arid areas, in hedgegrows and scrubs.
ψ π Uses: this plant is known in the Italian pharmacopoeia for its aperient, bitter and digestive properties. The flowers can be used in infusion with antipeptic, astringent and tonic effects (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). In Sannio it is only known as a febrifuge. Popularly known as "*erba cerzolla*", it was used in decoction, alone or in combination with gentian (Nardi 1978), to fight off intermittent fevers (Cirelli 1853); it is still considered as an effective febrifuge.

U 262. ***Teucrium montanum*** L.
Camedrio montano – Mountain germander.
Ch suffr – Arid grasslands, rocky areas on the high and medium-high sides of the uplands in Sannio.
ψ Uses: the flower preparations have astringent, antiscorbutic, antiseptic and tonic-digestive action (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 263. ***Thymus pannonicus*** All.
Timo lanoso – Eurasian thyme.
Ch rept (Ch suffr) – rocky, sunny lands along the river Fortore (Fig. 20).
α ψ Uses: this plant belongs to the category boasting the greatest number of beneficial properties. Its main constituent is the essential oil,

which contains two carbolic acids (thymol and carvacrol) and terpenes such as pinene and cymene. It is a generic stimulant of capillary circulation, a nervine tonic, a balsam, and a fluidising agent of bronchial catarrh. The latter effect was reached by administration of a concentrated infusion of *serapullo*, one of the best remedies for cold-induced diseases. The decoction was used to cleanse wounds and sores, as well as in furunculosis and dermatitis. In fact, the primary pharmacological action of this plant is the bactericidal action of thymol on the bacilli of anthrax, typhus, diphtheria, meningococcus and staphylococcus. This action was considered much more effective than phenol, hydrogen peroxide or potassium permanganate and much stronger in the peroxide and de-terpenised products than in raw ones taken before meals, the infusion was believed to be an effective anthelmintic; it was often stored in a small bottle, to be used when abdominal pain occurred (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). As a flavouring

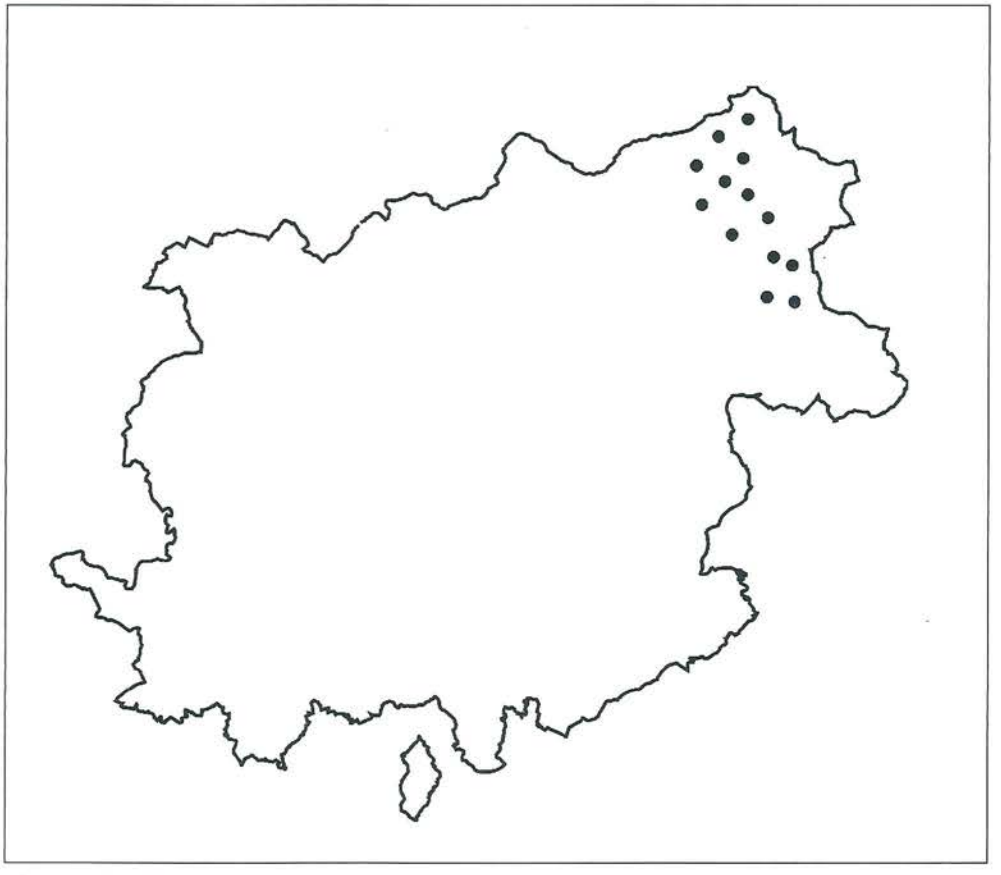

Fig. 20. Distribution of *Thymus pannonicus* in Sannio.

it was widely used in the preparation of *sanguinaccio*, a preserve made with pig's blood, raisins, candied fruit and boiled wine.

UU 264. ***Thymus vulgaris*** L.
Timo maggiore – Common thyme, garden thyme.
Ch frut – Arid places the upper Fortore Valley.
ψ υ π Uses: tha properties of thyme are due to highly energy-giving substances contained in its essential oil, notably two carbolic acids: thymol – which is an antiseptic, antispasmodic and anthelmintic, and is used also in many drug preparations – and carvarcrol, an antiseptic which is widely used in perfumery. In the pharmacopoeia of Sannio, thyme was considered an excellent antiseptic and vulnerary for wounds and sores. The flower decoction was a good anthelmintic, specific for Trichocephalus and *Anchilostoma duodenale* (European hookworm). In veterinary medicine, the population of Sannio administered thyme decoction to cows, in order to help placenta expulsion after a difficult delivery (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

PLANTAGINACEAE

UU 265. ***Plantago lanceolata*** L.
Plantago lanciuola, plantago minore, *centonervi* – Ribwort; ribwort plantain.
H ros – Grasslands, arid wasteland in Sannio near Mt. Matese
α ψ Uses: of the tree plantain species here taken into account, *Plantago lanceolata* was the most largely used. The leaves were mostly used for their antinflammatory and cicatrising properties; the poultice of the leaves could be placed on inflamed parts with resolving effect (Plensio 1978). Crushed leaves, placed between two cloths and applied on insect or animal bites, relieved pain. The infusion of the leaves was used to douche delicate or reddened skin and to wash eyes suffering from conjunctivitis. The infusion of dry leaves was used for bronchitis and colds. The decoction of dried leaves and roots war used for its diuretic and haemocathartic action. The plant is edible, and the leaves – but especially the mucilaginous seeds, stimulate intestinal peristalsis (Plensio 1978). The decoction, syrup and tincture have been used mainly for their astringent and haemo-coagulative action (Palma 1964).

U 266. ***Plantago major*** L
Plantago maggiore, cinquenervia, *centonervi* – Greater plantain.
H ros – Grassy and uncultivated areas periodicaly flooded.
α ψ Uses: see *Plantago lanceolata.*

U 267. ***Plantago media*** L.
Plantago pelosa, *centonervi* – Hoary plantain.
H ros – Grassy and uncultivated areas, along the roads and country paths in the hills throughout the region.
α ψ Uses: see *Plantago lanceolata.*

OLEACEAE

UU 268. ***Fraxinus ornus*** L.
Frassino da manna, oriniello, *orno* – Manna ash.
P scap – Scrubs.
ψ υ Uses: the juice, extracted by tapping the basis of the tree trunk during blossom, was called ash manna. It was used as a decoction or syrup; it could also be combined with other substances, and used for its laxative and cooling action (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). In the countryside one may happen to see, in the drinking-troughs of poultry, young ash branches giving the water a green-bluish colour. This way, the water acquires curative properties for the diseases of the respiratory tract, especially in chickens, which would otherwise weaken and die; the beneficial properties are probably due to the release of antipyretic and anti-rheumatic active principles into the water.

U 269. ***Ligustrum vulgare*** L.
Ligustro, olivella – Wild privet.
NP – thermophylous deciduous woods, mostly along declining bushes in the upper Tammaro valley; Torrent Isca Recapo.
ψ Uses: the leaves and fruits were used in decoction as a laxative. The flower infusion is astringent and is used as an eyewash. The bark, either in water or wine infusion, was recommended as a stomachic tonic (Negri 1943, Palma 1964, Viola 1965).

UU 270. ***Olea europaea*** L.
Olivo – Common olive.
P caesp/P scap – Grown largely in the high and low hills of Sannio, especially in the area of the river Fortore.
α ψ Uses: olive leaves are a well-known febrifuge; in order to prevent malarian fever attacks, patients were advised to drink an infusion of willow and olive leaves every morning (Jannuzzo 1888). They also have a hypoglycaemia-inducing and hypotensive action – confirmed by recent studies – which lowers arterial pressure and tends to bring the low peak pressure within physiological limits. To this purpose, the decoction of boiled tender branches is drunk in the morning on an empty stomach. Used externaly, the same decoction has astringent and antiseptic action and is used to wash sores. Olive oil has a laxative effect if taken on an empty stomach. Cirelli (1853) in fact, reported that pure olive oil, emul-

sified with water, was used for colics. As an emollient, it was also quite common to place a few drops of olive oil into the ear to remove excessive earwax. A sort of farmer's manual dating from last century reports on the use of warm olive oil to relieve pain caused by wasp and hornet bites. The scented resin preduced by the plant was used to prepare fumigations (Lodi 1957, Negri1943, Palma 1964, Viola 1965). The fruit is largely used as food.

SCROPHULARIACEAE

UU 271. ***Antirrhinum majus*** L.
Bocca di leone comune – Snapdragon.
Ch frut – Cracks in ruins and arid cliffs; motorway Avellino Benevento.
ψ Uses: the leaves and flowers of this plant were used, in external applications, for skin, mouth and most of all, throat inflammations it was used mainly as a decoction to be used for douching, gargles, and poultices (Palma 1964).

U 272. ***Cymbalaria muralis*** Gaertn., Mey & Scherb.
Cimbolino comune, cimabalaria, parrucca, erba tondella, erba piattella – Toadflax
H scap/Ch rept – Cliffs, walls and ruins.
ψ Uses: the whole fresh plant contains substances that, used in infusion, have anti-haemorrhoidal, astringent and vulnerary properties. It was also used in the treatment of eczema, excoriations, chilblains, burns and also as a remedy for scabies and ringworm (Palma 1964, Viola 1965).

U? 273. ***Digitalis ferruginea*** L.
Digitale bruna – Rusty foxglove.
H scap – Deciduous woods, clearings of Mt. Matese in Sannio.
ψ Uses: the lower leaves during the second year of the plant life have a cardiotonic action on the ventricle wall muscles, by regularizing cardiac rhythm. Intolerance has been reported to preparations madr from foxglove leaves, both in the form of galenics and actual drugs made up of a mixture of foxglove glycosides in several proportions (Lodi 1957, Negri 1943, Palma 1964).

U? 274. ***Lathraea squamaria*** L., Sp. Pl. 606.
Latrea comune – Toothwort.
G rhiz – Parasite of several broadleaved trees and bushes; lives in beech and mixed woods.
ψ Uses: the rhizome is active as an antispasmodic and against children's convulsions and epilepsy (Negri 1943).

U 275. ***Linaria vulgaris*** Mill.
Linajola comune -Common yellow toadflax.
H scap – Wasteland, ruins, rubble, roadbeds and road edges.
ψ Uses: the whole plant has medicinal properties. The drug was formerly used in infusion to treat angiocholitis with jaundice, intestinal atony and diseases of the urinary tract. Toadflax ointments have also been used for conjunctivitis, furunculosis and in the treatment of fistulae and haemorrhoids (Negri 1943, Palma 1964, Viola 1965).

U? 276. ***Melampyrum arvense*** L.
Spigarola campestre – Fieldcow wheat.
T scap – Cereal crops, wasteland, hedgegrows throughout Sannio.
ψ Uses: the drug is in the seeds, which ripen in August-September. The decoction and the ointment protect the skin and have an emollient and tonic action (Negri 1943, Palma 1964, Viola 1965).

UU 277. ***Scrophularia canina*** L.
Scrofularia comune, ruta canina, *rrba delle ferite* – Dog figwort.
H scap – Grassland and woods.
ψ Uses: an infusion prepared from the flowers and roots was used as an emetic and laxative, for the symptoms of Basedow disease and related cardiac disorders. Poultices soaked in the decoction were useful in treating chronic skin diseases and swellings caused by scrofula. The plant is named after this latter property (Negri 1943, Palma 1964, Viola 1965).

UU 278. ***Scrophularia nodosa*** L.
Scrofularia nodosa – Great Figwort.
H scap. – Humid woods, gorges, river banks and shady places near rivers Sabato and Calore.
ψ Uses: see *Scrophularia canina.*

UU 279. ***Verbascum macrurum*** Ten.
Verbasco coda rossa – Mullein.
H bienn – Stony wasteland and wood edges on clayey soils in Pannarano.
ψ Uses: see *Verbascum thapsus.*

UU 280. ***Verbascum sinuatum*** L.
Verbasco sinuoso, *tasso* – Waveyleaf mullein.
H bienn – Wasteland and gravelly areas along the river Tammaro.
ψ Uses: see *Verbasum thapsus.*

UU 281. ***Verbascum thapsus*** L.
Verbasco, *tasso*, barbasso – Common mullein, great mullein.
H bienn – Wasteland and gravelly areas along the river Tammaro.

ψ Uses: the effective anti-catarrhal and anti-inflammatory action in the respiratory tract made this plant very popular among heavy smokers, who would smoke the plant large leaves rolled like cigars. Fishermen would hit the plant against the torrent rocks, so that liquid would come out of the plant. Such liquid probably contained substances which could stun the fish, so that these could then be fished out using broom baskets.

U 282. ***Veronica beccabunga*** L.
Veronica, erba grassa, *beccabunga* – Brooklime, veronica.
H rept – Plain areas surrounding rivers Tammaro and Sabato, and skirting the torrent Lenta.
α ψ Uses: together with *Nasturtium officinalis*, this plant was used in salads with a purifying and antiscrofulous action (Plensio 1978). Fresh soft leaves were eaten mixed with other herbs and were considered a good treatment for scurvy (Jamalio 1918). Today this plant is still used in a few areas of Sannio, but plays a secondary role as food for humans. The plant juice has diuretic, blood-purifying and antiscorbutic action (Negri 1943, Palma 1964, Viola 1965).

U 283. ***Veronica officinalis*** L.
Veronica medicinale – Speedwell.
H rept – Woodlands, clearings and acid soils in Sannio near Mt. Matese.
ψ Uses: the drug is constituted by the plant's epigeal parts dried in the shade. In infusion, it has anti-catarrhal, tonic and stomachic properties. The plant juice has long been known for its anti-gout action. Together with other aromatic plants, it is one of the components of *swiss tea*, whose applications, however, are limited to popular medicine (Negri 1943, Palma 1964, Viola 1965).

RUBIACEAE

U 284. ***Galium aparine*** L.
Caglio asprello, *sperunia* – Goosegrass; cleavers.
T scap – Widespread everywhere in cool soils, in the hedgegrows and scrubs of the hills and plains in the Benevento countryside.
ψ Uses: the anti-inflammatory effect of goosegrass decoction was only exploited to douche irritated parts, especially haemorrhoids. The flowers, which constitute the drug, can be used in infusion with antispasmodic and diuretic action or used for diseases of the digestive system. Externally skin diseases of various kinds are treated (Negri 1943, Palma 1964, Viola 1965).

U? 285. ***Galium odoratum*** (L.) Scop.
Caglio odoroso, stellina odorosa – Woodruff; sweet woodruff.

G rhiz – Beech-woods and other mesophylous hardwoods throughout the region.
ψ Uses: see *Galium aparine.*

U 286. ***Galium verum*** L.
Caglio zolfino – Bedstraw
H scap – Arid grasslands and scrubs along the river Sabato.
ψ Uses: see *Galium aparine.*

CAPRIFOLIACEAE

U 287. ***Lonicera xylosteum*** L.
Caprifoglio peloso, madreselva, ciliegia della volpe, pomola del diavolo – Fly honeysuckle.
P caesp – Mixed broadleaf woods.
ψ Uses: the fruits contain a bitter principle (xylostein), and in popular medicine were used as emetic and laxative (Negri 1943, Palma 1964).

U 288. ***Lonicera caprifolium*** L.
Caprifoglio comune, abbracciabosco, uva di S. Giovanni, manicciola – Honeysuckle.
P lian – Deciduous woods, hedgegrows and vineyards in the northern part of the Sannio uplands.
ψ Uses: the bark decoction was a popular diuretic and diaphoretic; the leaf decoction, however, was considered an effective mouthwash, eye-wash and vulnerary (Negri 1943, Palma 1964).

UU 289. ***Sambucus ebulus*** L.
Sambuco lebbio, ebbio, sambuchella, *jevolo* – Danewort.
G rhiz – Uncultivated humid and clayey soils, road edges and hedge-grows in Eastern Sannio.
ψ Uses: the leaf decoction was used to wash the extremities with rashes and blisters. The infusion of tender branches was used as a footwash with anti-gout effect. The steeped root has diuretic properties (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 290. ***Sambucus nigra*** L.
Sambuco comune, *sambuco nero* – Common elder.
P caesp – Spontaneous; it is used to border country paths and roads throughout Sannio.
α ψ Uses: the elder umbels were often seen hanging on walls in shady places, where they were dried. Actually, this is the most largely used part of the plant in Sannio. During the winter, the flower decoction is a good remedy for bronchitis; mixed with camomile and limetree flowers it is a good

cough sedative (Garofalo 1987-1988). In the first weeks after childbirth, mothers were given a decoction of elder flowers, lettuce and camomile, because it had a cooling effect on the digestive system. The elder flower infusion was used for wasp, hornet and bee stings. The inner bark was used too, crushed and applied on the body parts with painful gout. When steeped and put in alcohol, the resulting alcoholate was drunk for its diuretic action eliminating urates. The flower infusion was also used for douching. The sprouts, heated and placed on the forehead, relieved migraine. Cirelli (1853) reported the use of elder leaves to reabsorb oedemas in Ginestra degli Schiavoni. Elder fruits, moreover, were used to prepare deep red conserves, which were administered during the winter to treat respiratory diseases. The branch bark was sometimes dried and used as a laxative and diuretic as well as for diseases of the urinary tract. Interestingly, elder preparations – especially those with fresh bark and unripe fruits – can cause poisoning (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 291. ***Viburnum tinus*** L.
Viburno, viorna, vavorna, lentiggine – Laurustinus.
P caesp – Thermophylous woods in Eastern Sannio; Colle Sannita.
ψ Uses: the leaves and fruits were used by mountain dwellers to prepare astringent potions, which were effective against diseases of the mouth and throat, as well as to soothe intestinal inflammations (Negri 1943, Palma 1964).

VALERIANACEAE

UU 292. ***Centranthus ruber*** (L.) DC.
Camarezza comune, valeriana rossa, saponina – Mediterranean red valerian.
Ch suffr – Cliffs and old walls.
ψ Uses: the root extract has similar properties to *Valeriana officinalis* (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 293. ***Valeriana officinalis*** L.
Valeriana comune, erba gatta – Common valerian.
H scap – Humid woods and shady slopes throughout the region, in particular in the area of the river Fortore.
ψ Uses: the drug of this plant is constituted by the rhizome, which contains an essential oil made up of conifene, pinene, isovalerianic acid and terpinole; it also contains two characteristic glycosides: catanina and valerina. The medicinal action is not only due to the essential oil or the glycosides, but rather to the synergy of all these factors. Valerian is therefore one of the plants which are best known to both popular and

official medicine. The sedative properties useful in hysteria, convulsions, and insomnia, are also known in the area beyond the river Tammaro (Plensio 1978).
The roots, dried and pulverized, were used by ordinary people as a remedy for autumn hair loss (Jamalio 1918). In all preparations, the drug must be used fresh (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 294. ***Valeriana tripteris*** L.
Valeriana trifogliata – Three-leaved valerian.
H scap – Woods, springs, usually on stony grounds in Sannio near Mt. Matese.
ψ Uses: see *Valeriana officinalis*.

U 295. ***Valerianella locusta*** Betcke
Gallinella comune, gallinetta, lattughetta – Lamb's lettuce, corn salad.
T scap – infesting crops and grown to be eaten in salads.
α ψ Uses: the plant, commonly used as a vegetable, also has antiscorbutic properties (Negri 1943).

DIPSACACEAE

UU 296. ***Dipsacus fullonum*** L.
Scardaccione selvatico, *cardo dei lanaioli* – Common teasel.
H bienn – Uncultivated clayey soils throughout Sannio.
ψ Uses: the bitter-tasting root was used to stimulate perspiration and diuresis, and consequently favour the elimination of waste matter. Such purifying action was also evident in the improved conditions of skin affected by acne and dermatoses. The plant decoction is rich in silica, and therefore it was used – though quite rarely – for the treatment of tuberculosis (Palma 1964, Viola 1965).

U 297. ***Knautia arvensis*** (L.) Coult.
Ambretta comune – Coulter, filed scabious.
H scap/H bienn – Arid pastures, wasteland and scrubs; valley of the river Sabato.
ψ Uses: the whole plant has medicinal properties. Its action is mainly astringent, and the various preparations can be used in disorders of the bronchi as well as in many forms of dermatitis, in the treatment of sores, ulcers, chilblains and fungus-borne skin diseases.

U 298. ***Scabiosa columbaria*** L.
Vedovina selvatica – Butterfly blue.

H scap – Grasslands, arid pastures, hedgegrows, wood edges in the Mt. Matese zone.
ψ Uses: the rhizome was used in several preparations, all of them having mainly a broncho-sedative, broncho-fluidising, purifying and sialagogue action. The preparations were also used externally to treat acariosis, follicular acne and some forms of eczema, dermatitis, chilblains and fungus-borne skin diseases (Negri 1943, Palma 1964).

ASTERACEAE

UU 299. ***Achillea millefolium*** L.
Erba dei tagli, stagnasangue, sanguinella, *millefoglio* – Yarrow; milfoil.
H scap – Escarpments, country paths and uncultivated humid areas in the valley of the river Tammaro.
ψ Uses: a yarrow infusion was used for its antispasmodic and sedative action in the gastroenteric duct and for its fluidifying action in bile secretion. Its sedative properties are a useful remedy for toothache, too, but especially for painful menses. Thanks to its emmenagogue properties, it is excellent for regularising menses and menstrual flow. Its flowers, used in infusion, have beneficial effects on the elasticity and tonicity of blood vessels. The external use of this plant as a poultice on contusions and bruises, derives from the Sepino tradition (Cirelli 1953), where it was preferred to pellitory for its antiseptic and cicatrising properties. The drug of this plant was often used alongside other herbs, which have the same properties to improve the general condition of blood circulation and to affect digestive and hepatic functions (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 300. ***Achillea collina*** Becker ex Reichb.
Millefoglio comune – Common yarrow.
H scap – Dry grassland, road edges and bushes in the area of S. Giorgio del Sannio, Apice.
ψ Uses: see *Achillea millefolium*.

U 301. ***Achillea nobilis*** L.
Millefoglio nobile – Creamy yarrow.
H scap – Arid places, cliffs and thickets of the area of Mt. Matese.
ψ Uses: see *Achillea millefolium*.

U 302. ***Achillea ageratum*** L.
Millefoglio agerato – Sweet milfoil.
H scap – Humid, uncultivated clayey soils, road edges.
ψ Uses the flowers were used to prepare infusions with haemostatic,

antiputrid, carminative, diuretic, digestive, stimulating, tonic, anthelmintic and vulnerary action (Palma 1964).

U? 303. ***Anthemis cotula*** L.
Camomilla fetida – Stinking mayweed.
T scap – Cultivated fields and rubble, Pietrelcina, S. Martino V. C.
ψ Uses: in popular medicine, the capitula of this species were used to prepare balsamic, diaphoretic and stimulating potions (Negri 1943, Viola 1965).

U? 304. ***Anthemis tinctoria*** L., Sp. Pl. 896.

Camomilla per tintori – Dyer's camomile.
H bienn/Ch suffr – Cultivated and uncultivated areas, also on arid marly slopes of foothills throughout most of Sannio.
ψ Uses: see *Anthemis cotula*.

UU 305. ***Arctium lappa*** L.
Bardana maggiore, lappa bardana, *lappola* – Great burdock.
H bienn – Gravelly soils close to watercourses.
ψ Uses: the plant roots have remarkable properties for skin treatment, both in decoction and in other preparations. Despite having numberless important properties, in Sannio this plant was only used in cosmetics. The leaf juice has astringent and cicatrising effects, besides being an effective anti-seborrhoeic, used daily to rub oily hair. The application of crushed leaves proved beneficial to skins affected by furunculosis and acne (Plensio 1978). The seeds have mainly diuretic properties (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 306. ***Arctium minus*** (Hill) Bernh.
Bardana minore – Lesser Burdock.
H bienn – Uncultivated fields and along hedgegrows and road edges, valley of the river Sabato.
ψ Uses: the root constitutes the drug. The fresh extract has a blood-purifying, diuretic and laxative action. In addition, the fresh drug is also effective externally in the treatment of several skin diseases. Burdock leaves were steeped and applied to relieve rheumatism pain (Negri 1943).

UU 307. ***Artemisia absinthium*** L.
Assenzio vero – Wormwood.
Ch suffr (H scap) – Uncultivated arid soils along the river Sabato
ψ Uses: the drug are the flowers and leaves. Used externally, the decoction and infusion are reported to be antiseptic and vulnerary (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Due to its strongly scented smell

and bitter taste, it was mostly used as an anthelmintic. Wormwood juice, mixed to rue and mint juice (Jamalio 1918) or with wormwood, bay laurel, mint and camomile was used to soothe abdominal pains caused by helminthiasis (Plensio 1978). Anthelminthic action is also obtained using poultices of wormwood, mint and rue, cooked in vinegar and applied around the navel (Cirelli 1853). Finally, to fight off intermittent, tertian and quartan fevers, poultices prepared from wormwood, garlic, rue and mint are applied to the wrists.

UU 308. ***Artemisia campestris*** subsp. ***glutinosa*** (Gtay ex Bess.) Y. R. Ling.
Tammarice – Field wormwood.
Ch suffr – Grows on gravelly soils near the rivers Tammaro and Calore.
ψ Uses: the plant contains an ethereal oil and resinous bitter substances. It was used for its febrifugal properties (Negri 1943). In Sannio it is used to eliminate warts (Morrone 1972, Zeppa 1950).

UU 309. ***Artemisia vulgaris*** L.
Assenzio selvatico, amarella – English hedgegrow plant.
H scap – Uncultivated sunny fields and rubble.
ψ Uses: the leaves and root were commouly used. The bitter preparations have tonic, aromatic, anthelmintic, antispasmodic, emmenagogue and sedative action (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 310. ***Balsamita major*** Desf.
Erba-amara balsamica, erba di Santa Maria, erba di San Pietro, *erba menta* – Costmary, alecost (Photo 7).
H scap – Grown for culinary use.
ψ Uses: its culinary use is rather well-known as a substitute for mint, whose scent it recalls. The leaves were also used to prepare infusions for bile insufficiency, cholecystitis and dyspepsia of nervous origin. It is considered a substitute for tea, and it is also known as "*pianta del the*" (tea plant). In infusion, the leaves are also useful as a sedative and antispasmodic for bad coughs and insomnia. The drug also has carminative and diuretic properties (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 311. ***Bellis perennis*** L.
Pratolina comune – Daisy.
H ros – Grasslands and wasteland throughout Sannio.
ψ Uses: the flower infusion was used to treat pleurisy as well as bronchial and throat diseases intestine inflammations and uterine haemorrage. In popular medicine, daisy leaf poultices were considered to be effective to treat contusions, strains, sores and boils (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

Photo 7. *Balsamita major.*

UU 312. ***Calendula officinalis*** L.
Fiorrancio coltivato – Pot marigold.
Tscap/H bienn – Cultivated, at times naturalized in cultivated fields, wasteland and on road edges.
ψ Uses: the whole plant has medicinal properties and contains vitamin C. The different preparations have sedative, diaphoretic, vulnerary and dermopathic action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 313. ***Carduus pycnocephalus*** L.
Cardo saettone – Slender-flowered thistle.
H bienn – Wasteland and road edges, Mt. Matese in Sannio.
α ψ Uses: the leaves are used to prepare decoctions, extracts, tinctures and syrups with antihydrotic, diuretic, and de-chlorinating properties (Palma 1964). At Christmas time, in Benevento the stems of this plant are used to flavour meat balls cooked in tomato sauce (Zazo 1968).

UU 314. ***Carlina utzca*** Hacq.
Carlina zolfina – Carline, carline thistle (Photo 8).
H ros – Grasslands or woods in the foothills and mountains of Sannio; found also on pebbly abandoned (Fig. 21).
α ψ Uses: the drug is made from the root, and in popular medicine it was used as a gastric tonic and as a diaphoretic and diuretic (Lodi 1957, Negri 1943, Palma 1964, Viola 1965) In Sannio, this plant is still used to prepare a cake called "rinciada" (from "rinci", vermacular term for roots), typical at Christmas. The cake is prepared by crushing the plant until it becomes a jelly dough, which is then flavoured with several spices (Cirelli 1853). Young plants were deprived of the spiny parts, and the lower leaves were cooked like the above-mentioned mush thistle (Zazo 1968).

UU 315. ***Carthamus lanatus*** L.
Zafferanone selvatico – Wild safflower.
T scap – Arid gravelly places, olive-groves, vineyards, valley of the river Calore.
ψ Uses: the leaves and flowers were used to prepare potions with anthelmintic, antiseptic, diuretic and febrifugal action (Palma 1964).

U 316. ***Centaurea calcitrapa*** L.
Fiordaliso stellato, calcatreppola, calcetroppola, ippofesto, cardo riccio – Occhi lucenti – Common star thistle.
H bienn – Sunny, arid soils along the river Fortore.
α ψ Uses: the root, whose decoction has diuretic properties (Plensio 1978) is used. The plant is also eaten before flowering. Also, around

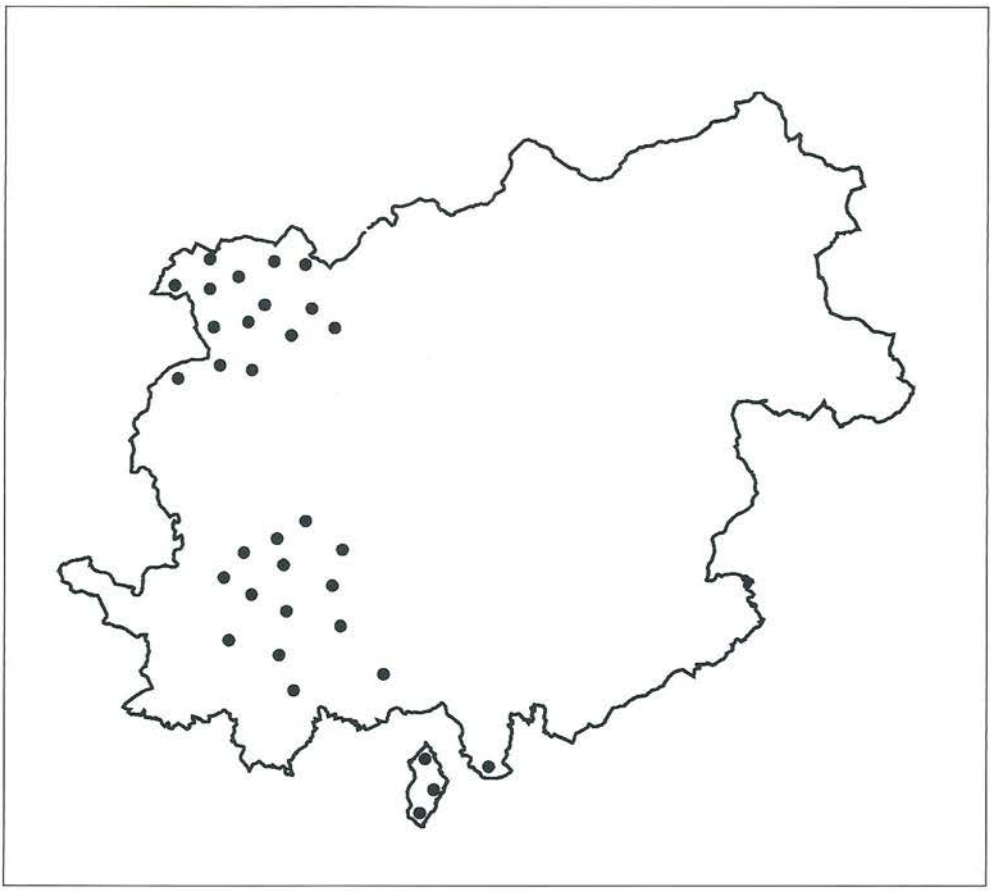

Fig. 21. Distribution of *Carlina utzca* in Sannio.

October, when the plant roots decompose, the much sought after *cardarelli* (kind of oyster mushrooms) grow on them (Jamalio 1918).

U 317. ***Centaurea nigrescens*** Willd.
Fiordaliso nerastro – Tyrol Knapweed.
H scap – Grasslands and pastures.
ψ Uses: the plant contains centaurina and was useful for the preparation of stomachic infusions (Palma 1964).

UU 318. ***Chamomilla recutita*** (L.) Rauschert
Camomilla comune – Camomile.
T scap – Spontaneous in clearings and along country paths throughout Sannio.
ψ Uses: camomile is best-known for its sedative and antispasmodic properties, which are due to the presence of azulene among its active principles. In fact, it was used in infusion to treat insomnia, or to relieve

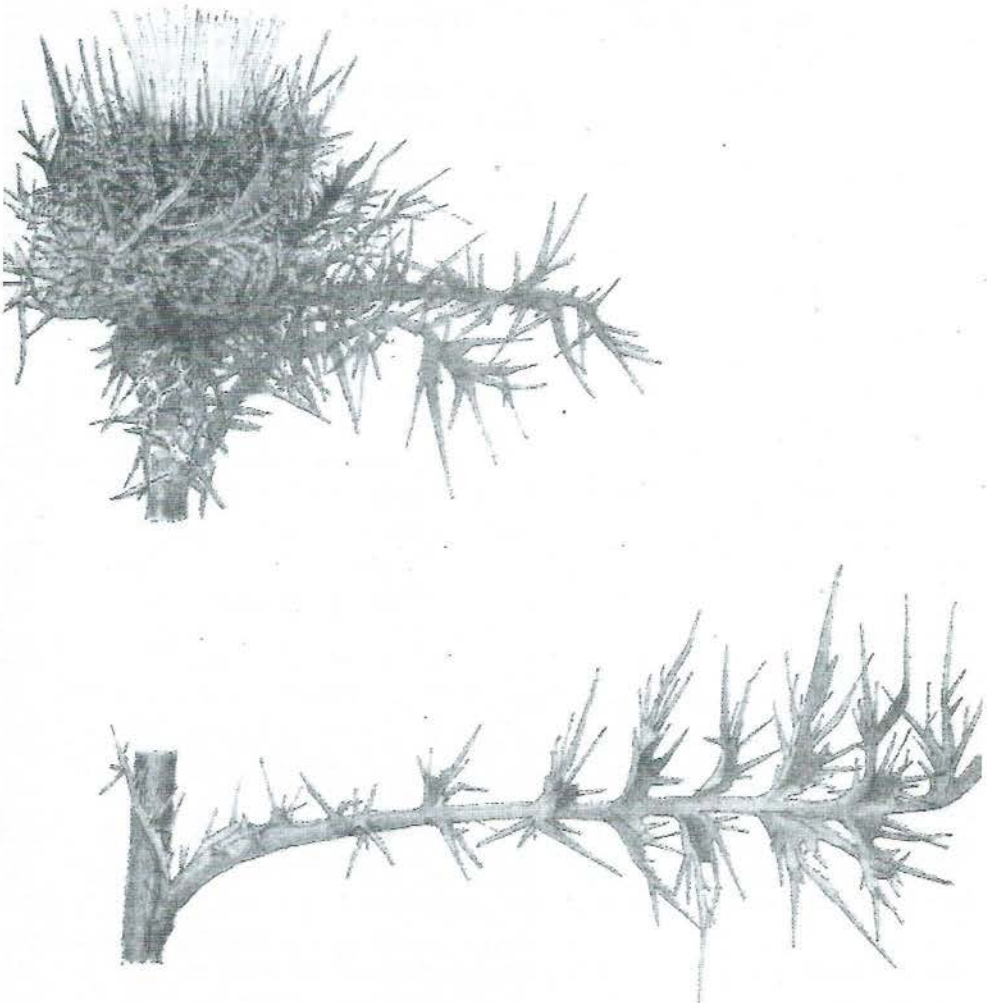

Photo 8. *Carlina utzca.*

pre- and post-menses pain and soothe spasms in the digestive duct. The decoction of camomile, lettuce and elder was given to parturients for its antispasmodic, intestine-cooling (action of the lettuce) and antineuralgic action. In the popular tradition of Mt. Calvo (Cirelli 1853), soon after childbirth women were given a decoction of asparagus root mixed with camomile and maidenhair fern, in order to relieve the pains of uterine contractions. An excellent remedy for respiratory system diseases were camomile and mallow decoctions (Zeppa 1950).

UU 319. ***Cichorium intybus*** L.
Cicoria comune, radicchio – Chicory.
H scap – Country paths and escarpments, in wasteland; very widespread in the valley of the river Tammaro.
α ψ Uses: chicory flowers which were crushed and applied on the front part of aching joints (carpus and metacarpus) or were used for intermittent fevers (Jamalio 1918; Cirelli 1853). Chicory root was a component of a decoction for spastic colitis, in which case its root was used with a slight laxative effect. People suffering from anaemia or liver disorders widely used preparations chicory and/or its cooking water, because of its high content in iron and its choleretic and colagogue properties. A generic complaint leading to weakening and death, locally called *marcatura*, was treated using magical practices, but also a decoction (diluted to ¼) prepared with chicory and couch roots and parsley leaves to be drunk in the morning (Morrone 1972). It is widely used to prepare green salads; the dried root was used as a surrogate of coffee (Jamalio 1918). The juice and syrup were common laxatives for children. Leaf poultices were used to treat skin ulcers (Benigni & al. 1962-1964; Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 320. ***Cirsium arvense*** (L.) Scop.
Cardo campestre, stoppione, scardaccione, scorpione, *cardogna* – Creeping thistle.
G rad – Cultivated fields along the river Tammaro.
ψ Uses: the root decoction is diuretic and helps digestion and the elimination of waste matter. The leaves were used as an alternative to roots, as they had the same action. In popular tradition, the thistle and mallow decoction was used for bronchitis (Garofalo 1987-1988).
The preparations also have bitter, choleretic, diaphoretic, diuretic, digestive, gastro-tonic and stimulating action (Palma1964; Viola 1965). Finally, it was used to eliminate oedemas also occurring in draught animals because of the yoke during work in the fields.

U 321. ***Cirsium lobelii*** Ten.
H bienn – Uncultivated pastures and along road edges throughout the region.
ψ Uses: see *Cirsium arvense*.

U 322. ***Conyza canadensis*** (L.) Cronquist
Saeppola canadese, *erba the* – Canadian fleabane.
T scap – Escarpments and wasteland.
ψ Uses: essential oil gives the decoction a typical smell (cumin scent) and a bitterish aromatic taste; because of this characteristic it has become generally known as "tea", having diuretic and purifying properties. It was specially appreciated by those suffering from rheumatism, arthrosis and gout to eliminate nitrous waste matter by expelling a greater quantity of urine (Lodi 1957, Negri 1943).

UU 323. ***Cynara scolymus*** L.
Carciofo – Globe artichoke.
H scap – Well-known production in the area of Pietrelcina.
α ψ π Uses: official and herbal medicine did not use the tasty flower of the plant, having the same hypoglycaemia-inducing and intestine-regulating properties as the leaves and root, which – on the contrary – were widely used. Artichoke is known for stimulating diuresis and helping bile secretion. The decoction of leaves was used for its liver-protecting and detoxifying effect, as well as regulating the circulatory system and reducing cholesterol in the blood. It also for choleretic, colagogue and slightly laxative action (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). In addition to the widespread culinary use of the capitula, it is worthwhile mentioning the use of ripe seeds: put in infusion and then added to milk, which cause curdling (Zazo 1968).

UU 324. ***Dittrichia viscosa*** Greuter
Enula cepittoni, ceppica, prucara, pruteca, *jnepro* – Sticky fleabane.
H scap – Spread every where in the wasters and abandoned fields.
ψ Uses: the use of this plant was rather unusual. River fishermen used to gather it and place it in baskets, alternating layers of freshly-caught fish with fleabane, in order to preserve the fresh smell of the fish. It was probably used for its astringent action due to its tannin content, in order to slow down deterioration of the ichthyofauna caught.

U 325. ***Eupatorium cannabinum*** L.
Canapa acquatica – Hemp agrimony.
H scap – Widespread in humid places, along river banks and in ruinous areas in the region.
ψ Uses: the whole plant contains a bitter principle. The infusion was used as a colagogue and diuretic; the decoction was also used as a laxative (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 326. ***Helianthus annuus*** L.
Girasole comune – Sunflower.

T scap – Grown in valleys.
α ψ Uses: traditionally the outer flowers of the capitulum were used. The preparations had a remarkable action in feverish states caused by both the accumulation of pus – due to tuberculosis or gangrene – and attacks of malaria (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 327. ***Helianthus tuberosus*** L.
Girasole del Canada, topinambur, tartufo di canna – Jerusalem artichoke.
G bulb – Along river banks and in uncultivated, humid areas on the border with Irpinia.
α ψ Uses: the tubers contain fatty substances. They are largely used in cooking; in the past, though they proved particularly useful to patients suffering from diabetes, uricaemia, and dyspepsia (Viola 1965).

U 328. ***Helichrysum italicum*** (Roth) G. Don
Perpetuino d'Italia – Helichrysum.
Ch suffr – Stony places and arid grasslands of the Southern slopes of Sannio uplands; motorway Avellino-Benevento.
ψ Uses: the flowers contain a characteristic active principle (helichrysene) and were used as a home drug, either in infusion or decoction, for their diaphoretic and expectorant action (Negri 1943, Palma 1964, Viola 1965).

UU 329. ***Hieracium pilosella*** L.
Sparviere pelosetto, pelosella – Mouse-ear hawkweed.
H ros – Grassy, arid and stony places in the mountains throughout the region.
ψ Uses: the drug is the whole blooming plant. Its diuretic properties have long been known and prove very effective in causing resorption of ascitic effusions of cardiac origin (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 330. ***Inula viscosa*** (L.), Aiton
Enula ceppitoni, ceppica, prutara, pruteca – Sticky fleaband.
H scap – Deciduous and humid grasslands in Northern Sannio.
ψ Uses: the roots, dried in the open air, were used to prepare infusions for catarrhal bronchitis, bad coughs, bronchial asthma and, in general, for any diseases of the
respiratory system. The drug's bitter-tonic properties also explain its choleretic and
diuretic properties. Finally, the decoction and tincture are effective against itching
exanthema (Lodi 1957, Negri 1943, Viola 1965). The leaves were used to preserve the fresh smell of the fish caught in the rivers of Sannio (Zazo1968).

UU 331. ***Lactuca sativa*** L.
Lattuca, insalata, amarulla, *lattuga coltivata* – Lettuce.
H bienn – Grown expecially in the plains of the Telesina and Caudina valleys and in the areas skirting rivers Sabato and Calore.
α ψ Uses: lettuce has mild but definite beneficial properties. Its cellulose content has a cooling and regulating effect on the intestines. The leaves are dried and stored to prepare cooling decoctions with elder and camomile flowers, specially indicated for women in labour. Lettuce leaves, mint and wild fennel, boiled together, produce a sedative potion, useful for soothing abdominal spasms (Garofalo 1987-1988). Fresh leaves were used for boils and abscesses because of their decongesting effect. Fresh juice was used in impetigo as a skin topical remedy. Poultices were prepared with either fresh or dried leaves have resolvent effects on tooth abscesses. Largely used as food due to the high content in salts and vitamins.

UU 332. ***Lactuca serriola*** L.
Lattuga selvatica, lattona, erba bussola – Prickly lettuce.
H bienn/T scap – Wasteland, fields and road edges, valley of the river Sabato and along the border with Molise.
ψ Uses: the latex has anaphrodisiac, analgesic, tussive and mildly hypnotic action (Palma 1964).

U! 333. ***Lactuca virosa*** L.,
Lattuga velenosa – Wild lettuce, stinking lettuce.
T scap/H bienn – Stony places and rubble in the area of S. Agata dei Goti, on the border with "Terra di Lavoro" (an area stretching mostly in the province of Caserta).
ψ Uses: the latex has sedative and hypnotic properties; it could be used as a substitute for opium in the treatment of nervous disorders and as an analgesic; in high doses the drug is toxic (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 334. ***Lapsana communis*** L.
Lassana, grespignolo – Nipplewort.
T scap – Deciduous broadleaf woods, vegetable gardens and ruins throughout Sannio.
ψ Uses: the extract or juice of the whole plant has choleretic, diuretic, emollient and hypoglycaemia-inducing properties (Palma 1964).

U 335. ***Petasites hybridus*** (L.) Gaert. Mey. & Scherb.
Farfaraccio maggiore – Butterbur.
G rhiz – Humid soils along watercourses and wood edges throughout Sannio.
ψ Uses: the plant drugs are the rhizome and the leaves. The medicinal

action of the preparations is antiputrid, aperient, astringent, diuretic, emmenagogue, stomachic and tonic. In addition to this, the flowers – which contain mucilage, an active principle and tannin – were used to prepare an infusion with astringent, bronchial, tussive and expectorant properties. In external use, the fresh plant was useful in the treatment of ulcers and abscesses (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 336. ***Pulicaria dysenterica*** Gaertn.
Incensaria comune, menta selvatica – Common fleabane.
H scap – Humid, muddy places and grasslands near the river Calore.
ψ Uses: in popular tradition, the plant is used as an antidiarrhoeal (Negri 1943, Palma 1964, Viola 1965).

UU 337. ***Senecio vulgaris*** L.
Senecione comune, calderina, cardillo, solleciola, verzellina – Common groundsel.
T scap – Uncultivated land and near houses; infesting crops; throughout Sannio.
ψ Uses: the whole plant has beneficial properties. In addition to being useful for amenorrhoea, dysmenorrhoea, gastralgia and digestive disorders related to uterine diseases, the decoction was also used as an astringent and diuretic (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U 338. ***Serratula tinctoria*** L.
Cerretta comune – Saw-wort.
H scap – open and humid grasslands.
ψ Uses: the leaves provide the drug. Preparations have antiecchymotic, astringent, cicatrising, haemostatic, topical, vasoconstrictive and vulnerary actions (Palma 1964).

U 339. ***Silybum marianum*** (L.) Gaertn.
Cardo di Santa Maria, cardo lattario, *cardo mariano*.
H bienn – Escarpments and wasteland.
α ψ Uses: the root has diuretic and liver-detoxifying activity. The latter property is mainly due to silebina, present in large quantities in the seeds. The plant can also raise blood pressure and increase bile flow (Negri 1943, Palma 1964, Viola 1965). The seeds were also dried and steeped in boiling water; the resulting liquid, added to milk, caused curdling. In addition, the tender sprouts were picked up long before blooming – when they were edible – and eaten like artichokes, either cooked or raw.

UU 340. ***Solidago virgaurea*** L.
Verga d'oro comune – Golden-rod.

H scap – woods and pastures, mostly in foothills, valley of the river Sabato.
ψ Uses: either the whole plant or the root was used, since both contain a bitter resin, tannin and mucilaginous substances. The different preparations were used for their digestive, carminative, intestinal astringent, diaphoretic and diuretic properties (Lodi 1957, Negri 1943, Palma 1964).

U 341. ***Sonchus oleraceus*** L.
Grespino comune, *cardillo* – Annual sow-thistle, hare's lettuce.
T scap – Common throughout the region.
α ψ υ Uses: the medicinal actions of this plant, largely widespread in cultivated soils, were mostly unknown to the popular medicine of Sannio. The only use concerned the epigaeal parts which, crushed thoroughly, produced poultices which were effective on skin abrasions and ulcers. Sow-thistle, crushed with pellitory and parsley and applied on contusions and oedema, helps them being reabsorbed. It was also applied on the contusions of draught animals. In addition, it has colagogue and cathartic properties (Negri 1943, Viola 1965). Tender sprouts were eaten raw in salads or cooked in vegetable soups (Zazo 1968).

U 342. ***Tanacetum parthenium*** (L.) Sch. Bip.
Erba amara vera – Feverfew
H scap – Cultivated and naturalized plant, growing on cliffs, in rubble, mixed woods and thin beech-woods throughout the area.
ψ Uses: the plant was considered a succedaneum, specially effective for menstrual pain. the flower decoction was also used to treat contusions and skin ulcers (Negri 1943; Palma 1964).

UU 343. ***Taraxacum officinale*** Weber
Tarassaco comune, dente di leone, piscia cane, piscialletto, soffione, *rugno* – Common dandelion.
H ros – Widespread in dry wasteland in the valley of the river Fortore.
α ψ Uses: the plant was used as a "remedy for mucosal pulmonary tuberculosis and abdominal obstructions – notably hepatic ones" (Jamalio 1918). This plant is diuretic, stimulates bile secretion and has a high vitamin content (Plensio 1978). In addition, the roots were used to treat hepatic-biliary disorders, dyspepsia, gastritis and kidney disorders (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). The leaves are still used to prepare green salads (Zazo 1968).

UU 344. ***Tussilago farfara*** L.
Tussilagine comune, farfuglio, paparacchio, *stampa di cavallo* – Coltsfoot.
G rhiz – Cool clayey soils throughout Sannio.
ψ Uses: the decoction of coltsfoot root, mallow and Bermuda grass was used for infections of the respiratory system, notably as a cough seda-

tive. The decoction of leaves is an antianaemic, antieczematous, antiscrufolous, astringent, purifying and emollient. The flowers are used to prepare an infusion with balsamic, tussive and broncho-sedative properties (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Chopped dry leaves were made into cigarettes to treat asthma in smokers who wished to be detoxified. The juice of fresh leaves has emollient properties, and therefore aids the removal of milk scab (Plensio 1978). The leaves, deprived of the upper side epidermis and spread with oil, were applied on abscesses and boils, which were thus cured.

U? 345. ***Xanthium spinosum*** L.
Nappola spinosa – Spiny cocklebur.
T scap – Widespread in wasteland, along watercourses and on road edges throughout most of Sannio.
ψ Uses: in the past, this plant enjoyed the undeserved fame of having a specific action against rabies. The decoction is still used in the countryside as a diuretic (Negri 1943).

LILIOPSIDA

ARACEAE

UU 346. ***Arum maculatum*** L.
Gigaro scuro, *jalo* – Cuckoo pint; lords and ladies, jack-in- the-pulpit.
G rhiz – Shady hedgerows and anywhere in humid soils rich in humus, valley of the river Tammaro.
ψ Uses: of this plant with red poisonous berries, only the rhizome was used, crushed (Plensio 1978). In local popular medicine, the rhizome decoction was used as a treatment for intestinal worms. If drunk daily, it also had diuretic effects. The leaves were used in a tincture to be used in inflammation of the respiratory tract and the gastro-intestinal system as well as to treat rheumatism- and gout-associated disorders (Negri1943, Palma 1964, Viola 1965).

POACEAE

U 347. ***Anthoxanthum odoratum*** L.
Paleo odoroso – Vernal grass, sweet vernal grass.
H caesp – Perennial grasslands and thin broadleaf woods in the province.
ψ Uses: its leaves, flowers and roots contain coumarin, a substance which gives the plant a very pleasant smell and makes it aromatic, corrective and deodorizing. It was for external use only (Negri 1943, Palma 1964).

UU 348. ***Arundo donax*** L.
Canna domestica, *canna* gentile – Common reed.
G rhiz – spontaneous along watercourses, in marshy clayey areas skirting rivers Sabato, Fortore and Calore.
ψ υ Uses: its active principles, causing its diuretic action, are found in a decoction prepared with its shoots and rhizome; it was given to people suffering from water retention due to kidney deficiency. A decoction of reed sprouts was drunk to soothe persistent cough (La Sorsa 1941). As a mechanical remedy, the scurf of the plant stalk internode is used on wounds as a protection against infections. In addition, the decoction of the plant rhizome stimulates perspiration as well as diuresis (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Herbivorous animals were given a decoction made of reed shoots, cane shoots and couch roots to stimulate rumination.

UU 349. ***Avena barbata*** Pott. ex Link.
Avena barbata – Slender oat
T scap – Wasteland, grasslands and hedgegrows of the submontane area throughout Sannio.
ψ Uses: see *Avena sativa*.

UU 350. ***Avena fatua*** L.
Avena selvatica – Wild oat.
T scap – Grasslands, cornfields and hedgerows throughout Sannio.
ψ Uses: see *Avena sativa*.

UU 351. ***Avena sativa*** L.
Avena comune, biada – Common oat, forage.
T scap – Cultivated in the low hills of the river Fortore.
ψ Uses: oat seeds were the only parts of the plant used both for their nutritive virtues and their medicinal properties. Obtained through threshing, ground into flour, they were used as poultices for external use with expectorant effects and resolvent properties in lumbago. The same effect was obtained by applying warm toasted seeds, put into small cloth bags, on the affected parts. The decoction of caryopses was used against bronchial inflammations. These preparations have also diuretic and sedative effects on the urinary system (Negri 1943, Palma 1964).

UU 352. ***Cynodon dactylon*** (L.) Pers.
Ramigna, dente di cane, capriola, *gramigna rampicante* – Bermuda grass.
G rhiz/H rept – Wasteland throughout Sannio.
ψ Uses: a decoction of Bermuda grass roots, coltsfoot and mallow and a few grains of maize, was used for all respiratory system ailments. The decoction prepared with Bermuda grass, mallow roots and male inflo-

rescences was known as a purifier and diuretic, but also as an effective lithotriptor. Stomach ache was treated with a decoction of Bermuda grass maize boiled together with pellitory (Garofalo 1987-1988). The decoction is also useful against gastritis. For colitis, however, a decoction was prepared using Bermuda grass stems, chicory roots, medlar leaves and oak roots. The decoction of Bermuda grass and nettle has an anti-inflammatory action in the urinary duct and is therefore used in the treatment of cystitis (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965). Poultices prepared with Bermuda grass root, applied on boils, have an antiphlogistic effect.

UU 353. ***Hordeum vulgare*** L.
Orzo coltivato – Barley.
T scap – Mainly grown on the hills skirting the river Fortore.
α ψ υ π Uses: the resolving properties of this essence are described in a sort of manual dating from 1820, the "Giornale Economico e Rustico del Sannio" (The Sannio Journal of Economy and Farming); against the different types of "anthrax" common in autumn, this text recommended a tisane with hulled barley, nitre, honey and vinegar. Its diuretic action justified its use as one of the ingredients of the decoction of *Zea mais* male inflorescences, having anti-lithiasic effects. The seed decoction was used for bronchitis. Barley seeds, mixed with oat seeds, were toasted, put in a cloth and placed on the chest of subjects suffering from bronchitis. The most widespread use of barley concerned its nutritious properties, which made it an excellent restorative when added to the diet of convalescents and elderly people. The decoction of hulled seeds plays a fundamental role in the nourishment of children throughout childhood. The ashes obtained by burning the dry plant were mixed with lard and applied on animals' skin to treat scabies and excoriations.

U 354. ***Lolium perenne*** L.
Loglio comune – Perennial ryegrass.
H caesp – Trodden grassy places and perennial grasslands throughout Sannio.
ψ Uses: ripe caryopses contain a bitter principle which gives the plant preparations antineuralgic, astringent and sedative actions (Palma 1964).

U 355. ***Lolium temulentum*** L.
Loglio ubriacante – Darnel.
T scap – infests cereal crops.
α ψ υ Uses: ripe fruits contain a poison, temuline, which can cause severe intoxication. The seed preparations can be used as antiphlogistics, analgesics, and antispasmodics; the presence of the above-mentioned poison casts doubts upon the plant's applications (Negri 1943, Palma 1964, Viola 1965). In Sannio, this plant has always been known for the

seeds' sedative effect. It was used to induce reluctant animals to work obediently. Mixed with corn – the most common food for horses, donkeys and cows – it causes them to fall into a mild torpor. It is inadvertently used as food during corn harvests. The flour produced from such mixture caused several problems of toxicity in its consumers (Zazo 1968).

UU 356. ***Panicum miliaceum*** L.
Miglio, panico coltivato – Millet.
T scap – Seldom cultivated, and subspontaneous in ruins.
α ψ Uses: the decoction of caryopses has an antithermal, astringent, tussive, diuretic, emollient and expectorant action (Palma 1964).

U 357. ***Phragmites australis*** Trin. ex Steud.
Cannuccia di palude – Common reed, norfolk reed.
He/G rhiz – Marshes, river banks, embankments, and humid environments near the river Calore.
ψ Uses: the decoctions of the plant rhizome are used in home medicine as diaphoretics (Lodi 1957, Negri 1943, Palma 1964).

UU 358. ***Secale cereale*** L.
Segale comune, grano germano – Rye.
T scap/H bienn – Grown mainly on the dry soils of the mountains skirting the river Tammaro.
α Uses: used to make bread during famine (Zazo 1968).

UU 359. ***Triticum aestivum*** L.
Grano tenero, civitella – Bread wheat.
T scap – Grown mainly in the areas skirting the river Fortore on the border with Apulia and on the hills surrounding the town of Benevento.
α ψ υ Uses: in Sannio the medicinal use of wheat is limited to the caryopsis which, ground into flour and mixed with eggs, was used to prepare biscuits with astringent properties, useful in stopping diarrhoea (Jamalio 1918). At a time when only maize bread was used, white fibreless flour had a mild astringent action. In order to facilitate supporation, flour (*romanella* and *colombina* varieties) and vinegar poultices were applied (Jamalio 1918). A rather original remedy was obtained by stirring *carosella* wheat, eggs, sugar and cinnamon. This poultice was placed on pregnant women's lower backs to prevent miscarriages (Cirelli 1853); its therapeutic action, however, is not clear. Bran, a by-product of milling, half-toasted and put in small fabric bags on the aching parts – especially in the lumbar region – would heat and relieve pain. If placed on the chest, it helped reduce bronchial inflammations. Finally, it was useful to fight off sore throats, since by releasing heat, it improved the throat con-

dition (Cirelli 1853). In Roccabascerana wheat straw smoke was inhaled as a remedy for colds (Garofalo 1987-1988).

UU 360. ***Zea mays*** L.
Granoturco, mais, melga, sorgoturco, *granone* – Maize.
T scap – Grown in irrigable clayey soils throughout Sannio.
α ψ υ Uses: the male inflorescence of *Zea mays* was used in decoction together with Bermuda grass root, sage leaves and barley grains, with anti-lithiasic effect on the kidneys. The infusion of the stems has emollient and diuretic properties, and was mainly used for its hypotensive effect. Maize was used in bird and poultry feeding to stimulate egg laying and to give a more intense colour to the yolk. It was also fed to very young pigs (Zazo 1811) states that, at that time, large quantities of maize flour were produced to prepare flat loaves flavoured with lard and wild fennel seeds cooked on the fireplace stones. In addition, maize was used to prepare a cake typical to Sannio, made with maize flour and dried fruit and "cooked" in the sun. Finally, in the town of Baselice, on the day of St. Lucia (December 13) maize grains were cooked with chickpeas and given to the children going from home to home to "claim" them (Morrone 1972).

LILIACEAE

UU 361. ***Allium cepa*** L.
Cipolla – Onion.
G bulb – Grown mainly in the fertile plain areas skirting the rivers Sabato and Calore.
α ψ Uses: the properties and applications of onion are rather well-known, even though its characteristic taste and smell have always been a reason for reducing its use. In case of need, consumption of the bulb – either raw or cooked – can be increased. Raw onion is an excellent diuretic in the treatment of dropsy, gravel, kidney and bladder disorders. It helps lower blood pressure and glucose concentrations in the blood. Cooked onion is an excellent intestinal regulator; boiled in milk, it releases active principles with an anticatarrhal effect which, administered in low doses during the day, help treat bronchitis. A good onion soup, taken with plentiful white wine, was the sure remedy for milk deficiency in young mothers (Garofalo 1987-1988). The same galactagogue effect was reached with onion decoction, which was, however, less tasty. Onion tunics, instead, were a good remedy for wounds, ulcers and burns; alongside the anti-inflammatory action, these remedies have a physical action, since they prevent the bandage from sticking onto the ill part. Cooked onion has a resolving effect on abscesses, phlegmons and all external inflammatory processes (Zeppa 1950).

UU 362. ***Allium sativum*** L.
Aglio – Garlic.
G bulb – Grown in fertile plains and areas skirting rivers.
α ψ Uses: garlic is the most widely used plant with anthelmintic properties. There are numberless recipes based on garlic, differing in preparation and the other ingredients used. The infusion of garlic cloves crushed with mint (Nardi 1978) or with onion (in San Nazzaro), was given to children suffering from helminthiasis; in the most serious cases, instead of being drunk, a concentrated decoction was given as an enema. In Montecalvo, poultices of crushed garlic, rue and wormwood were applied around the navel. Crushed with oil, garlic can be put on calluses, where it has a caustic action; heated up and applied to chilblains it has the same effect (Garofalo 1987-1988). Garlic can be considered an excellent remedy for toothe-ache: reduced to pulp and placed inside the decayed tooth cavity, it soothed the pain. The hypotensive effect of garlic is exploited by swallowing crushed cloves wrapped in bread crumbs or in wafer, or by introducing large quantities of this drug into the diet. The essence contained in the bulb strengthens the cardiac rhythm, causes vasodilation of the arteries and regulates the pulse; it is, therefore, a precious remedy for the treatment of hypertension and arteriosclerosis.

UU 363. ***Allium ursinum*** L.
Aglio orsino – Ramsons, wild garlic.
G bulb – Broadleaf woods, humid narrow valleys, fertile soils throughout Sannio.
ψ Uses: the bulbs and the top of the epigaeal parts are used. The preparations have anthelmintic, antibacterial, antiputrid, purifying, diuretic, hypotensive, laxative, rubefacient action, and stimulate gastric mucosa (Negri 1943, Palma 1964, Viola 1965).

UU 364. ***Asparagus acutifolius*** L.
Asparago pungente – Sharp-leaved, asparagus.
G rhiz/NP – Scrubs and thickets of the high hills of Sannio, mainly in the areas of the municipalities of Limatola and Telese.
α ψ Uses: the decoction of the root and the hard part of the turion stimulate the kidneys directly, thus improving diuresis. To this end it is used for hypotensive and dropsical patients. Thanks to its purifying action it was an excellent food for people suffering from jaundice, since it eliminates biliary pigments from the blood. The young sprouts are a very tasty food, both as principal and secondary ingredients of pasta and side dishes.

UU 365. ***Asparagus officinalis*** L.
Asparago comune – Asparagus.

G rhiz – Humid grasslands; grown in vegetable gardens and sub-spontaneous.
ψ Uses: the rhizome and the roots constitute the drug. It has essentially diuretic properties (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

U? 366. ***Asphodelus albus*** Mill.
Asfodelo montano, *cipollino* – Mountain asphodel.
G rhiz – Along tufa cliffs of the hills in the area of Telese and in the gravelly soils along the river Tammaro.
ψ Uses: due to the presence of alkaloids in the tubers, this plant is believed to be dangerous and, consequently, its use is not widespread. Incidentally, since only few recent studies have analysed the substances contained in this plant, internal medicinal use is not recommended. Traditionally, however, asphodel has had a cosmetic and topical application, especially as an emollient on calluses and verrucae (Plensio 1978). Useful in the treatment of alopecia and in the inflammation of the sexual organs (Negri 1943, Palma 1964).

UU 367. ***Colchicum neapolitanum*** Ten.
Colchico napoletano – Neapolitan colchicum.
G bulb – Arid grasslands in the area of Mt. Matese in Sannio.
ψ Uses: both the seeds and the bulb have medicinal properties as anantiarthritic, antirheumatic, diuretic, and anti-gout treatment. In addition, colchicine has long been experimented on in the treatment of tumours (Benigni & al. 1962-1964, Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 368. ***Crocus napolitanus*** Ten.
Zafferano maggiore – Great saffron.
G bulb – Woods and pastures in the uplands of Mt. Taburno.
ψ Uses: its stems are expressed to extract saffron, which was once used for its digestive and carminative properties (Negri 1943, Palma 1964).

UU 369. ***Crocus vernus*** Sieber. ex Ten.
Zafferano alpino, croco bianco – Spring saffron.
G bulb – Generally fertilized grasslands of Mt. Taburno.
ψ Uses: see *Crocus napolitanus*.

U 370. ***Lilium bulbiferum*** L.
Giglio rosso, giglio di San Giovanni – Orange lily.
G bulb – Grasslands, high-grass vegetation, deciduous woods of Mt. Matese in Sannio.
ψ Uses: in popular medicine, the fresh bulbs were used as poultices to

treat sores, burns and several other skin diseases. The petals, steeped in oil or in decoction, have diuretic and antiarthritic properties (Lodi 1957, Negri 1943, Viola 1965).

UU 371. ***Muscari comosum*** (L.) Mill.
Cipollaccio, *lampascione* – Plume hyacinth.
G bulb – Cool cultivated soils, mainly on the border with Apulia.
α ψ Uses: plume hyacinth is a very common plant which, for its characteristics and in particular for its diuretic action, is rather similar to onion. The bulb of the plume hyacinth, called "lampascione" by the Sannio population living on the border with Apulia, can be used in cooking as a substitute for onion and, like the latter, it has cathartic and laxative effects (Plensio 1978).

U! 372. ***Paris quadrifolia*** L.
Uva di volpe, erba crogiola – Herb Paris.
G rhiz – Humid broadleaf and conifer woods of Mt. Matese in Sannio.
ψ Uses: poisonous plant with emetic, drastic, narcotic and antispasmodic actions (Negri 1943, Viola 1965).

U? 373. ***Polygonatum odoratum*** (Mill.) Druce
Sigillo di Salomone comune, ginocchietto – Solomon's seal.
G rhiz – Mountain arid broadleaf woods, mainly on the edges, bushes, deciduous woods.
ψ Uses: the rhizome infusion was used as an expectorant and, externally, the fresh rhizome was used to treat contusions, ecchymoses and arthritic and rheumatic tumefactions (Lodi 1957, Negri 1943, Palma 1964, Viola 1965).

UU 374. ***Ruscus aculeatus*** L.
Ruscolo pungitopo, *fruscara* – Butcher's broom.
G rhiz – Mountain thickets and hedgerows in the valley of the river Tammaro.
ψ υ Uses: this plant is more effective for calculi than asparagus. Its preferred use was the root decoction or, as an alternative, the steeped root poured into wine, since the diuretic effect combined with the lithontritic action, and pain was relieved (Lodi 1957, Negri 1943, Palma 1964, Viola 1965). In cooking, young sprouts were used to prepare omelettes or boiled and seasoned with oil (Zazo 1968). The concentrated rhizome decoction, together with an asparagus decoction, was used as a remedy for digestive problems in ruminants.

UU 375. ***Scilla biflora*** Ruiz. & Pav.
Scilla silvestre.
G bulb – Broadleaf woods, mainly beech-woods at high altitudes.

ψ Uses: the drug is in the bulb. The drug raises arterial blood pressure, stimulates diuresis and is a broncho-pulmonary fluidifier (Palma 1964).

UU 376. ***Smilax aspera*** L.
Salsapariglia nostrana, salsa siciliana, stracciabrache, *stracciajatti* – Smilax.
NP (G rhiz) – widespread in hedgerows and scrubs throughout Sannio.
ψ υ Uses: the root decoction stimulates perspiration. The concentrated decoction of the whole plant – including the root – was used to disinfect excoriations of draught animals.

U 377. ***Veratrum album*** L.
Veratro comune, elabro, elleboro bianco – False hellebore, false helleborine.
G rhiz – Grasslands, pastures, clearings, ruins.
ψ Uses: the drug is in the rhizome, which has a strong toxic action. For external use, it was used in the form of an analgesic ointment for rheumatic and gout pain (Lodi 1957, Negri1943, Palma 1964, Viola 1965).

U 378. ***Veratrum nigrum*** L.
Veratro nero – Black false helleborine.
G rhiz – Deciduous woods and clearings on Mt. Matese in Sannio.
ψ Uses: see *Veratrum album.*

DIOSCOREACEAE

UU 379. ***Tamus communis*** L.
Tamaro, cerasiola, uva tamina, vite nera, *vitucella* – Black bryony (Photo 9).
G rad – Thickets and scrubs in the foothills of Sannio uplands (Fig. 22).
ψ Uses: used in decoction or tincture, the root has diuretic, haemocathartic, emolitic and vulnerary actions and acts as an antiphlogistic on the urinary system. Black bryony was used as a rubefacient and resolving stimulant for contusions, strains and torn muscles. It was used mainly for rheumatism, gout and chilblains; in fact, when applied to the skin corresponding to the aching parts, it facilitates the analgesia. The rubefacient and activating action on the peripheral blood circulation is due to a substance similar to histamine which is concentrated in the roots, although in Sannio it is the fruits of the plant that are used mostly. However, this plant can have irritating effects on sensitive or chapped skin. In cooking, young sprouts were used to prepare omelettes or boiled with oil. Berries were sometimes cooked into a thick cream, so as to be easily spread on painful joints due to arthrosis or rheumatism (Lodi 1957, Negri 1943, Palma 1964, Viola 1965, Zazo 1968).

Photo 9. *Tamus communis*.

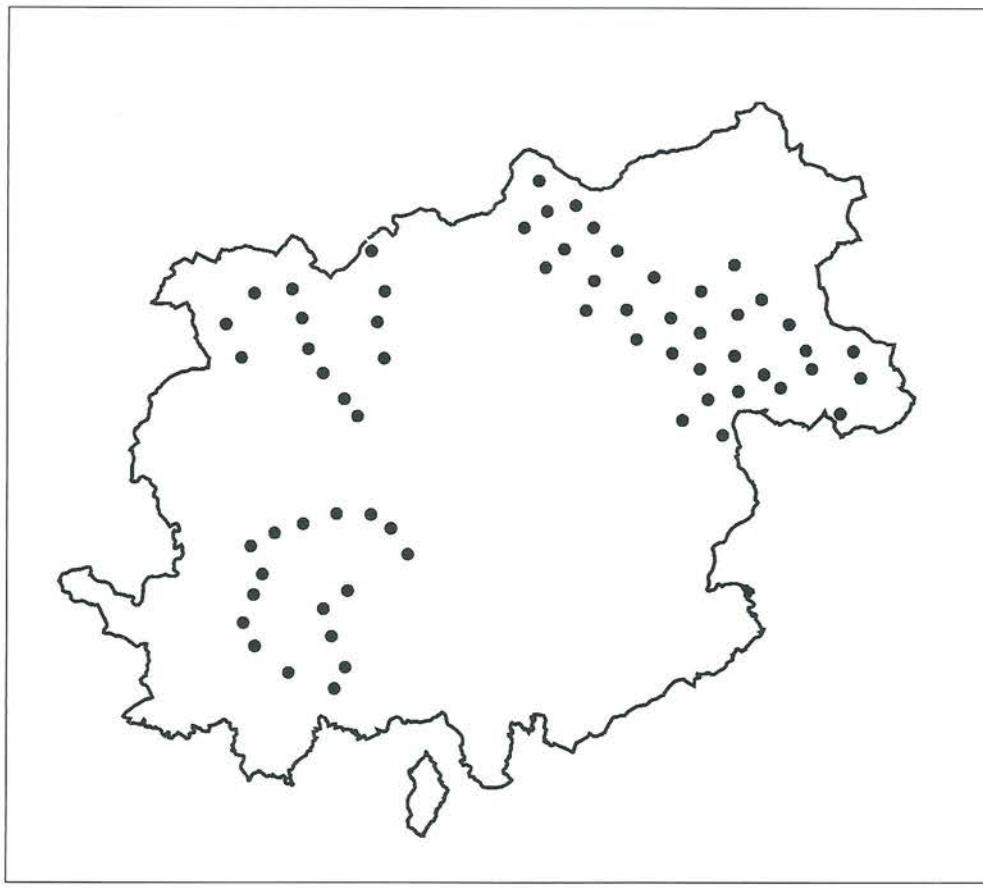

Fig. 22. Distribution of *Tamus communis* in Sannio.

Analysis of the flora

This list of the officinal flora of Sannio consists of 379 species belonging to 272 genera of 56 families. Of these species, 9 belong to 4 genera of 3 Pteridophyta families. The remaining are Angiosperms (*Magnoliopsida*) except for one Gymnosperm (*Pinopsida*), i.e. *Cupressus sempervirens*. The list includes both native and exotic species occurring wild or cultivated in the Sannio territory. Most of the latter are of economical importance, but some are more or less neglected.

The biological spectrum based on the 379 recorded taxa (Fig. 23) shows that hemi-cryptophytes are twofold than terophytes (21,1%) in percentage. This agrees with the particularly hilly geo-morphological environment rather than with the Mediterranean characteristics that, nevertheless, are remarkable. Some continental features are shown by geophytes (12,6%) whose high occurrence could be referred to both the woody nature of the area and to grazing as well as agricultural exploitation. It is to be taken into account that data concerning the biological spectrum of the flora of the Piacentini Mountains (Moraldo & al.

1981-1986) are here mentioned, deserving a comparison with the flora considered in this paper.

Considered Florae	P	Ch	H	G	T	NP	He
Officinal Flora of Sannio	14.55	5.55	41.79	13.22	22.48	2.11	0.26
The Flora of the Picentini Mountains	11.27	8.15	42.32	14.15	23.63	-	-

From the comparison of the percentages of the biological forms of the two floras, it is evident that the percentage values of hemicryptophytes and terophytes are almost the same. The percentage values of phanerophytes and geophytes are quite similar, too.

A more detailed analysis of the flora shows that the herbaceus 312 i.e 82.3% of the whole flora. Shrubs are 34, trees 29 and woody climbers only 4 (Fig. 24).

Moreover, of the total number of species, as many as 317 are spontaneous while the other 62 species are cultivated (Fig. 25).

Most of the species have one use only: in fact, 264 species out of the total number are used for just one purpose while the other 115 have several uses (Fig. 26).

Furthermore, as to the most commonly parts used among 12 schematic subdivisions the most used are the leaves are employed in 30.1% of cases, followed, in decreasing order, by the flowers (15.8%), the roots (11.9%), the fruit (7.7%), both the seeds and the rhizomes (5.7%), the bulbs (1.5%), the tubers and the bark (1.2%), the latex with 1%, the oils (0.5%) and finally 15.8% of the species of the officinal flora are used in entirety (Fig. 27).

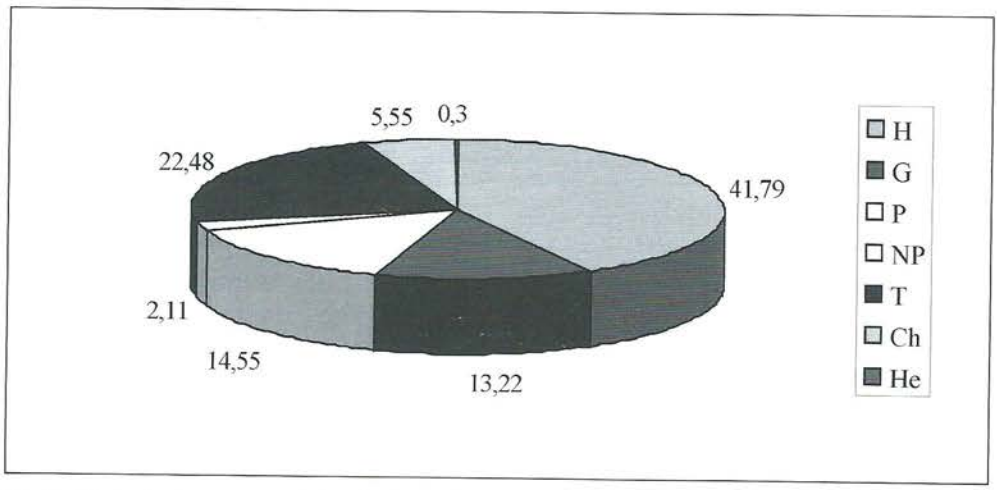

Fig.23. Biological spectrum of the officinal Flora of Sannio. Biological forms of the plants and their ratio.

Conclusions

In the last century, the term phytoalimurgia referred to the native wild species used as food. These species, quite usually exploited during the Second World War with its well-known lack of food, are scarcely used nowadays. Since several wild officinal plants (chicory, dandelion, borage, etc.) are edible they are worth mentioning. The information gathered from interview, helped us observe how, in the country, the knowledge of spontaneous

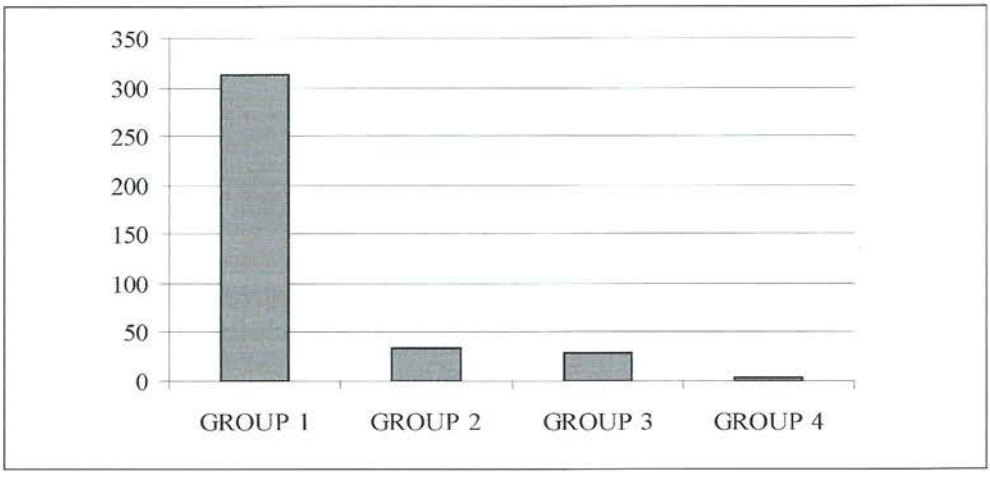

Fig. 24. Composition of the officinalis Flora. Typology of the plants: GROUP 1 - herbaceous plants; GROUP 2 - shrub plants arbustive; GROUP 3 - arboreous plants; GROUP 4 - liane plants.

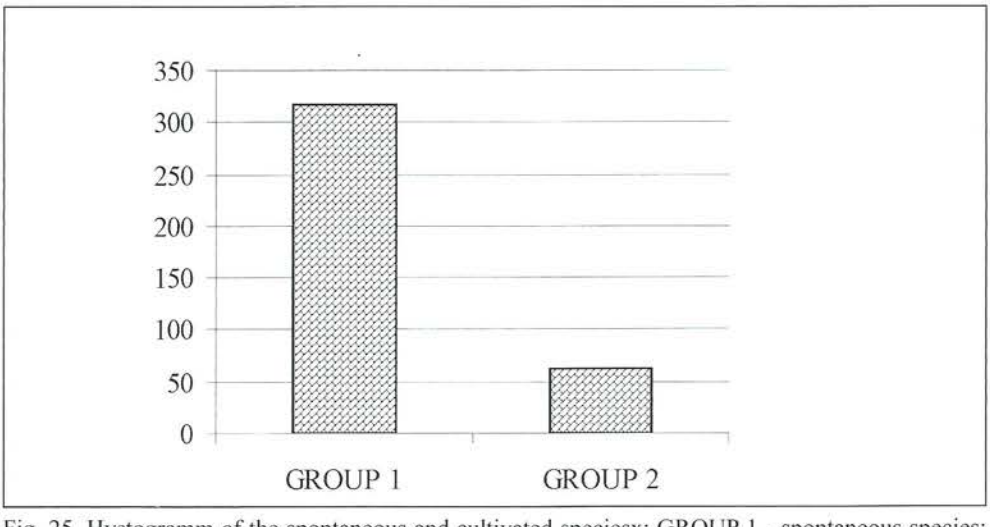

Fig. 25. Hystogramm of the spontaneous and cultivated speciesx: GROUP 1 - spontaneous species; GROUP 2 - cultivated species.

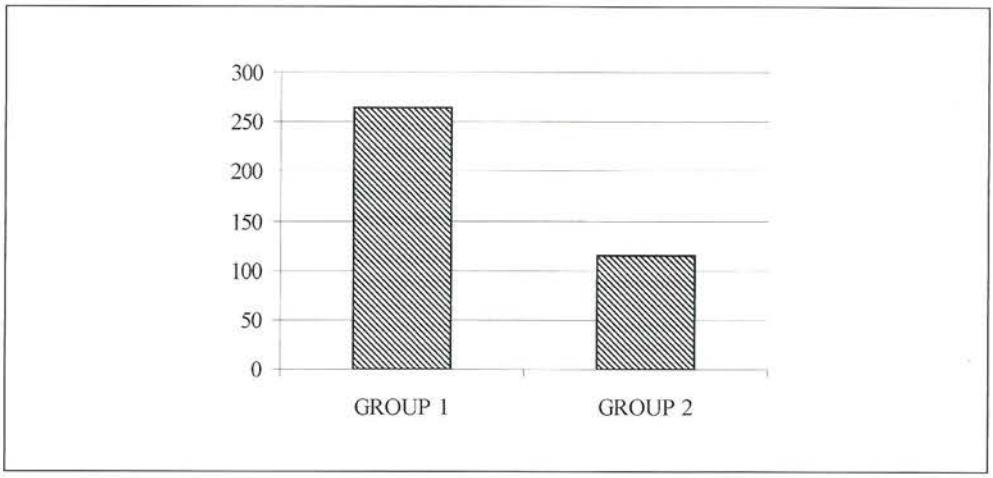

Fig. 26. Hystogramm of the use of the species: GROUP 1 - single use; GROUP 2 - multiple use.

plants, which can be used in salads, vegetable soups as well as dressings, is still widespread even if in a marginal way. Besides the testimony of the vivid memories of local elderly people, the information gathering concerning the old culinary traditions of the people of the Sannio region was carried out thanks to important sources dating back to the 18th century. A constant reference point for our work was represented by Cirelli (1853) "Il Regno delle due Sicilie descritto ed illustrato" which, among the various territories of the the former kingdom, analyses also many villages of the current Campania region. This

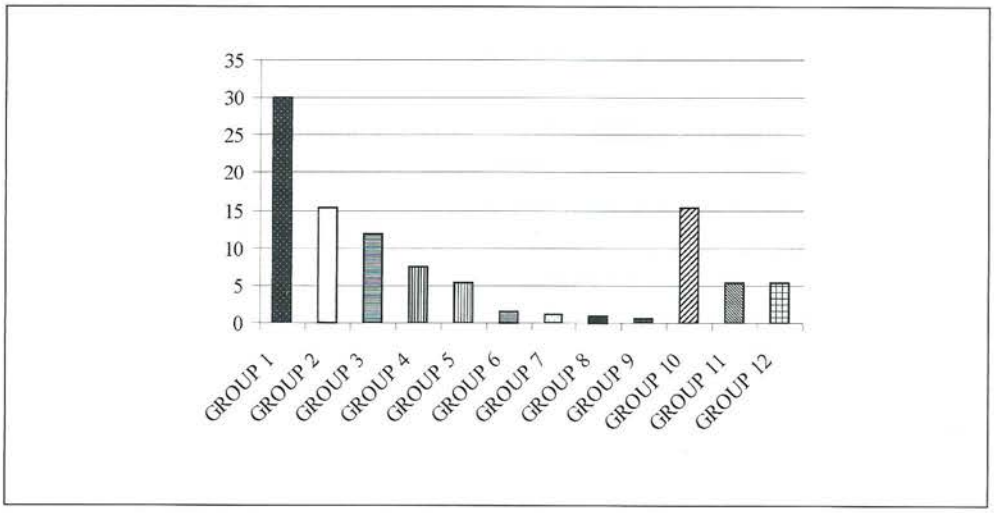

Fig. 27. Parts of the plants used: GROUP 1 - leaves; GROUP 2 - flowers; GROUP 3 - roots; GROUP 4 - fruits; GROUP 5 - seeds GROUP 6 - tubers; GROUP 7 - bark; GROUP 8 - latex; GROUP 9 - oils; GROUP10 - total plant; GROUP 11 - rhizome; GROUP12 - bulbs.

book, apart from historical and geographical information, contains socio-economic and sanitary topics such as bromatology, that is the science concerning the chemical composition of food and its nutritional effectiveness.

In 1853, when Cirelli wrote his five-volume work, bromatology was nothing more than a mere list of foods and local recipes. In fact, referring to the village of Morcone (Benevento) the author writes about the *Carlina utzca* Hacq., often confused with the *Carlina acaulis* , used in the making of the typical Christmas cake called "*rinciada*". The roots of this plant, called "rinci" by the local people, once ground, crushed and boiled in a sufficient quantity of water, became a mucilage which was seasoned with spices. Reduced to the consistency of dough, it was divided into small tasty shapes.

Equally important was the work by Zazo (1968) from Benevento whose title is "Vita economica e sociale di alcuni paesi del Sannio agli inizi del 1800" (economic and social life in a number of villages of the Sannio region in the early 1800s). The author used the reports for the inquiry by Murat dating back to 1811 as a historic source. This book provides an insight into the culinary customs of the people of the Sannio region at that time.

Influenced more by poor economic conditions than by traditions, the local population used to eat mostly vegetables and herbs. The consumption of fish was even more limited and mainly based on what was caught in the river Tammaro where Cyprinoids could be found. In some villages of the province, the fishing technique exploited the chemical properties of *Verbascum thapsus* (*Scrophulariaceae*) in flower, which was particularly abundant along the uncultivated banks of the river Tammaro. Great mulleins were beaten and pounded in the river; the sedative action of their active principles released in the water numbed the fish which, carried by the river current, ended up in a "*canizzo*" – a sort of sack made of reeds which, placed below the area treated with the mullein, caught the fish letting the water flow. Another plant useful for fishing was *Inula viscosa* , thanks to its antiputrid action. Once picked along the river banks, it was placed in layers in baskets alternating with fish in order to keep it fresh.

Dairy products were abundant, too, but despite this, the products most used by the people of the Sannio region were vegetables and pulses seasoned with oil or lard. Beans, broad beans, chicklings (*Lathyrus vernus*) and chickpeas (*Cicer arietinum*) represented an essential food for the entire population. The high nutritional properties of vegetables and pulses and their amino-acids which, associated with those contained in the wheat by-products allow the formation of proteins contained in the meat, explain how the almost total absence of meat in their diet, did not cause the lack of proteins we would normally expect. This almost complete dependence on vegetables made their food conditions susceptible to drastic changes when poor crops caused long periods of famine forcing them to use more "wild herbs" than usual. In general, these herbs were used as a supplement to their diet providing a good amount of vitamins and mineral salts which were poorly supplied by fruit. Because of local ignorance and indifference, fruit production was scarce so its consumption was low. They used to eat bread and garlic, onions or any kinds of plant apices which age-long experience had shown to be edible. The sprouts of traveller's joy (*Clematis vitalba*), were eaten either boiled and dressed with olive oil or in omelettes; the same went for those of the black bryony (*Tamus communis*), butcher's broom (*Ruscus aculeatus*) and even those of the stinging nettle. Other plants were eaten fresh in salads being highly purifying and rich in vitamins: white rocket (*Diplotaxis erucoides*), common groundsel

(*Sonchus oleraceus*), purslane (*Portulaca oleracea*), and watercress (*Nasturtium officinale*) which, picked during the first stages of their growth, did not need cooking.

A well-known kind of soup was the so-called "*minestra spertizia*", made of herbs "scattered" on the fields and uncultivated lands, which were picked before the transformation process of the anthesis began to cause, besides the hardening of the leaves and stalks, the intensification of scents and flavours due to a larger amount of lymph in circulation. Wild corn poppy (*Papaver rhoeas*), dandelion (*Taraxacum officinale*), fennel (*Foeniculum vulgare*) and wild celery (*Apium nodiflorum*) replaced or supplemented vegetables and often, thanks to their particular flavour, were used in peculiar recipes. The Sannio population used to eat even spiny and hostile plants such as thistles (*Carduus pycnocephalus*, *Carlina utzka*, *Centaurea calcitrapa*), whose spiny parts were removed, whereas the rest of the plant was cooked in the same way as Italian thistle (*Carduus pycnocephalus*) is prepared today. Preserves were made using vegetables as well as spontaneous plants such as, for example, the bulbs of *Leopoldia comosa* called "lampasciumi" which were pickled. The berries of many shrubs, growing in hedgerows and bushes, were eaten although remarkably sour, such as those of *Prunus spinosa*, or tasteless such as those of *Crataegus oxyacantha* Sweet strawberries, blackberries and the drupes of *Celtis australis* were particularly appreciated. Fruit was not on the market and it was rarely included in a meal. Most of the time, in fact, people would eat the fruit picked while working in the fields especially to mitigate the intense heat of the summer.

Among all the plants considered, grass, and in particular wheat and maize (*Zea mays*), represented the main nutritional plants used as food by the whole population. Living conditions were such as to prevent a total exploitation of this energy source: the "hand-made broadcast neither saved seeds nor granted a good crop", wheat was picked "...together with darnel (*Lolium temulentum*), vetch (*Vicia sativa*), etc., due to countrymen's helplessness and laziness..." and women, who usually made bread, "...did not let the dough rise completely before baking it". The population would eat bread during the first months following the harvest, then they would turn to maize which, normally, was used to make both "polenta" (thick maize porridge) and "focacce" (kind of flat loaves). Also rye (*Secale cereale*), wheat (*Triticum aestivum*) and barley (*Hordeum vulgare*) were used during famines to make bread and pasta: they were certainly less nutritious and contained less noble proteins, but were more difficult to digest and so had a higher sating capacity.

Today, many of these herbs are used in local gastronomy, but only occasionally, and sometimes just to recall old memories. There are also some food fairs whose main aim is to spread and hand down local traditions.

Most of those interviewed are elderly people who remembered eating "wild herbs", beans and broad beans to satisfy their hunger when both poverty and war caused hard times. For centuries many plants had been selected as remedies and medicaments to cure common diseases. People used plants to heal themselves as well as their domestic animals which, in the past, represented real wealth.

The improved nutritional conditions, the abandonment of the countryside, a more frenetic rhythm of life, have led us to forget this *modus vivendi* which, although precarious, had its own value.

All things considered, this survey has "discovered" interesting cultural and traditional aspects of the people of Sannio, who have always made a large use of vegetables.

Furthermore, we have found an almost unexpected plant heritage with undoubted "biotechnological potentialities".

It is worth remarking that among the important factors for the definition of a territory with rich biodiversity, there is popular use of plants.

In fact, the development of themes referring to biodiversity, and in particular the scientific justification of some particular customs, can represent a good reason for a possible widening of this survey.

The thematic floristic analysis carried out showed that the people of Sannio were rich in tradition and culture and their nutritional reference point was the vegetable world.

The preservation of customs, testimonies, more or less unspoilt territory and broad floristic differentiation make the province of Benevento one of the most interesting in the Campania region for its "ethno-botanic" heritage and, therefore, its wide biodiversity.

Acknowledgment

This study has been done within a research project funded by Provincia di Benevento (Convenzione sulle Emergenze naturalistiche e la Biodiversità vegetale) wich is gratefully acknowledged.

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Appendix 2. Historical account and ethnobotany of the Benevento Sannio*

With the present appendix the authors would like to discuss two aspects of the Samnite ethnobotanical culture that, although might not seem connected one another, have a common denominator in the vegetable kingdom. The analysis of such aspects is carried out through a detailed reading of the historical events that geographically and chronologically have taken place on the territory.

The former aspect concerns the way plants were employed in the so-called witchcraft or magic arts realized thanks to specific knowledge on some plants' properties.The latter concerns the rural life along the Regio-tratturo (cattle-track in Pescasseroli-Candela) which has been the favorite place for economic and intercultural development among those populations that settled in areas crossed by cattle-tracks or that travelled along it periodically.

Historical account of the Benevento Sannio

Long ago farmers and shepherds stopped and settled on the riversides of the Sabato and of the Calore and there, in today's Benevento western area, rose the first town called by the pastoral society with the Doric name of *Maloenton,* which means "return of the flocks". But its origins go back to epic legends.

Set within the two rivers, the Samnites found in the V century B.C. a peaceful population engaged with commerce and agriculture to whom they instilled their warlike spirit. Rome was watching from far away, but not indifferently, and decided to bar the way to the Samnites who were already moving forward inside Campania, and Maloenton, fixed course from Campania to Apulia, soon became an obstacle to overcome. Therefore, on the way to Benevento, Rome started developing its power. The battle of Saticola represented the rules of the future Empire and the one of Sentino (295 B.C.) was the last great battle that the Italic particularism upheld against Rome.

To the noble end of the population, wounded but not defeated in the day of Aquilonia, Titus Livy dedicated a reparative eulogy. In 268 B.C. a Latin colony was subtracted from *Maleventum* – that was the name given by the Latin conquerors – and the town remained faithful to Rome throughout the following historical events.

Because of its role, that is crossing eastwards and towards the Apulian ports, Rome transformed it in one of the most important cities in Italy; it was the same path the Epirote Pyrrhus used, almost as a fatal trail, to pave the way to the Roman power. On this event the town writes its first page of history about the Roman center and its name, changed into the augurial *Beneventum,* seems to start, in its turn, Rome's new fortune. During the dreadful struggle against the Punic fury, Rome's Magnificence marks Benevento's victory of 214 on the "album lapillum" (stone notice board) and contributes, together with other Latin colonies, to saving the country.

Augustus widened its territory and entitled it *Colonia Julia, Concordia, Felix Beneventum.* "It was then" states Appianus, "one of the richest and most remarkable towns of Italy". With its numerous law-courts, basilicas, arcades, thermal baths and colleges, it roughly occupied the area of today's old quarters, slowly expanding towards the upper part where lies, intact, the imperial door inside the Rectors' Castle. It also became center of cul-

*English translation of original texts by Dr. A. M. Terranova.

ture giving birth to grammarians, masters, famous juriconsults and to that book trade revealed by the digging out of a funerary cippus.

Its life is related to the Eternal City. About half way from Rome to Brindisi, on the glorious Appian way (Fig. 28) the town builds huge warehouses and raises Trajan Arch (Fig. 29) which seems to be the last of the Empire's fortunes.

Then the barbarian invasions knock at its doors, too. After the quick Gothic conquest and the Byzantine reconquest, in 570 the Longobards went to Benevento, whose walls, crumbled by the recent Gothic, proved unable to offer resistance. With Zotone, the first Longobard duke, the town is started towards a new destiny and becomes the most important center of southern Italy: Arechi I stretches its territory from Chieti to the ancient lands of the Sannio, to ancient Calabria, Taranto, Brindisi, Otranto, Gallipoli including, on the other side, all Basilicata and Campania's inland, up to the Roman borderline. The second half of the VIII century sees the birth of a major prince: Arechi II, Charlemagne's emulator, and at his side for the political and spiritual renewal of southern Lombardy; for the conversion to Catholicism, for the irradiation of culture among the rich and sumptuous Court in which Adelperga, Ermengarda's sister, orders Paolo Diacomo the *Historia Romana* that was supposed to include the uncompleted history of the Longobard people. After the sudden catastrophe of Pavia's Longobard kingdom, Arechi II appointed himself noble supporter of hopes and claims of his people. And because of this patriotic feeling, Arechi developed Benevento into a principality where coinage bore his effigy, introduced

Fig 28. Historic photograph of the Appian Way at the town's entrance of Montesarchio(BN). On background VIII century Medieval castle (from TCI Guide; p. 182).

Foto 29. Trajan Arch in the city of Benevento (from T.C.I. Guide; p.167).

the high ranks of the Carlovingians to his Court, spread the writing known as Beneventan, enlarged the town and realized the rich cloister and Saint Sofia's Church.

Anyway Benevento does not estrange from the social and political renewal started just after year 1000; just when the central power crumbles down and the Norman threat hangs over, the town gathers its close dedication to papal power. When in 1077 Pope Hildebrand learned about the death of Landolfo VI, the last Beneventan prince who four years earlier had paid him tribute, he got hold of the town.

During the first period of the papal rule, the name of Benevento joined the most important events in Rome. In the XII century Saint Sofia's cloister was restored, and the Cathedral's façade was rebuilt; its two bronze doors were fused; a mighty bell tower was raised and, in 1321, the Rectors'Castle rose high up in the sky.

Art and culture went side by side. In the XI century the town had a library and grammar, law, philosophy schools. Vettore III was ascending to the papal throne and Montecassino flourished, and then after him, Gregory VIII, whose old age glowed with enthusiasm for the defense of the Holy Land. Chronicler Falcone gave his name to history and Roffredo Epifanio offered his contribution to the vigorous conceptions of the renewed Roman law. In the meantime new events were taking place. And if Saint Francis of Assisi blessed the town, the siege of Frederick II twenty years later remembered the great emperor reluctantly. It wasn't so for Manfredi who in February 1266 fought against the Angevins in a battle marking the end of the Holy Roman Empire named after Benevento.

The events of the kingdom of Naples affected the town, enslaved by Ladislao, Giovanna

II, Alfonso of Aragon, Ferdinand I, Charles V; moreover, contentions fomented by economic difficulties soon occurred in Benevento, enclosed within the kingdom, bereaved of resources and thwarted in trade. After that, plagues and earthquakes: ills and misfortunes were soothed by a great archbishop, V.M. Orsini, later called Benedict XIII. For six years, from 1768 to 1774, during the conflict between the Bourbon courts and the Holy See about the request of the abolition of the Society of Jesus, the town was ruled by Ferdinand IV of Bourbon. The French revolution also affected Benevento which, in 1799, became municipality and after a period of unstable government, on June 5, 1806, was declared part of Napoleon's Empire and was famous minister talleyrand. When ruled again by the Holy See, it underwent the spreading of the Carbonarist movement which led to the revolt of July 5, 1820 and to the abolishment of papal government; but only after eight lustra the town was to be joined to the Italian country.

Rather eccentric if compared to its province, Benevento stretches out railroads and radiating roads. The outermost point of the province is situated on the watershed of Mt. Matese, great cloud collector, vast calcareous massif that gives life to one of the major lakes of Southern Italy, at present industrially exploited, and to numerous springs. Pictoresque Piedimonte lies at the foot of this mountain and preserves in a well-organized museum, traces of its three-millennarian history, while Alife, situated on the nearby plain striped by poplars, is still surrounded by thick Roman walls.

The Titerno flows down a colorful valley from the side of the massif; all around there is the cold Cusano Mutri with splendid Romanesque and baroque churches and signs with typical horseshoe bats outside each house; Cerreto Sannita with its huge Cathedral, Talese on the plain, with healthy waters and the ancient town wall of Roman Telesia.

A railroad and a trunk road lead northwards approximately along the Tammaro valley, generous with panoramic landscapes and towns; here is the town of Morcone that, from far away, seems a cascade of houses. Then railways and roads run alongside to go into Molise.

The road connecting Benevento to Volturara is quite high in the mountains; it unwinds throughout wonderful landscapes and does not cross any tourist town. Better conjunctions are the railway and the trunk road stretching down south along the wonderful valley of Sabato in Avellino, but not going into the province, since they soon come out after few kilometres at Altavilla Irpina.

A longer distance, throughout the province, is covered by the roads taking to Naples across one of the most Arcadian areas of Campania. The way opens up when meeting Valle Caudina, a valley watched over by the imposing Taburno rich in waters and forage, which has kept its identical aspect as when it was covered by a lake. Suck lake's downflow splits into two directions: NW with the Isclero river which pours into the Volturno and passes through S. Agata of the Goths, town with the ruins of a splendid castle and very precious churches; and SW, which represents, according to some historians, the place where the Roman legions were humiliated under the yoke. Today those narrows are very charming places: they open up towards towered Maddaloni and Cancello leading then to the vast plains of happy Campania[1].

[1] AA. VV., 1936: Attraverso l'Italia. Illustrazione delle regioni italiane: Campania. Vol. VII, 1936. Touring Club Italiano, Milano. pp 165-184.

Consortia in the mountain areas of Benevento

The present social organization, human production activities, environmental issues, ecosystems vulnerability and nature preservation and protection have determined the need of creating a territorial consortium organization on those territories which stand out for environmental characterization and are inhabited by active people who believe in Sustainable Development policies.

Today, most of Benevento's territory is divided into four consortia of the mountain areas, all in zones with remarkable environmental and natural features. Consortia take their names after the environmental reality to which they belong, identifying, at the same time, the geographical location and extension. Consortia's names in Benevento are the following: Comunità Montana del Titerno, Comunità Montana dell'Alto Tammaro, Comunità Montana del Fortore, all identified by the homonymous rivers; and then Comunità Montana del Taburno-Camposauro, after the Apennine carbonaceous massif. The lattest has been declared Regional Park.

The consortium of Titerno (Fig. 30) includes 12 communes: Cusano Mutri, Faicchio, Pietraroia, Cerreto Sannita, S. Lorenzello, S. Lupo, S. Salvatore Telesino, Pontelandolfo, Ponte, Guardia Sanframondi, Castelvenere, S. Lorenzo M. It is situated in the north-western area of Benevento. The Titerno river springs from Mt. Monaco di Gioia in Cusano Mutri's territory, reaches Cerreto Sannita showing the best of its flow through the carbonaceous flumes, known as Forre del Titerno, then reaches San Lorenzello and Faicchio and, at Torre Nuova di Marafi, mingles with the Volturno river. The twelve communes,

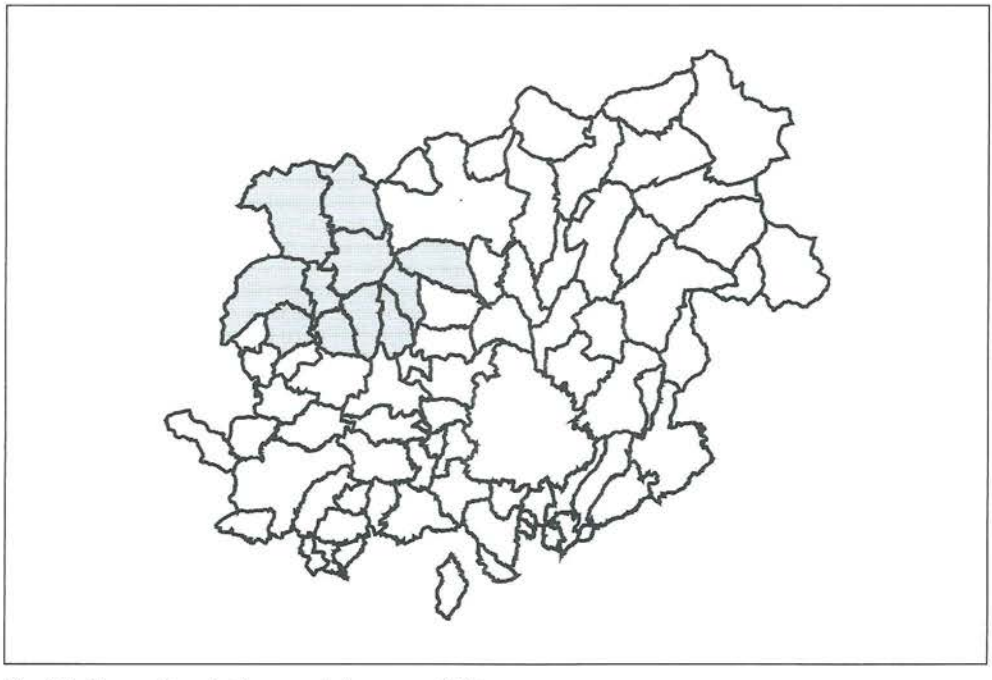

Fig. 30. Consortium in the mountain areas of Titerno.

each with its own features, landscape and architecture, guard with pride and devotion traditions and values, the local cuisine and typical products, pastoral customs and agricultural traditions. Each town wisely assimilates the invading pressures of modern economy which tend to upset territory and life habits.

Strong and precise features characterize San Lupo, up on a hill protecting the folklore of the *Ianare* (witches); Cerreto Sannita, town of foundation and famous handicrafts traditions; Guardia Sanframondi known for its religious penitences; Pontelandolfo unmistakable for its cylindrical tower and famous throughout the world for its loom-woven fabric. When visiting these towns it is possible to feel, at the same time, those cultural ties and affinities that make us perceive it as one land: a land of people who are proud of their roots and history, who are friendly and generous, irremovably determined in guarding their isolation and their identity jealously; people who are not narrow-minded but hospitable and open to new experiences and different cultures; isolation meant as protection and custody of treasures rare to find as unpolluted landscapes, aware of the fact that it doesn't take much to destroy a territory in the name of a longed for modernization.

The town of Cusano Mutri and its hamlet Civitella Licino, lies within the Regional Natural Park of the Matese. The variety of landscape, farming and production of the Titerno, is characterized by peculiarities of the scenery, of the soil, of the fauna and flora. The area's rocky nature itself has protected and preserved, because inaccessible, age-old cultures and traditions.

The consortium of the Alto Tammaro (Fig. 31) includes 5 communes in its territory: Castelpagano, Circello, Colel Sannita, Morcone, S.Croce del Sannio. The Tammaro river

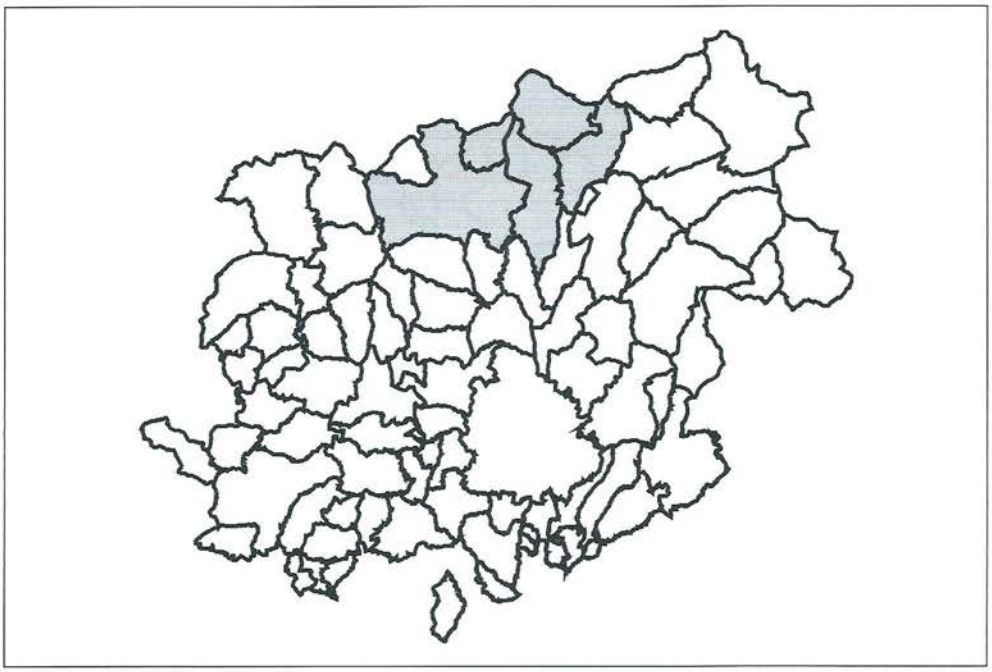

Fig. 31. Consortium in the mountain areas of the Upper Tammaro.

springs from the *Sella del Vinchiaturo* and it's the right tribute of the Calore river (Fig. 32) in which it pours, near the station of Paduli, 5 Km away from Benevento. In the province of Campobasso, the Tammaro river receives the stream Magnaluno which originates from the Colle Valente (1070 m.), on the slopes of Mt. Tre Confini (1434 m.), from the Fontana Carusaluro (1000 m.) and which is the right tribute to the Tammaro river; it also receives the stream Saraceno which springs from the slopes of Mt. Tre Confini (1434 m.) and the stream Tappone; in the province of Benevento, it receives the stream Reinello, which springs from Mt. Capozzi (762 m.) and is left tribute to the Tammaro river near Fragneto l'Abate, the stream Tammarecchia, which springs from the Sannio mountains in two branches: from Mt. Vado Mistongo (762 m.) and from the Woods of Castelpagano (Monaco valley) and is left tribute to the Tammaro river in Ponte Rotto, the Tammaricchio river which springs from Casone Cocca (900 m.) in the slopes of Mt. San Marco (1007 m.) and is left tribute to the Tammaro river.

The consortium of the Fortore (Figs 33, 34) includes 15 communes: Apice, Baselice, Buonalbergo, Castelfranco in Mescano, Castelvetere in Val Fortore, Forano di Val Fortore, Ginestra degli Schiavoni, Molinara, Montefalcone di Val Fortore, Paduli, Pesco Sannita, S. Arcangelo Trimonte, S. Bartolomeo in Galdo, S. Giorgio la Molara, S. Marco dei Cavoti.The territory is characterized by an extremely varied morphology and outstanding naturalness. Two main areas can be distinguished: the mountain area is characterized by a wood vegetation (the area overlooking Molise) which involves the towns of Castelvetere in Val Fortore, Molinara and Baselice and by another larger area used as sowable land and pasture, covering the remaining territory.

Fig. 32. Hygrophilous vegetation along the Calore river.

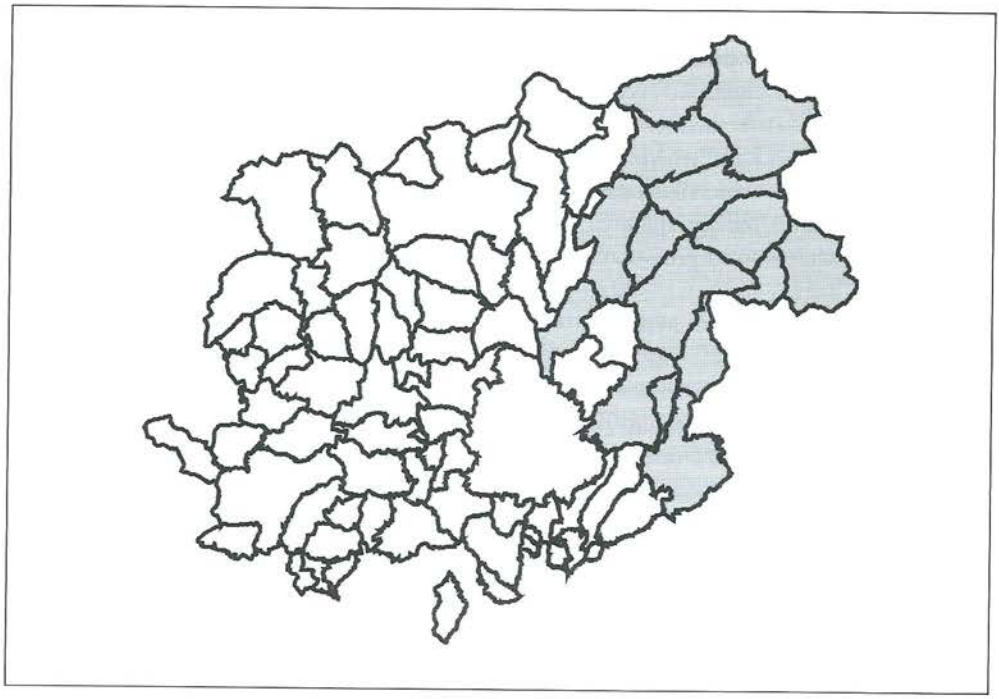

Fig. 33. Consortium in the mountain areas of Fortore.

Fig. 34. Landscape of Eastern hills of the Benevento Sannio.

And, at last, the consortium of the Taburno-Camposauro (Fig. 35) includes 15 communes: Bonea, Bucciano, Cautano, Frasso Telesino, Moiano, S. Agata dei Goti, Solopaca, Tocco Caudio, Vitulano, Melizzano, Montesarchio, Foglianise, Paupisi, Torrecuso and extends as far as 14,440 hectares (4,700 M.Taburno (Figs 36, 37, 38, 39, 40); 4,200 M. Camposauro). This mountain area is situated in the West of Benevento, only few kilometres away and its territory. Major peaks here are Mt.Taburno (1.394 m. above sea level), Mt. Camposauro (1.388 m. above sea level) and Mt. Pentime (1170 m. above sea level).

From the town, their profile reminds of a woman lying down, from here the name given to the massif: "Dormiente (sleeping) del Sannio". The massif is bounded by the Valle del Calore on the North, that is the Valle Telesina (which separates it from the Matese) and by the Valle Caudina on the South (which separates it from Mt. del Partenio); to the East and to the West, the streams of Ienga and Isclero flow softly through the hills and run down the massif.

Officinal plants in magic, religion and science in the Sannio area.

Since distant ages the Samnites believed plants were not only the main food source and first matter to treat man's or animals' illnesses, but they've also been fundamental resource to solve numerous controversies in the world of occultism and magic.

"Benevento people are famous of being the most superstitious, not only among Italians but among Europeans. Perhaps this is due to southerners' lively imagination; they save

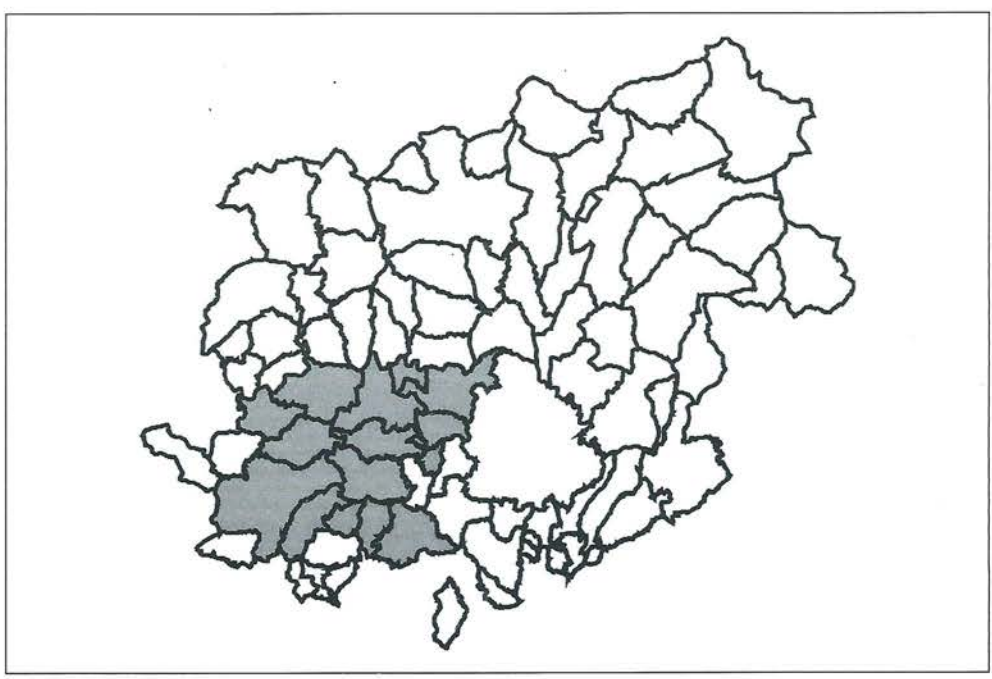

Fig. 35. Consortium in the mountain area of Taburno-Camposauro.

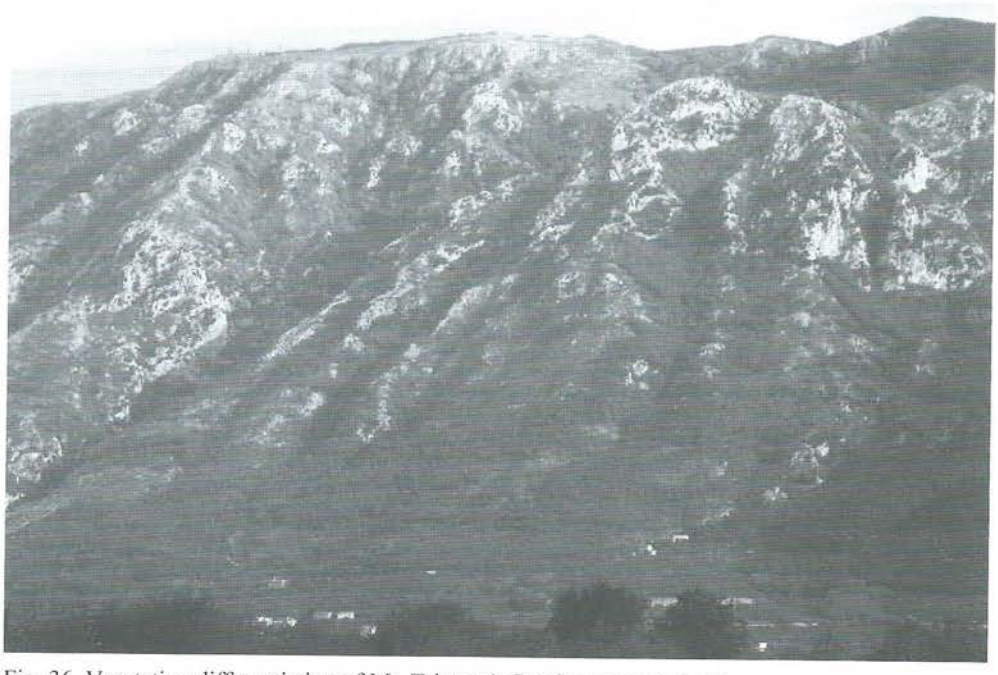

Fig. 36. Vegetation differentiation of Mt. Taburno's Southern mountainside.

Fig. 37. Pure beechwood of Mt. Taburno's apical area.

Fig. 38. Shrubbery on Mt. Taburno's detrital fans.

Fig. 39. Carbonaceous cacuminal landscape of the Taburno-Camposauro complex. Fragmented beechwood and high altitude meadows.

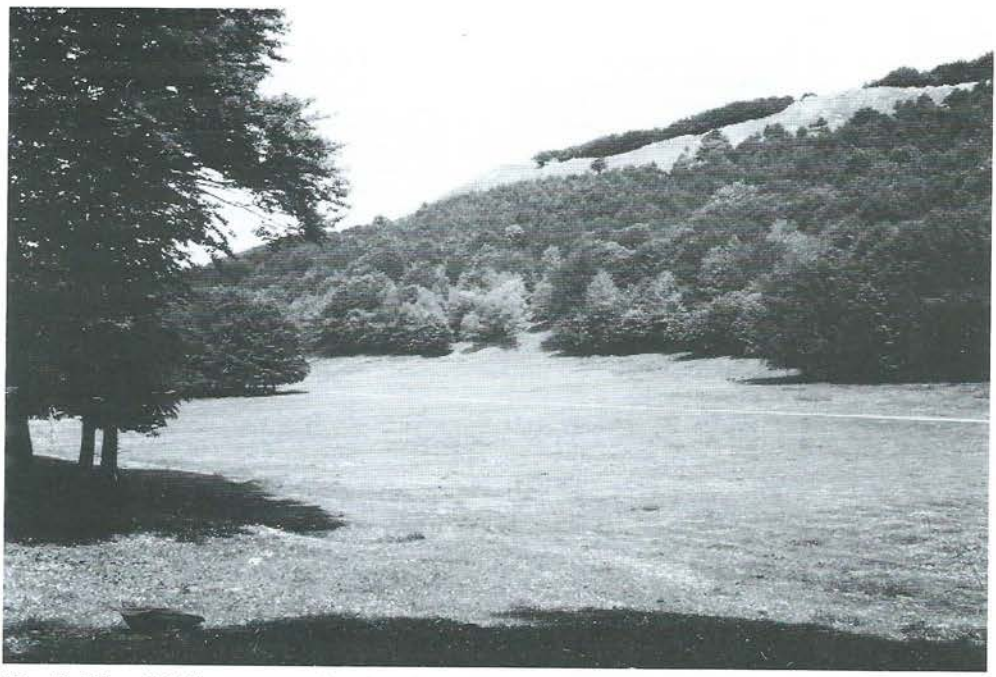

Fig. 40. Piano Melaino pastures in a hanging valley of Mt. Taburno.

most physical and moral archaic traits of their race; yet, their superstitions could also seem more numerous to us because of their overvivacious manifestation" [2].

And with such dilemma we tackle a unique aspect of Benevento's history and culture. Benevento has been meeting point for different civilizations: Samnite, Roman and Longobard peoples have engraved their culture on local population, especially as regards the field of magic and superstition where traces, particularly among the populace, are still visible [3].

The legend of the Benevento walnut tree is connected with the presence of the Longobards on this territory. According to several scholars of the past centuries, including Pietro Piperno, Benevento turns into a sort of capital of the magic Kingdom, one of those places wizards and witches prefer for their activities and meetings, both among themselves and with the devil himself [4].

Italian traditions still celebrate this place which is particularly alive among the populace's imagination. About this issue, Cocchiara [5] wrote: "the fame of this walnut tree has overshadowed in Italy the name of other places where folk tradition arranges congresses about the devil and witches".

[2] Morselli E., 1900: Prefazione a Inciarmatori, Maghi e Streghe di Benevento. L. Pierro editore, Napoli.
[3] Giordano, G. 1976: Aspetti di vita beneventana (1600-1700). — Napoli.
[4] Miele, M. 1975: Malattie magiche di origine diabolica e loro terapie secondo il medico beneventano Pietro Piperno. — Campania Sacra Dehoniane, Napoli **6**: 198-223.
[5] Cocchiara G., 1956: Il paese di cuccagna. Einaudi, Torino.

Fig. 41. Mixed mesophyll wood of Mt. Camposauro's Northern mountainside.

Jamalio [6] talks about this ..."legend spread all over the old continent, which, according to adaptation laws, has been modified, here and there, with ethnic elements". Testimony of the famous walnut can be found, in 1300, in a poem some experts believe Dante's [7]. San Bernardino of Siena, in 1427 invoked, mentioning the legend, that "all bewitchers be exterminated so to lose their seed".

Afterwards the legend has been mentioned by numerous artists and poets as Aretino in his comedy "La Cortigiana"; Redi in "Il gobbo di Peretola"; Firenzuola in "L'asino d'oro di Apuleio"; Lippi in "Malmantile", canto III; Shakespeare in "Macbeth" act I, and so on. It inspired Niccolò Paganini in "Le Streghe", and Sussmayer in "Il noce di Benevento", creating suggestive atmosphere in music and dance [8].

The spreading of the legend, as Croce states (1925), is due to a "progeny of writers who were particularly interested in the historical and poetic treatise of "the walnut", decorum or dishonour of their land" [8]. The most outstanding name in superstitious matters is Pietro Piperno, historian and doctor in Benevento. The writings of Borgia and De Vita, important writers of local history, show that this sort of believe and practise were widely disapproved.

[6] Jamalio, A. 1918: La regina del Sannio. — Napoli.

[7] De Luca, S. 1965: Streghe e diavoli a convegno. — Benevento.

[8] De Spirito, A. M. 1975: La chiesa beneventana e la magia nel secolo XVIII. — Ricerche di storia sociale e religiosa 4: 411-417.

Fig. 42. Landscape of the alluvial plain of the countryside around Telese.

Fig. 43. Vineyards in the territory of Solopaca (BN).

Fig. 44. Hidrophilous vegetation around lake Telese.

Going back to ancient works, we suggest the historical reconstruction of the legend which, over the centuries, has undergone several variations. We should probably trace it back to Ovid with his "frightening screeching owls screaming stridently, greedy of infant blood"[9].

Only in the VI century this belief mingled with a custom of the Longobards in Benevento. With the invasion, they had given splendour back to the Samnite and Roman city. The conquerors had slowly been converted to Catholicism saving though traces of idolatry, nostalgic relics of a far away land. And among numerous "naturalistic" cults, they worshipped trees, probably as symbol of life and fertility, and in particular they had chosen a walnut tree situated on a disserting location. Gathered around the tree, they would start a sort of ceremony both military and ritual to ask for god Wothan's protection. From the tree's branches hanged a goat skin and riding a horse sitting backwards, they would try to tear up with their lance a little piece so to chew it.

In times of history where the supernatural peopled European sagas, the imagination of Benevento's Catholic inhabitants was struck and thus the legend was born. Not warriors' frantic ridings anymore, but witches around the fiendish tree, not a simple goat skin but a goat like devil, not war cries but rows and screams of invocation, not the chewing of the host but banquets and orgies. Little by little other legendary strata were added; new details

[9] Zazo, A. 1968: Vita economica e sociale di alcuni paesi del Sannio agli inizi del 1800. — Samnium a. XII, 1-2: 2.11.

were connected to local peculiarities so that in the vast world of legend, evil rites and activities were carried out through different ceremonies and the wicked tree didn't have to be a walnut but it could also have been a lime or an oak [10]

From "Historical memories of the Papal city of Benevento from VIII to XVIII century", 1763, of Monsignor Borgia we learn what happened afterwards to the cult of the tree. The Byzantine Emperor Costante in 663 besieged the city governed by Duke Romualdo. He was able to succeed thanks to the contribution of Bishop Barbato who, in turn, obtained to unroot the tree and to convert the Duke and the Longobards to the Catholic religion" [11], abandoning "idolatry totally and the worshipping of the sacred tree outside the city walls".

In that place, a sacred temple dedicated to S. Maria a Voto was erected in memory of the vows released by the Longobards. Yet, the clearing in which the walnut had grown became for the plebs point of nocturnal gathering of witches coming from every place "riding a goat and holding a lit broom" [12] and around the tree, which thanks to some demoniac power had risen again, they would spend the night in orgiastic dances, lavish banquets and telling their misdeeds.

"The Seventeenth Century, century of witches, was over and – according to Zazo – the Eighteenth Century put its veil, not always thick enough, on the millenary legend". The Inquisition operating by means of sanguinary acts in the Germanic countries of Lutheran culture, was not successful against the Samnite witches, being that in Italy it was much more tolerant. Anyhow in the new cultural climate, more rational and worried about the purification of folk tradition, appears the figure and works of Archbishop Orsini, later Pope Benedict XIII, the most outstanding archbishop in Benevento able to spread his pastoral action, open and enlightened about all sectors and events of the city [13]. With his numerous edicts he tried to smooth away the bitter and irreducible split between light and truth, on one side, and ignorance and darkness, on the other. The VI Provincial Council of Benevento, celebrated in 1374 under archbishop Ugo Guidardi, established that the sanction for excommunication had to be applied in public, through an action of efficacious symbolism. The Cardinal though, during his numerous pastoral visits, had noticed the presence of superstitious beliefs and magic practices in the Sannio land; his description was so detailed and severe in the warning of priests and congregation, that we assume it was a wide-spread superstition, probably affecting, of course negatively, religion purity itself. "He had resorted to every expedient and means of persuasion, moral or practical, even repeatedly troubling the devil"[14]. Archbishop Orsini had strongly inveighed against certain customs connected with religious festivities as, e. g., the race of naked runners, that reminds us of races in the classical world; against an impudent sexual conceit during vintage time and against other traditions that perhaps didn't deserve such severe punishments.

He particularly inveighed against "muliercolae", silly middle-aged women who, under

[10]Zazo, A. 1968: Vita economica e sociale di alcuni paesi del Sannio agli inizi del 1800. — Samnium a. XII, 1-2: 2.11.

[11]Cangiano G., 1927: Sulla leggenda delle vipere e delle streghe in Benevento. Atti della Società Storica del Sannio. Benevento.

[12]De Spirito, A. M. 1975: La chiesa beneventana e la magia nel secolo XVIII. — Ricerche di storia sociale e religiosa **4**: 411-417.

[13] Cappelletti G., 1845 - Le chiese d'Italia. Vol. 3. Antonelli Editore, Venezia

[14]Giordano, G. 1976: Aspetti di vita beneventana (1600-1700). — Napoli.

the moonlight of the night of St. John, used to pick a *teasel* (*Dipsacus Sativus* (L.) Hockey), scorch its blossoms and observe it the next morning. The way in which the plant sprang up again was a sign of omen for the long-awaited wedding. In 1718, the Cardinal published the edict of the Holy Office, which had a vast audience for the first time in vernacular, listing all superstitious acts.

Father Serio, a colleague of Orsini's, in order to guide these poor women "distinguishes", in detail, remedies against this spell into three groups: sacred, natural and superstitious. Among natural remedies there was the rue (*Ruta graveolens L.)* mentioned by Aristotle in "Problemi". Rutam dicunt effascinationis pharmacum esse. This time nobody could have misunderstood, and excommunication or authority's condemnation were serious matters; for fear or for love, everyone had learned the lesson....at least for a while.

Between the Sixteenth and the Seventeenth century, in a society where a rural class and an urban class are not clearly distinguishable, but which is homogeneous in attitudes and beliefs, a new medical class comes into existence and increases the small clergy-patriciate-scholars group.

Medical science in Italy was making great strides, but it took a while to be operative and effective. A new trinomial comes into being: science-supernatural-religion. And in this period a new figure, representative of the times and of the whole medical class in Benevento appears: it's Pietro Piperno. He gives us a specific and influential account on Benevento's reality, swinging within a hybridism of convinced or fearful acceptation, among religiousness, mystery, supernatural and demons. Doctor by profession and responsible chief physician for the health situation in the whole city, wedged as a foreign body in Naples' kingdom, he is able to face the complex problem of therapy for illnesses originated by supernatural causes. Everything that wasn't responding to medical care, a science which was still homemade, based on galenic and Hippocratic axioms, and translated into practice through recipes based on herbs, powders, decoctions, ointments and suffumigations, was considered magic. This is not to say that there was a distinction between illnesses deriving from natural causes or the devil's power, but clearly the difference between the two sectors was fading. The list of supernatural illnesses, provided by the doctor from Benevento, is an endless sea. Looking through it we ask ourselves if there was a single disease not to be considered of supernatural origins. Among these not just psychosis and its variations, but even sneezing, asthmatic cough, headaches, constipation, sciatica, and other manifestations that according to us cannot be connected with preternatural causes. Not even in the field of infectious diseases, Piperno, being a doctor, can be considered ahead of his contemporaries .

He claims serious reservations about that rich complex of popular prescriptions, reliable and spread throughout all social classes, in which superstitious recipes generally come down to a series of words and gestures, a blend of Christian rites and folk elements (supernatural-Christian syncretism). Therapy for supernatural illnesses given by contemporary physicians was quite superficial. The physician's major difficulty was the levels difference between the supernatural spell and the natural remedy, which was generally herbs. He would most likely turn to a vast range of natural remedies suggested by the medicine of those times: from the changing of air to poultice. When using these means, he has to keep in mind the nature of the spell and act accordingly; he therefore realizes a "curatio medica" essentially divided into two steps: 1) to recognize from symptoms the illness' super-

natural origin and 2) to find and defeat the spell. Actually, the physician is treating supernatural illnesses with remedies offered by science, being careful to follow the devil's opposite path since he, too, carries out his spells as an expert doctor, though for vile aims.

Piperno cannot be considered a follower of those who, during the Renaissance, tried to give a natural explaination to reality in general and to human illness in particular. As a matter of fact, he critizes those, as Paracelso and Pamponazzi, who tried to give an explaination to the unknown power in the field of physical sciences. Though our physician distinguishes natural from supernatural casualties, he doesn't suggest the use of strictly magic medicines, but the neutralization, by means of scientific products, of spells due to external causes. The effort to give medicine a place next to real magic is remarkable; such place is very narrow and hard to protect because of the great importance given to the devil, and to his followers, in the life of humans. Worthy of mention is another aspect of this peculiar character: he turned to religion for a justification of his universe, "a world populated by thousands of devils and witches, holding regular meetings to which people of ascertainable identity participated" [15]; a world suffering from numerous evil spells of supernatural origins in which every misfortune, spell, infermity or trouble could only be blamed on witchcraft. Not only Piperno is a believer like his colleagues as we assume from the absence of contrasts with them, but he even obtains the Church's approval for his many writings on supernatural issues.

A totally different concept comes from another physician, Pomponazzi, even if belonging to the same historical period as Piperno's. He cancels every interference of the invisible world on nature's concrete power; with subtle irony he mocks devils carrying jars of ointments and medicines just as surgeons or chemists. Having rejected and ridiculed the hypothesis of diabolic actions in the light of an Aristotelian view of the world, he analyzes the most singular and secret virtues of plants and minerals passed on by a secular herbal and lapidary tradition, capable of producing effects strong enough to deceive those who know their natural virtues. In conclusion, Pomponazzi states that it is not necessary to call upon devils, there is no supernatural, no need for energies not intrinsic in nature itself; lots of facts, believed miracles or witchcraft, are the effect of natural causes and men, capable of applying them, are neither thaumaturges nor wizards.

The phenomenon of witchcraft thrilled Gerolamo Cardano too, a curious historical investigator of problems of all sorts; in "De rerum variegate", his huge encyclopaedia, he deals with those women people call witches meaning little women living in poor conditions down the valley, feeding on chestnuts and herbs. They are emanciated, disfigured, wan, with bulging eyes and their temper seems melancholy and irascible. They know virtues of numerous herbs, cures for difficult illnesses and other not despicable things [16]. Cardano didn't deny the existence of wizards and hags, nor he doubted about the empirical reality of their actions. Indeed, as Pomponazzi had mentioned, it was a matter of seeing if and how this magic custom could have been adapted to a natural basis and find at least a partial justification. Witchcraft ended up being an excessive form of exaltation, of

[15]Miele, M. 1975: Malattie magiche di origine diabolica e loro terapie secondo il medico beneventano Pietro Piperno. — Campania Sacra Dehoniane, Napoli **6**: 198-223.

[16]Bonomo G., 1971: Caccia alle streghe. Palumbo editore, Palermo.

self-deception, steady and compact enough to make subjects believe of participating to a real event, of living and experiencing moods and situations real only through imagination, but if pushed to paroxysm they would become in time a constant element of the mind, of memory, of tradition, of global behaviour [17].

Not long after, Pomponazzi wrote prophetic words about diabolic arts: "there are numerous inventions, sciences or arts that are commonly believed the devil's, but before the world gets too old, it will be clear that the devil has got nothing to do with these things ... what now seems impossible will become real and what now is considered superstition in a hundred years' time will be the basis for official science of the next century" [18]. In those days, in fact, science was dangerous especially for those who were a step ahead. Men and women expert in medicine, guardians of some herb secrets healing illnesses, were inevitably accused of witchcraft. It was wide-spread knowledge that hags had a pharmacological collection, today we define it so because we know those herbs' effects; when these herbs were employed, witches were convinced of putting a ritual into practice. Stupefacient herbs, not easily measurable thus quite often excessive, caused hallucinations during which people had terrifying visions of haunting or marvellous realities. The use of such substances that, for toxic action or simply inebriating, were capable of inducing delirium or exaltation, is very ancient in religious ceremonies, where those belonging to witchcraft represent a continuation dedicated to infernal spirits. Taken as decoctions or potions, inhaled as fumigations, absorbed through the skin or mucosae, these substances produced hallucinations constantly guided by the individual's firm belief to belong, by means of a terrible union, body and soul, for life and ever after, to the Devil.

News about plants whose juices were extracted, filtered and used by witches for the mysterious ceremonies, can be found in books of magic as well as medical treatises, that mention them, especially in processes acts, inquiry books and, indeed, witches' confessions. "The witches' ointment", the most famous, often mentioned in processes and even described by physicians, consisted of Hemlock (*Conium maculatum* L.), Mandrake (*Mandragora autumnalis* Bertol.), Henbane (*Hyoscyamus niger* L.) and Belladonna (*Atropa bella-donna* L.).

This last herb, in the Middle Ages called "witches' herb", was the one causing the hags' sensation to fly to Sabbath.

The Mandrake, herb known in botany and pharmacology as well as in literature, was another ingredient for magic potions. Stramonium (*Datura stramonium* L.), also known as jimsonweed or "the devil's herb", had the property of producing terrifying visions and total unconsciousness during the preparation of its infusion or philtre. It caused a sort of lucid insanity during which the subject could have performed the most criminal actions, with no recollection whatsoever.

Aconite (*Aconitum* L.), other plant belonging to witches' equipment, caused a deep lethargy similar to catalepsy. Colchicum (*Colchicum neapolitanum* Tenore) generated deep terror and horrible visions. The infusion of the leaves and the ointments prepared with them had a highly toxic action, therefore they had to be used in moderation.

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[17] Adriani M., 1970: Italia magica. La magia nella tradizione italica. Ente per la diffusione e l'educazione storica. Biblioteca di storia patria. Roma.

[18] Allendy R., 1942: Paracelo, il medico maledetto. Bocca editore, Milano.

Cannabis (*Cannabis sativa* L.), spread and user later, caused delirium in which conscience was not totally asleep, but its constant use generated severe mental disorders and sanguinary madness.

And, at last, Opium (*Papaver somniferum* L.), main drug in magic potions, generating drowsiness, hallucinations, dreams, was a supporter of the action of the other drugs in the mixture. As decoction of poppy flowers or as infusion brewed from poppy-heads, its effect was always, more or less, stupefactive.

Together with these plants, many others were used in potions and ointments.

Witches and wizards knew the secrets of herbs and their hidden effects, often not understood by doctors. Careful observators of nature, not only they knew precious virtues of simple remedies, but they also extended their knowledge to human psychology and, from this science, drew sure information apparently revealed by mysterious sources. Quite often they dealt with real medicine, becoming actual doctors for those who, for cultural and economic conditions, couldn't afford a physician, rare character, considered a luxury only for "lords". With their ointments, they soothed and calmed pain; ointments are generally herb juices that for their soothing effect are called "solanaceous", that means "consoling" and from which our pharmacopoeia has derived lenitives and sedatives. Beneficial and harmful effects walked side by side: death by means of subtle merciless poisons, philtres originating strange weakness and illnesses impossible to be diagnosed, were all part of a witch's dreary realm [19].

Witches and wizards are those who, for experience, gift or revelation, know nature and act accordingly. For this reason magic is close to science. Part of the knowledge has been acquired and verified through experience and experiments. Wizards were the first poisoners, the first surgeons, and have carried out important discoveries in the field of metallurgy. And from this point of view, through the observation that both rely on concrete properties and effects, the relationship between magic and science strongly exists [20].

Popular imagination though, always in search of the extraordinary, was deeply influenced and believed of "having seen", "having heard". On the other hand, witches challenged the stake, they were proud of their occult powers, committed crimes and gruesome rites, which were probably just their imagination. It goes without saying that for their acts of bravado, even if no evidence was found, witches were sent to the stake.

The common witch had blended with the fantastic figure of a heretic, a rebel against authority, a profaner of the Orthodox liturgy. State and Church saw her as a danger, therefore witchcraft was the realization of a sect that had to be unrooted by all means [21].

Indeed witchcraft is a wide page in the history of human pathology where the morbid aspect and the deceitful spirit of man against another man's trust and credulousness weave grotesque farcical and tragic stories. Witchcraft shouldn't be considered with attitudes of derision or superficiality. It represents a deep psychological and tragic phenomenon upsetting, for centuries, the soul of the world. It is a frightening tale which has been lived for a whole era of our history. A tale that has proved real in the atrocious tortures and in the

[19] Di Maria C., 1967: Enciclopedia della magia e della stregoneria. Giovanni De Vecchi, Milano.

[20] Adriani M., 1970: Italia magica. La magia nella tradizione italica. Ente per la diffusione e l'educazione storica. Biblioteca di storia patria. Roma.

[21] Alaimo G., 1979: Caccia alle streghe. Edizioni Mediterranee, Roma.

excruciating executions. "The witch hunt", most likely inspired by the biblical versicle "You will not allow witches to live" (Exodus, XXII-18), broke out throughout the centuries, persecuting even those who were not witches. When facing the Age of Enlightenment, reason was the dissolving measure of tales and superstition as well as searcher of objective truth, therefore magic seemed the figure most imbued of a spirit to criticize merciless. In this crusade against tradition and superstition, justice must be done not only to magic, but also to that sort of human participation saving the numerous formation of wizards and witches, showing the vanity of magic and pushing it towards the acceptable area of natural phenomenon. The magic phenomenon, of great importance throughout all European civilizations, is also a folklore issue, as connections within fundamental witchcraft motifs, some beliefs and superstitions, not canceled yet from popular traditions, show; moreover, they have been lasting in the life of the Samnite province, within a changed world and ideology. Beliefs and fears that for centuries oppressed common people and middle class and seriously worried governments, have not faded away as the smoke coming from the stakes lit by them. They lasted up to our times, with no continuity solution and in a more mitigated form.

Witches haven't disappeared at all, but modern hags only have the power of will, of suggestion and attraction left, powers which make up the "natural part of the occult science". Out of all popular superstitions and beliefs, the ones regarding witchcraft don't come to us as remains of a huge shipwreck, but the most original document of a particular way of interpreting life and the world. The desire to dominate nature, the need to own means that can change the course of events, the idea of not taking everything passively, are undoubtedly constants to be found in the history of all people, all races, all cultural levels or eras. Actually the need for magic is to trace back to man's existential condition itself, his feeling abandoned, constantly dominated by anguish thoughts which lead him to seek support and relief within the supernatural, both divine and diabolic. Man of antiquity, of Middle Ages, of Modern Age, of all times, tries to react to this deep solitude; among all means, he uses magic, i.e. particular gestures, rites, practices, with the precise will to compel forces of nature to intervene in certain ways.

Appendix 3. The Regio Tratturo in the Benevento territory*

Introduction

Today we call "tratturi" (from Latin *Tractoria*) those precise routes marked on land and on cadastral registers, sometimes wider than 100 metres (as the Aragonese constitution states) consisting of a net of itineraries which flocks and shepherds travelled for transhumance twice a year: in spring towards mountains, in autumn towards plains.

"The most important monument in the economic and social history of the territories involved with seasonal migration of the herds". Law by decree of the Ministries for Arts and Culture and for Environment, give tratturi this definition.

The millenary history of routes, that can be identified as the "first highways" in Italy during the evolutive processes of commercial activities, of interaction among peoples and therefore of cultural exchanges among different civilizations, assigns to tratturi the funda-

*English translation of original texts by Dr. A. M. Terranova.

mental role of learning growth about farming activities, handicrafts, and shops connected to the kind of rural interest and cattle-breeding.

In times when money was out of reach, ancient populations lived on goods trade, exchanging anything they produced; this "modus vivendi" found along the tratturi its best expression. The people involved with transhumance were connected to the people of the fields and so food products coming from sheep farming activities were traded for agricultural products. Interactions between people from inland areas and people coming from the coastal areas of Central Italy started a remarkable trade process, useful to activities of the whole community and to commerce, as well as an efficacious input to cultural and economic development. The periodic moving of the flocks has been a chance of transmission of thought even between far away territories, participating to the definition of a first homogeneous Italic culture. Farms' birth and development strengthened the efficacy of cultural and commercial flows and are today considered the most remarkable monumental emergence along the tratturi routes.

Thanks to seasonal moving of the flocks, shepherds had continuous relations with the more advanced population of the coastal area, from whom they learned metalworking and clay making techniques. From hunters, they became seminomadic farmers, destined to give origin to a new culture. Samnites, first, and Romans, later, turned these places into an important crossroads.

The existence of these "natural roads" set up a process of economic development strongly affected by the actual use of such routes. As a matter of fact, the most profitable economic activity in the ancient Sannio area was represented by cattle-breeding and the manufacturing of the products deriving from it, i.e. wool, hide and dairy products which had established a market in the Campania and Apulian territories. They were exchange merchandise for what was not produced there (agricultural produce) and had to be imported.

The "green routes" were not just "routes of the flocks", but implied also exercise, commercial and cultural trade, achieving a fundamental socio-economic role named "transhumance civilization", determining human settlement and participating to the general layout of the territory and to the organization of rural landscape.

Not mere through-way corridors, but road axes furnished with services and equipment for men and animals. Along the tratturi developed factories, churches, inns and flourishing towns.

In Molise there are over 70 centres along the tratturi; among these the important cities of Campobasso, Isernia and Boiano, while in Campania, particularly in the Benevento area eight settlements have risen along the traced route of the tratturo (Pescasseroli-Candela). The first constructions along the tratturi were dry rock shelters: "pajiare", which had lots in common with the Apulian trulli, displayed a peculiar roof: wood and straw consisting of numerous species of long-stem grass.

Today no longer used as lines of communication for people, animals or goods, tratturi have become great open-air museums, where stratification carried out over the years by overlapping civilizations is still visible, in many cases from prehistory to our times.

Tratturi

The succession of seasons, the biological cycles of vegetable grass species and their phenology establish that, in summer, grass is luxuriant in mountains, while in the plains, it

becomes so during the winter: presence/absence alternation of this primary resource has always forced herbivorous mammals to migrate periodically from mountains down the valleys and viceversa, followed by carnivorous mammals and by the first hunters and hominids.

These places' nature and morphology, the presence of water and of pasture, have established favourite paths and routes for migration, followed also by Homo sapiens who became nomadic shepherd and practiced transhumance in the Apennines about 6000 years ago.

In 1908 a law providing alienation of all tratturi saved four of them: L'Aquila-Foggia, Celano-Foggia, Castel di Sangro-Lucera, and Pescasseroli-Candela.

This work will deal with the lattest and particularly with the Samnite-Benevento sector.

The Pescasseroli-Candela tratturo originates in the hills of the Southern Tavoliere, where all flocks met to winter in the farms of Ortanova, Cerignola and Stornara, areas today engaged with farming and permanent breeding. From Candela the tratturo goes down the Carapelle valley, hugs the Cervaro's and at Ariano meets Casalbore, hits the Tammaro and Biferno rivers and goes on towards Isernia. It then goes up the Sangro valley reaching the Marsicano. From the north, the Regio tratturo penetrates Campania through a ford of the Tammaro, just up the confluence with the Rio Fratto stream springing from the lower slopes of the Matese, between Sassinoro and Sepino.

Particularly in the Benevento sector, the tratturo runs for 25 Km through the territory of eight communes: Buonalbergo, Circello, Morcone, Pesco Sannita, Reino, S. Giorgio la Molara, S. Marco dei Cavoti, Santa Croce del Sannio. Starting from the westernmost point level with Collalto (718 m above sea level) toponym, it goes eastwards for about 6 Km reaching Contrada Cardella (ca 800 m above sea level) toponym, level with Colle San Martino (854 m above sea level) which represents the highest point of the Campania stretch; then it heads towards SSE waving for about 18 Km till Buonalbergo, level with Mass. Scarpuzza (550 m above sea level) toponym, abandoning here the Benevento territory to enter into the province of Avellino. Its route crosses numerous streams as e.g. Rio Freddo, T. Tammarecchia, T. Reinello and goes along the Tammaro river for about 2 Km in the territory of S. Giorgio la Molara at 260 m above sea level.

From a global view of the Campania outline, geographical references show how important this route was for connections between L'Aquila and Naples; it is, together with other tratturi, the passage towards southern areas, through the mountains of the Sannio, for flocks coming from the east of the Tavoliere and from southern Molise.

Such tratturo coincides with via Minucia, named after the ancient Roman family. But as a total of 212 Km, its history is much more ancient: if written testimony of the tratturo goes back to Roman times, layouts are connected to the very ancient tracks of protohistoric era for populations living on our territory before the Roman conquest. The Samnites found these paths already modified by man and beaten by flocks in transhumance. In the V and VI centuries, they built, along these busy tracks, the most beautiful fortifications, still well-preserved. Along the Pescasseroli-Candela we remember the centres of Sepino, Boiano - capital of Pentri Samnites- and Larino, cities owing their fortune to their crossroads location.

Afterwards, the Romans classified the herd tracks as "calles pubblicae" (public roads), watched over them and regulated them with laws, protecting herds and herdsmen, sheep

and shepherds. They realized the enormous richness that derived from sheep farming. The term "pecunia" (money) comes from the Latin "pecus" - sheep - and protecting pasture lands they protected tratturi as well: since then the tratturo's destiny has been strictly connected with transhumance development.

Therefore, when transhumance developed industrially, tratturi became as wide as highways: 111 metres and 63 centimetres, width by no means reducible. The Aragonese people established their width together with other regulations in a complex legislation and a business administration called "Customs of the sheep leading" of 1447. Surely those days' transhumance involved at least two or three million sheep.

Even later on, tratturi were protected by strict laws: during the Spanish period anyone "unrooting or moving" milestones along the borders of tratturi was punishable by death.

In our times, traces of the tratturo are perfectly visible on the land, exactly as marked by ancient maps (the most ancient list of tratturi goes back to 1533). Tratturi were essential to sheep farming and for a rational exploitation of the location (that is of all pasture lands); as a matter of fact over the centuries there have been several recoveries of lands illegally occupied by peasants.

After reaching its apogee in the Aragonese period, transhumance starts its decline and so do tratturi. In 1865, a law stated that tratturi had to be left unaltered, at least temporarily; they could have been bought by neighbouring land owners for an estimated price.

Lately, other laws have safeguarded tratturi, but tracks are progressively fading away, starting from the Spanish period. Part of them legally, for allotment, or illegally, for usurpation, started to become fields under cultivation. In the meantime, some towns were built on the tratturo soils, becoming consequently the town's property.

Today's tratturo is about 60 m wide: travelling through it is a discovery not only of landscape and agrarian elements but also of human and environmental dimension: the same dimension shepherds have left along this "wide trail of grass and stones, desert, irregular, quiet, as marked by a gigantic track".

Tratturi are regulated by ancient legislations: they are State lands allotted for herds, and as such they are equalized to roads (art. 822 c.o.), they are inalienable except as stated by law (art. 823 c.c.). The State or the territorial boards, as public administration have duties of supervision, preservation and tutelage.

They lose features of State ownership and become patrimony through declassing procedures, consequent loss of property and the filling of official records (R. D. 30.12.23 n. 3244).

D.P.R. (Decree by President of the Republic) 24.7.77 art. 66 has appointed Regions for administrative functions of agriculture and forestry, previously State's competencies.

Provisions involving several territories have been adopted by the interested Regions, upon agreement.

The Campania Region, involved with the tratturi of Avellino and Benevento, carries out administrative activities through the Agricultural Department, provided that it doesn't compromise their preservation.

The whole Regio tratturo is a fundamental element of prehistoric planning. Nearby there is one of the most important prehistoric settlements in Southern Italy: the hill of Starza. Its importance lies, above all, in the outstanding continuity of recorded civilizations

from the Neolithic era to the Bronze Age. This calcareous hill is situated in the center of Irpinia, in the territory of Ariano Irpino, where Ofanto and Calore basins meet.

Probably due to its strategical position (geographically, the mountainsides passage is easier), the place has attracted "culture" of numerous eras.

There are five great historical periods documented successively at the Starza:

At the beginning of the V millennium B. C., some Apulian groups settle there; this information comes down to us through some Adriatic engraved ceramics and red simple striped vases (the "aultura" of Molfetta developed in Apulia during the Middle Neolithic age), then followed by the spreading of graphite ceramics ("Matera") and other lustres with no decoration.

Between 4500 and 3700 the site belongs to a culture of painted ceramics and witnesses the style intersection of Serra d'Alto, Diana and Bellavista. Pitchers and cups with meander and ideogram painting endowed with handles and tortuousness are testimony of this culture.

As for the following millennium, the area develops its activities becoming an important link of the peninsular exchange chain involving the groups with black shining ceramics (Lagozza) and Adriatic, Lazio and Campania copperplates (Conelle, Rinaldone and Gaudo cultures). Trades of Tyrrhenian groups Piano Conte bring obsidian from Lipari and Palmarola, manufactured here and then delivered eastwards and northwards. The introduction of copper contributes to the changing of Europe, suggesting the idea of wealth and accumulation, and eagerness for social prestige.

The III millennium brings to Irpinia the Apennine culture, based on a multiple economy in which commercial enterprises acquire remarkable importance. Such culture is rather important for the civilization of Italy because it will be the basis of that Italian culture characterized by sheep farming and ceramics economy.

Testimony of Apennine culture is some rough earthenware for fire and victuals, decorated according to northern fashion.

Throughout the whole II millennium, the Bronze Age, this location flourishes with production and commercial activities typical of the Apennines and the local potters perform splendid decorations on dark ceramics, of engravings filled with whiting and invent new kinds of handle shapes.

The site's life extinguishes with proto-Villanovan traces; perhaps the increasing population abandoned the rocky rise for a larger place, at the end of the II millennium B.C. Visitors can admire main archeologic finds in the Museum of Avellino since, on the spot of the crumbled hill, studies and excavations are being carried out (various authors, 1990).

Environmental features of the Regio Tratturo

The landscape typology consists of round and soft hills carpeted with arboreous vegetation, especially in the northern portion.

Typical geometric shapes of spherical sectors overlapping and stacking up are the result of morphogenesis in marine and lacustral surroundings in which the consistency of their matter (friction inner angle) has determined the constant and equal side inclination, thus the essential features of the landscape.

Far and westwards is the southern Apennine range that here displays wide continuity fractures through which Calore and Caudina valleys open up: authentic natural fortresses rise with the massif of Matese to the north, of Camposauro-Taburno in the central part, of Partenio and Terminio to the South, last geological remains of the carbonaceous platform of the tertiary period.

Because of such fractures the Tyrrhenian-Adriatic watershed jumps from the Apennine range to the hills of the tratturo which meet at Ariano Irpino, passing from the valley of Miscano -Calore's tribute- to the valleys of Cervaro and Carapelle –both Adriatic streams. So, generally, the landscape is affected by both Mediterranean air masses coming from the Tyrrhenian Sea, and colder air from the Balkans, determining features of natural weather variability.

The morphology of the area within the basins of Tammaro, Tammarecchia and Miscano, all tributes to Calore, and of the basin of Cervaro, consists of a vast hill region where generally marine Pliocene deposits emerge.

Carefully looking at the territory, we distinguish two areas: a western one within the Tammaro-Miscano basins, where peaks reach heights of 400-900 m, and another one within the Cervaro basin and the high flow of Carapelle with heights inferior to 600 m.

In the first area the most ancient lands of the Upper Miocene emerge, followed by more recent Pliocene deposits. Here morphology, still hilly, presents higher peaks than the second area.

In the lattest, coinciding with the Tyrrhenian watershed, the vast plains and soft hills are due to remainders of ancient nature higher peaks morphologies, spotted during the Upper Pliocene and the Lower Pleistocene, and deeply altered by linear erosion. Such areas have been dismembered by Quaternary tectonics with different altitude dislocations.

Marine sediments of the Lower and Middle Pliocene cycle of both areas consist of sands and yellowish bivalvular sandstone with argillaceous and siltstone insertions and thin layers of cobbles; moreover, they consist of polygenic pudding-stones with thin argillaceous and sandy lenticular layers. Such coarse sediments, 300-350 m high, lie unevenly on the lands of the Messiniano (Upper Miocene).

Throughout the whole area, lithotypes run into landslides phenomena; nevertheless, in the area, two orders of perched sub-ground surfaces, compared to the fluvial talweg, are still distinguishable. The first is over 500 m and is perfectly connected with the lower second. The second is perched, compared to the valley floor to which links through a "triangular facets" fault side, in mainly argillaceous lithologies. This side's new formation proves very recent neo-tectonic movements.

The climate, as throughout southern hilly and mountain Apennine, is characterized by irregular rain distribution. The rainy season goes from October to December and highest records belong to November (years 1921-1950 average: 11 rainy days, 120mm rain). In the period that goes from late December to the beginning of March, rains have snowy features.

Temperatures are quite low but they never reach those endangering olive trees which grow well in this area, on those lands not exposed to cold winds or heavy frost. The coldest month is February (average T is 2,6° C, min. –5,5° C), and the hottest is July (average T is 21,9° C, max 30,2° C).

The ancient Italic wood consisting of typical associations of oak groves and Turkey oaks in the northernmost area, permeated by more hydrophilic species (poplars and wil-

lows) along the streams, has been transformed into green sowable land, with olive trees, grapevines and orchards around urban centers that dominate the territory for their strategical positions and connected by different kinds of roads.

The succession of the seasons gives birth to suggestive chromatic effects in the landscape showing all tones of green with colourful flowers on fields and trees, in spring; lively contrasts, in summer, with yellow of the fields and the green of the trees; even more contrasting is autumn when the brown land and fields are interrupted by strong yellow and deep red of caducous leaf trees underlined by the green of olive groves; homogeneous again in winter, all dusky brown interrupted by the green of olive groves and by some white and pink sprays of cherry trees announcing spring. As regards floristic aspects, it is important to underline that this sector of Regio tratturo is the only territory in Benevento with little human presence, over the millenniums. Along its track, because of territory variations, there are calcareous pebbly areas with argillaceous soils, and cooler zones in correspondence with streams and riversides.

Due to morphologic diversification and according to the distance of waterstreams, to mountains variations, to lithotype and edaphic conditions, it is possible to survey a numberless presence of rare and endemic vegetable grass species; numerous are also geophytes and rhizomatous. Moreover, there are neophytes and archeophytes, which have generated, in some spots, anthropophytism phenomena. Vegetation is above all grassland with occasional presence of shrubs and isolated trees of durmast (*Quercus pubescens* Willd.) and of Turkey oaks (*Quercus cerris* L.), sometimes reaching remarkable dimensions. Level with the lotus areas, there are hygrophilous species both herbaceous, shrubby and arboreous. The authors of the present work started this kind of floristic inquiry on the tratturo of Benevento 18 months ago and are still working at it, therefore they call off to a following work further studies on the matter.

There are eight communes rising along the Pescasseroli-Candela Regio Tratturo (Morcone, S.Croce del Sannio, Circello, Reino, Buonalbergo, S.Giorgio la Molara, S.Marco dei Cavoti and Pesco Sannita).

Besides these towns, there are also some important villages and town centers in the province of Benevento. This vast territory welcomes some toponyms that recall the attention of the authors, since they are identified as phytotoponyms. An example is Narciso (narcissus) Massif, 622 m above sea level, within the Tratturo track and on Circello's territory. And then Verzino (sappan) Massif, 476 m above sea level, ca 250 m away from the Tratturo's trail and on Reino's territory. The same goes for Selvapiana, Rose, Silvestre all identifying the presence of different topsoils, arboreous or shrubby, and in some cases, even of cultivated areas as Verzino, term which in the province of Benevento means cauliflower (*Brassica oleracea* L. var. *botrytis* De Candolle subsp. *cauliflora*).

Appendix 3. Index of the species

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Stampato nel mese di Novembre 2003
presso la Tipolitografia Luxograph s.r.l.
Piazza Bartolomeo da Messina 2/e
Palermo