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A contribution to the study of Sardinian Aphyllophorales*

Abstract

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The results of more than ten years of researches on the distribution of Aphyllophorales in Sardinia are presented. *Aleurodiscus ilexicola* Bern. & Ryv. and *Phellinus juniperinus* Bern. & Curreli are recently described as new species; *Dendrothele nivosa* (Höhn. & Litsch.) Lemke and *D. incrustans* (Lemke) Lemke are reported as new European records while more than twenty species are reported as new to the Italian mycoflora.

Introduction

The investigation on distribution of Aphyllophorales Rea in Sardinia started in 1982 and is still going on.

So far, about 200 species and more than 400 specimens have been found. Most of them belong to the *Corticiaceae* s.l. and *Polyporaceae* sl., but many other families of Holo- and Phragmobasidiomycetes have been registered.

The best investigated areas of Sardinia are: Badde Salighes, Supramonte of Orgosolo, some forests nearby Aritzo and Arzana in Nuoro province; Badde Longa, Burgos and Goceano Forests in Sassari province; Gentilis, Collinas and Is Antiogus in Cagliari province and Is Arenas, Ala Birdi, S'ena Arrubia and Mount Arci in Oristano province (Fig. 1).

These areas are very different in vegetation and altitude, varying from the coastal pine forests of Is Arenas, Arborea, Ala Birdi, St. Lucia to the hilly machia forests of Badde Longa, Is Antiogus, Gentilis to the mountainous forests of 800-1000 m of Mount Arci, Burgos, Badde Salighes and Supramonte of Orgosolo.

Field work took place during November, every second year. The specimens are preserved in HUBO (Herb. Universitatis Bononiensis).

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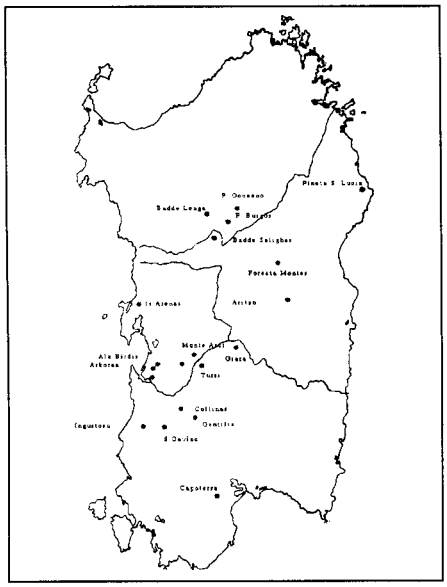
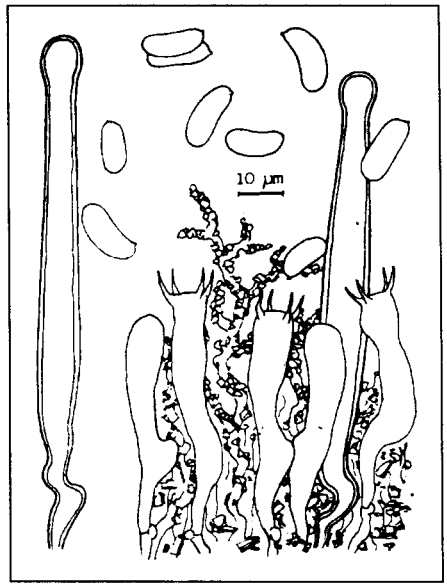
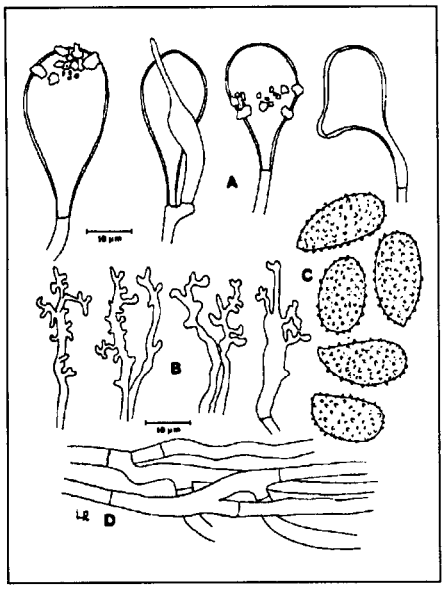
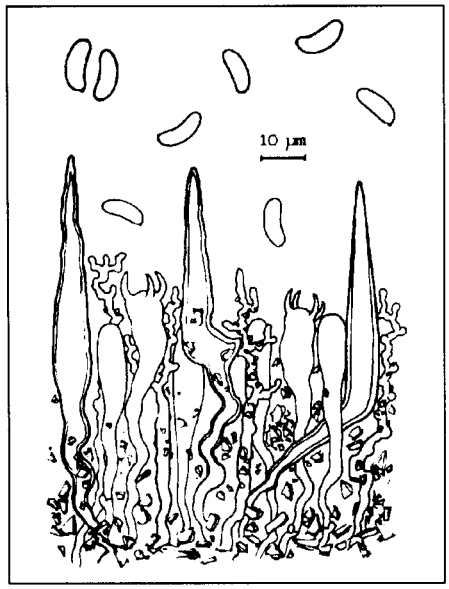
* Based on a paper presented at the Arzana (Nuoro) Congress, 5-8 November 1992.





Figs. 1-2. Investigated areas in Sardinia (left); microscopic characteristics of *Vuilleminia macrospora* (right).





Figs. 3-4. Hymenial elements of *Aleurodiscus ilexicola* (left); microscopic characteristics of *Vuilleminia cystidiata* (right).

Results

The island of Sardinia, owing to its geographic position in the Mediterranean, its climate and vegetation, occupies an important position in my study on the distribution of Italian Aphyllophorales.

I have collected numerous species new to Italian mycoflora. They are more than twenty and among them the more interesting are:

Vuilleminia macrospora (Bres.) Hjortst., a thermophilous species (Fig. 2), collected on twigs of *Cistus* and on *Helianthemum* sp. in Is Arenas, a coastal park with pines. Many collections were on small logs of *Acacia cyanophylla* used as wind break during the replanting of the park (Bernicchia 1986a).

Peniophora versicolor (Bres.) Sacc. & Sydow. was found in Is Arenas, Mount Arci and Is Antiogus and is a Mediterranean species with a distribution in a few Mediterranean countries.

Badde Salighes (Nuoro) is a characteristic forest with *Ilex aquifolium* and *Taxus baccata* (several centuries old and many with wounds or cavities along the trunck where *Oligoporus balsameus* (Pke.) Gilbn. & Ryv. grows). In that forest *Aleurodiscus ilexicola* Bern. & Ryv. (Bernicchia & Ryvarden 1988) have been found on *Ilex aquifolium* (Fig. 3) and *Vuilleminia cystidiata* Parm. on *I. aquifolium* and *Crataegus* sp. (Fig. 4).

The Supramonte of Orgosolo is an extensive forest and exibits a large variety of habitats very rich in Aphyllophorales, including *Chaetoderma luna* (Romell) Parm., an uncommon species (Fig. 5); *Hyphoderma cryptocallimon* De Vries with pretty cystidia (Fig. 6); *Kavinia himantia* (Schw.) Erikss. (Fig. 7); *Melzericium udicolum* (Bourd.) Hauerslev., *Oligoporus mappus* (Overh. & Lowe) Gilbn. & Ryv. (Bernicchia 1990b) and *Ypsilonidium sterigmaticum* (Bourd.) Donk with characteristic basidia (Fig. 8).

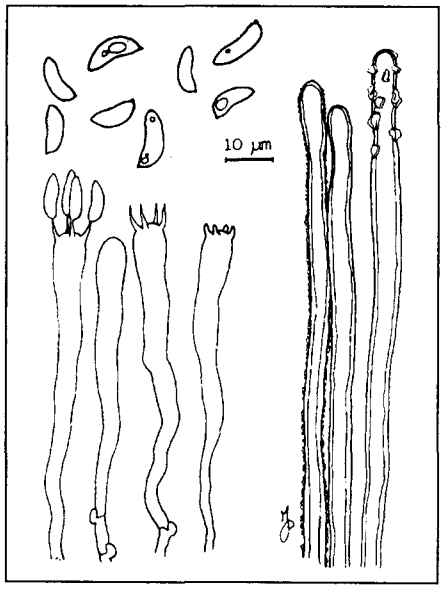
I concentrated my field work on *Juniperus oxycedrus*, *Rosmarinus officinalis* and *Helichrysum* spp.

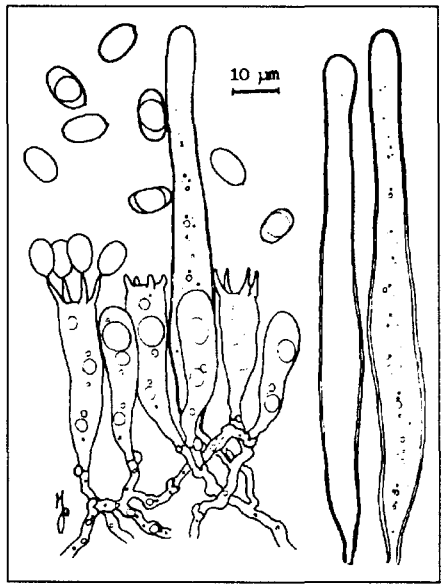
On Mount Arci, *Phellinus erectus* David, Dequatre & Fiasson (Bernicchia 1983) has been found at the base of living *Quercus ilex*, collected for the first time in France and then in Portugal and Jugoslavia, and also *Vuilleminia megalospora* (Bres.) Bourd. & Galz. on dead or partially dead branches of *Q. ilex*.

The typical North American species *Dendrothele incrustans* (Lemke) Lemke, growing on living *Taxus baccata* in Badde Salighes Forest (Fig. 9) and *D. nivosa* (Höhn. & Litsch.) Lemke (Fig. 10) on *Juniperus oxycedrus* in Supramonte of Orgosolo (Bernicchia 1986b) must be considered new to Europe, while *D. maculata* (Jacks & Lemke) Lemke growing on *Q. ilex* (Fig. 11) has been previously found on *Q. pubescens* in the Calabria National Park (Bernicchia 1990a).

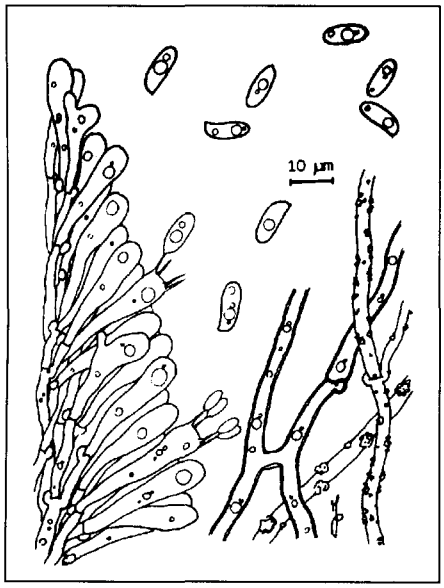
Gyrodontium sacchari (Speg.: Fr.) Hjortst. is a particularly interesting find and is under detailed examination in order to prepare a comprehensive description.

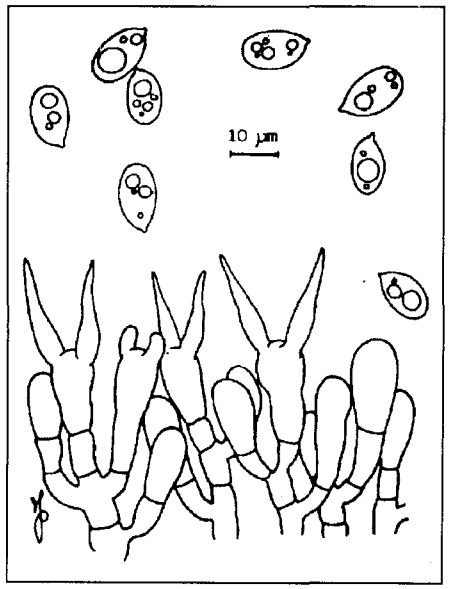
Among the polypores typical of Sardinia and never collected before in other regions in Italy we can point out *Perenniporia rosmarini* David & Malenç. growing at the base of *Cistus* in Badde Longa Forest; *Phellinus juniperinus* Bern. & Curreli first collected in maquis at Gentilis and then in some other areas of Nuoro and Sassari provinces but always on *Juniperus oxycedrus*; *Phellinus rimosus* (Berk.) Pil. at the base of *Pistacia lentiscus* also in maquis at Gentilis.



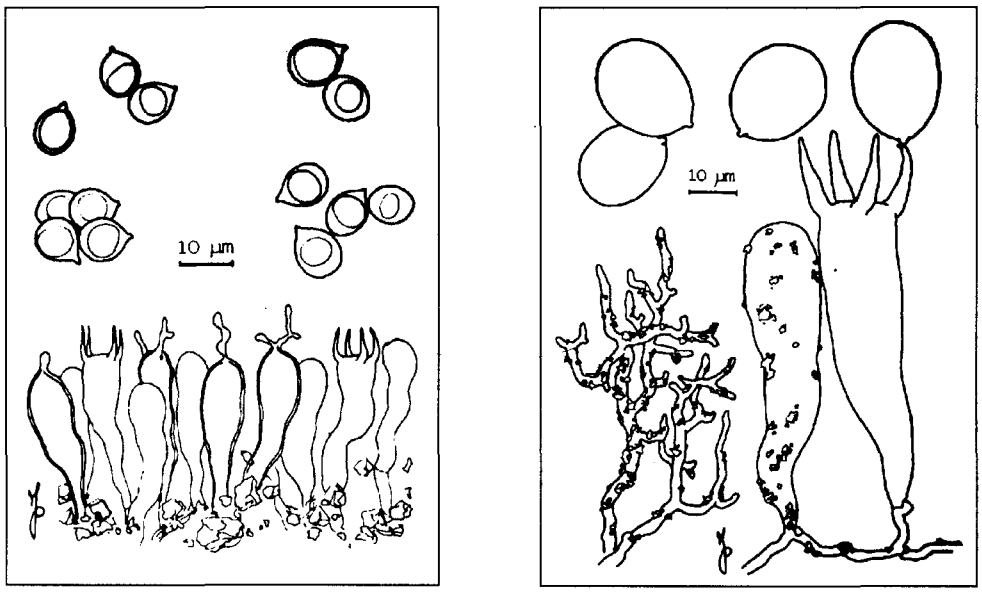


Figs. 5-6. Hymenial elements of *Chaetoderma luna* (left) and *Hyphoderma cryptocallimon* (right).





Figs. 7-8. Microscopic characteristics of *Kavinia himantia* (left) and *Ypsilonidium sterigmaticum* (right).



Figs. 9-10. Microscopic characteristics of *Dendrothele incrustans* (left); hymenial elements of *Dendrothele nivosa* (right).

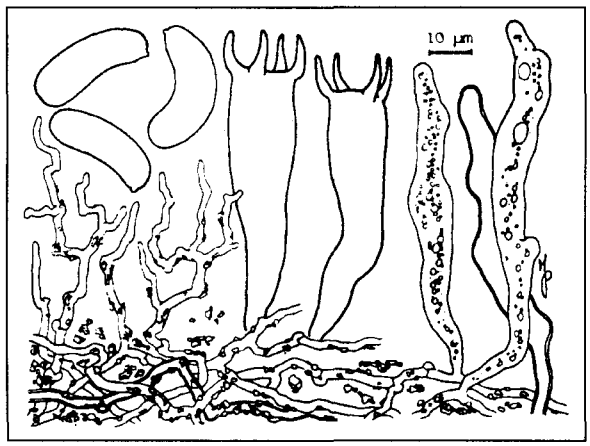


Fig. 11. Hymenial elements of *Dendrothele maculata*.

Conclusions

My investigation on the distribution of Aphyllophorales in Sardinia, started more than ten years ago and concentrated on the provinces of Nuoro and Oristano, has pointed out some species considered characteristic of the island. The habitats and unusual vegetation types have allowed the occurrence of a number of rare species, sometimes new to or with a very restricted distribution in Europe. I am hopeful that further researches extended to Cagliari province, particularly to sand dunes and coastal maquis, will result in many other species new to Italy.

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