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New face of Atlas Florae Europaeae

Abstract

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Several fundamental changes have recently taken place in the mapping program of the European vascular plants for the *Atlas Florae Europaeae*. At the moment volume 13 (part of *Rosaceae*) is being edited according to the new program. The most important change is the adaptation of a new grid system. Further, a special simple software "*Atlas Florae Europaeae Data Editor*" has been developed to provide the mapping data and to save the information as a database. Prospects for the future of the *Atlas Florae Europaeae* are discussed.

Introduction

Mapping of the taxa treated in the first volume of *Flora Europaea* was completed in 1999 when volume 12 of the *Atlas Florae Europaeae* (*AFE*) was published. This means that altogether ca. 1800 pages and 3270 maps, covering more than 3700 species and subspecies and consisting about 710 000 dots or other mapping symbols, have been published since the launching of the Program on the Mapping of European Vascular Plants in 1965 (Jalas & Suominen 1972–1994; Jalas & al. 1996, 1999). Roughly a little more than 1/5 of the European taxa have so far been mapped. The printed volumes have been the main output of the *Atlas Florae Europaeae*. For a few years, the maps have also been available in digital format.

The 12 published volumes of *AFE* cover the first volume of *Flora Europaea*. Volumes 13–16 will consist of *Rosaceae*, the first large and in many ways complicated family of the second volume of *Flora Europaea*. Volume 13 of *AFE* (subfamily *Rosoideae* pro parte; ca. 300 taxa), shall be published in early 2004 (Fig. 1). Volume 14 shall cover *Rubus*, with ca. 670 taxa (largely apomictic); the first version of the text already exists, written by Prof. E. Heinrich Weber (Vechta). The volume will proceed in a way somewhat different from the customary volumes. Also *Alchemilla*, another large and predominantly apomictic genus, will be published as a separate volume; a draft text (430 species) already exists. The fourth volume of *Rosaceae* shall be devoted to the woody subfamilies *Maloideae* and *Prunoideae*.

New Atlas Florae Europaeae

In the forthcoming *Atlas Florae Europaeae* volumes the contents of the text and the

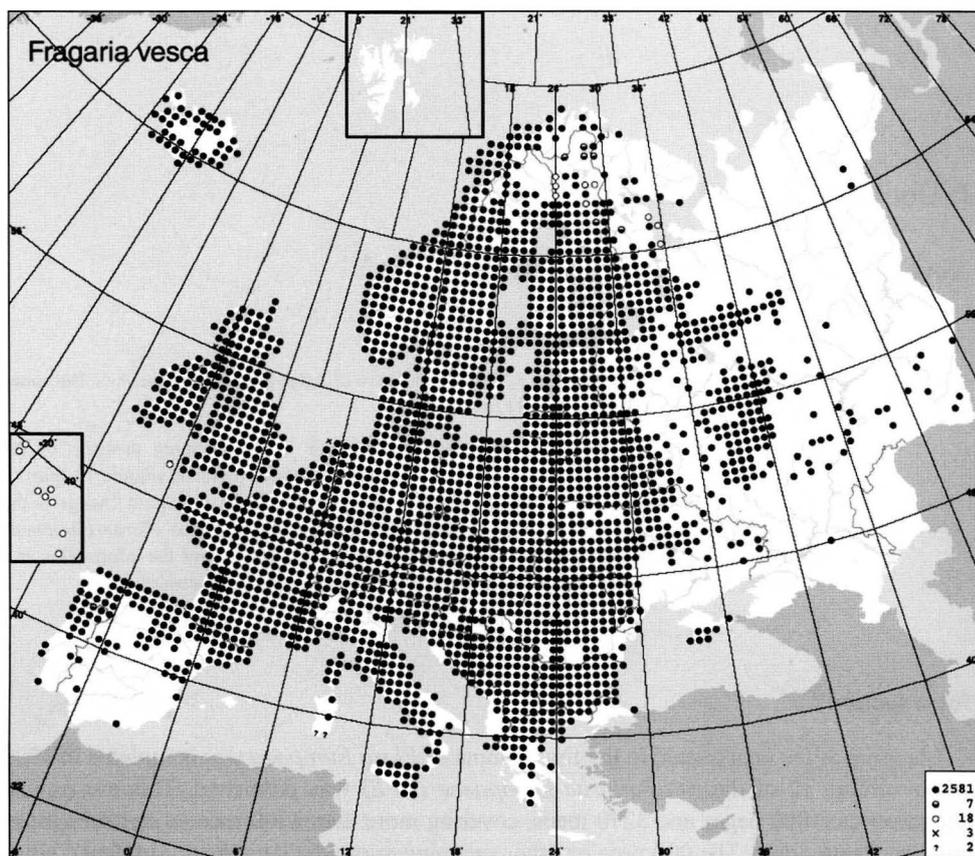


Fig. 1. *Fragaria vesca*, the most frequent species (altogether 2611 mapping symbols on the map) in volume 13 of the *Atlas Florae Europaeae*. Scarcity of dots in parts of Russia is artificial due to the lack of records.

mapping principles will be largely similar to those in the preceding volumes. The basic text will be mainly written in Helsinki, and the mapping work will mainly be performed by the regional collaborators, who often have a number of assistants. As a rule, only sporadic chorological information is added by the Secretariat or other colleagues. The recent political changes in Europe will be recognized in the territory division of *Atlas Florae Europaeae*. Essential for the efforts to increase the speed of publication and improve the geographical coverage of *Atlas Florae Europaeae* is to find efficient and active persons or organisations interested in the mapping of the flora in all territories.

However, beginning from volume 13 considerable changes will take place in the maps, because of a new grid system and the use of an additional colour in printing. A notable change in the mapping method has already taken place (Lahti & Lampinen 1999; Home page of *Atlas Florae Europaeae*).

The most important change in the *Atlas Florae Europaeae* maps is the adoption of a revised grid system. It was prepared by Mr. Raino Lampinen (Helsinki) in close collaboration

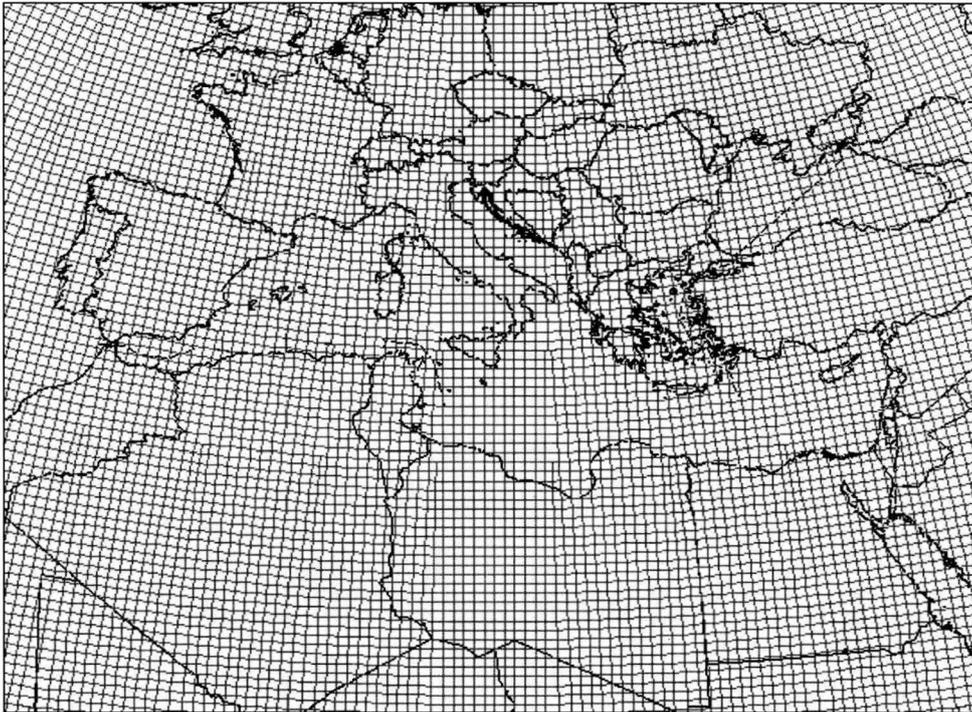


Fig 2. A sample of the new grid system, calculated from Svalbard to the Equator and from Mid-Atlantic Ocean to Sri Lanka.

with three European faunistic mapping projects (*European Amphibians and Reptile Atlas*, *European Mammal Atlas* and *European Bird Atlas*). The new system is based on the UTM coordinates and MGRS (Military Grid Reference System), as before, but the grid cell codes have changed. They are based on the MGRS, and they are now unambiguous everywhere. A fundamental difference is that the new grid extends over land and sea following a regular pattern, without any deviations earlier made for islands, capes, isolated mountains etc. (Fig. 2). The only accepted exceptions are the two deviations from the regular pattern in the original MGRS itself. The principally regular pattern will add 200-300 new cells to *AFE*. The old maps have been converted to the new grid system.

A special but simple software called the *Atlas Florae Europaeae Data Editor* was developed by Dr. Tapani Lahti (Helsinki) to provide the mapping data from different territories in electronic format (Fig. 3). The aim is to offer a possibility for any collaborator to represent her/his data as accurately as possible and to send it as files to the Secretariat. However, it is still possible to provide the data on paper as earlier, and the input to the database will be made in Helsinki. A possibility for detailed documentation is included in the software. The text in the documentation field is free and may include a citation of a specimen or other data source, and information on the frequency/abundance, history and status of the species in the grid cell concerned. The need of this field has arisen from frequent inquiries about the origin or source of the information of any cell. We hope that it will also make easier

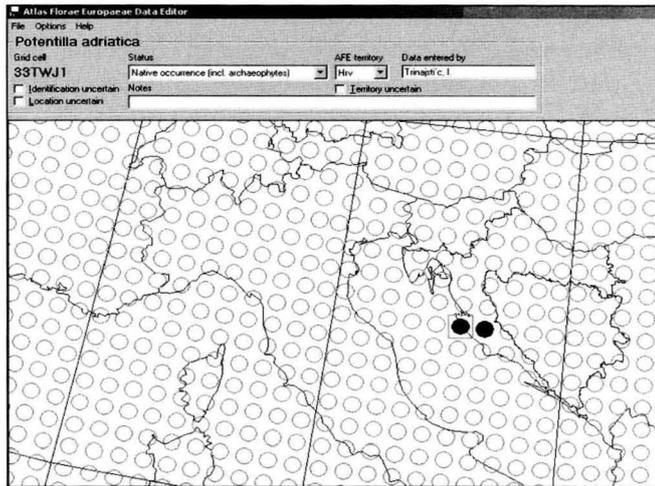


Fig. 3. *Atlas Florae Europaeae Data Editor*, writing in data of *Potentilla adriatica* from Croatia, from the grid cell 33TWJ1.

decisions on the status of records in cases of conspicuous discrepancies between neighbouring territories.

Further prospects

The mechanical conversion of the old *Atlas Florae Europaeae* maps to the new grid will cause some inaccuracies. However, there are many advantages of the new grid and other changes over the old system. These include:

1. Several other European biological mapping projects will use the same grid system. This offers an easy way for combination data from various mapping projects for purposes of landuse planning, conservation, biodiversity studies etc.
2. It makes easier to map of variously delimited species groups (aggregates, genera, infrageneric taxa, etc.) of vascular plants, both in printed volumes of *AFE* and elsewhere.
3. It is possible to make coordinate converting programs from national grid systems to the grid used by the *Atlas Florae Europaeae* because of its regular pattern. In Europe, there is a great number of well-advanced national mapping programs (e.g., in Finland, Germany, Great Britain, Poland, Slovenia, and Spain), most of them using much smaller grid cell size than the *Atlas Florae Europaeae*.
4. The mapping program has progressed volume by volume and covered all the European countries. Now it is possible to show sets of distribution data on web pages almost immediately after reception from any regional collaborator, already before the mapping for the printed volume concerned is complete for the whole of Europe. Some territories might even be capable to produce data from their whole floras by using conversion programs between national and the *Atlas Florae Europaeae* grid systems.
5. The new grid system has been calculated for a larger area than Europe, at present from

Svalbard to the Equator and from Mid-Atlantic Ocean to Sri Lanka, i.e., it covers, for example, the whole area of OPTIMA. Grid for both the sea and land area has been calculated, which makes it possible to map marine biota as well.

6. Within the framework of the *Euro+Med PlantBase* program, the *Atlas Florae Europaeae Data Editor* program has been updated to make possible collecting of mapping data from any Euro-Mediterranean territory by using the new grid system (Fig. 2).
7. The *Atlas Florae Europaeae* database forms a satellite database in the *Euro+Med PlantBase* program. As a common (bead) output, the territory and province level distribution information from the core database of the *Euro+Med PlantBase* will be combined to the distribution data of the *Atlas Florae Europaeae*.

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