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Additions to the moss flora of S. Italy

Abstract

Privitera, M. & Puglisi, M.: Additions to the moss flora of S. Italy. — Fl. Medit. 6: 57-60. 1996 — ISSN 1120-4052.

Some new records from S. Italian Peninsula and from Calabria are reported. Among the species collected, we emphasize the occurrence of *Fissidens rivularis*, a very rare moss in Italy.

In the framework of a floristic investigation on the moss flora of S. Italy, some interesting species were found; surveys of recent literature (Cortini Pedrotti 1992) show some of these species to be new to S. Italian Peninsula. They are: *Fissidens rivularis* (Spruce) Bruch & al., a very rare species, *Pseudotaxiphyllum elegans* (Brid.) Z. Iwats, *Fissidens viridulus* (Sw.) Wahlenb. Moreover the occurrence of several new records for the Calabria moss flora is recorded (*Plagiothecium nemorale* (Mitt.) Jäggli, *Tortula atrovirens* (Sm.) Lindb., *Eurhynchium speciosum* (Brid.) Jur., *Hypnum cupressiforme* Hedw. subsp. *resupinatum* (Taylor ex Spruce) C. Hartm.).

The species were collected in different habitats from the Aspromonte massif (S. Calabria) that represents the extreme Southern area of the Italian Peninsula. Recent bryological studies carried out in this area have previously yielded the discovery of many new records from Calabria and S. Italy (Puglisi 1994a, b, Privitera & Puglisi 1995a, b).

Fissidens rivularis (Spruce) Bruch & al.

Calabria: Ponte di Moio near Delianuova, 700 m a.s.l., 23 Mar 1995, Privitera & Puglisi (CAT).

Plants 1-1.5 cm high, in few dull green tufts; rhizoids brownish; leaves numerous, c. 2 mm long, lanceolate to lanceolate-lingulate, acute to obtuse, mucronate, entire, bordered; border well developed, yellowish; nerve stout, yellowish, percurrent, forming with the border a stout mucro (70) 80-100 µm long; cells from the upper part of the leaf irregularly hexagonal, smooth, (6-)8 µm wide; seta terminal, flexuose, c. 3 mm long; capsule subhorizontal, 0.8 mm long.

Fissidens rivularis is distinguished from the other *Fissidens* species by the stout yellowish border which is confluent with the excurrent nerve, forming a stout mucro. The taxonomic analysis shows a relationship with *Fissidens bryoides* Hedw., from which it differs principally for the ecology and the very thick border. Moreover it is closely related to *F. mounguillonii* Thér. which presents markedly narrower perichaetial leaves and larger leaf cells.

A Mediterranean-suboceanic species collected from submerged rocks in a stream near Delianuova, where it was mixed to *Rhynchostegium riparioides* (Hedw.) C. E. O. Jens., *Conocephalum conicum* (L.) Lindb., *Pellia epiphylla* (L.) Corda. As the ecology, *Fissidens rivularis* is a sassicolous, hydrophilous moss, indifferent to the pH of the substrate, occurring on wet or submerged rocks and stones at low altitudes. From a phytosociological point of view, it characterizes the aquatic association *Fissidenti rivularis-Rhynchostegiellatum jacquini* Walther 1969 referred to the class *Platyhypnidio-Fontinaletea antipyreticae* Philippi 1956 (Marstaller 1993).

Fissidens rivularis is widespread in C. and S. Europe, as well as in Turkey, Macaronesia, N. and Tropical Africa, E. and S.W. Asia. As the Italian distribution (Fig. 1), the records date back to the XIX century; up to now it was recorded only from two districts of the Peninsula: Trentino Alto Adige (Sauter 1874) and Tuscany (Bottini 1887). The new record confirms the occurrence of *Fissidens rivularis* in Italy after more than one hundred years.



Fig. 1. Italian distribution of *Fissidens rivularis*. ● old records (pre-1887); ■ new record (1995).

***Pseudotaxiphyllum elegans* (Brid.) Z. Iwats.**

Calabria: Ponte di Moio near Delianuova, 700 m a.s.l., 23 Mar 1995, Privitera & Puglisi (CAT).

A suboceanic species found near Delianuova on shady and moist soil within *Castanea sativa* Miller woods. In this place it occurs with many axillary filiform propagules, mixed to *Plagiomnium undulatum* (Hedw.) T. J. Kop., *Rhizomnium punctatum* (Hedw.) T. J. Kop., *Eurhynchium praelongum* (Hedw.) Bruch & al., *Calypogeia fissa* (L.) Raddi, *Dicranella heteromalla* (Hedw.) Schimp. From an ecological point of view it is a mesophilous, sciaphilous, acidophilous species, occurring on shaded soil in woods, on banks, rock crevices.

As the distribution area, *Pseudotaxiphyllum elegans* is widespread in Europe and it is also known in Macaronesia, N. America, N.E., E. and C. Asia, Melanesia, Micronesia and Polynesia. Recorded in Italy from Piedmont, Trentino Alto Adige, Tuscany, Abruzzo and Sicily, the species is here signaled for the first time from S. Peninsule.

***Fissidens viridulus* (Sw.) Wahlenb.**

Calabria: Scido, 350 m a.s.l., 12 Apr 1994, Privitera & Puglisi (CAT).

A Submediterranean species collected on soil, hedgebanks, in shady place together with *Didymodon insulanus* (De Not.) M. O. Hill, *Fissidens taxifolius* Hedw., *Brachythecium rutabulum* (Hedw.) Bruch & al., *Eurhynchium praelongum* (Hedw.) Bruch & al.

In Italy it is known from some Northern and Central districts, from Sardinia and Sicily.

***Plagiothecium nemorale* (Mitt.) Jäggli**

Calabria: S. Cristina d'Aspromonte, 350 m a.s.l., 12 Apr 1994, Privitera & Puglisi (CAT).

The species was found on moist and shady soil, banks, mixed to *Brachythecium rutabulum* (Hedw.) Bruch & al., *B. salebrosum* (Weber & D. Mohr) Bruch & al., *Fissidens taxifolius* Hedw.

Widely distributed in N. and C. Italy, it is also known from Campania, Sardinia and Sicily.

***Tortula atrovirens* (Sm.) Lindb.**

Calabria: Palizzi Marina, sea level, 20 Apr 1994, Puglisi (CAT).

A Submediterranean species collected on clayey soil in dry and exposed places together with *Pottia starckeana* (Hedw.) Müll. Hal., *Fossombronia caespitiformis* De Not. ex Rabenh., *Aloina ambigua* (Bruch & Schimp.) Limpr.

***Eurhynchium speciosum* (Brid.) Jur.**

Calabria: Ponte di Moio near Delianuova, 700 m a.s.l., 23 Mar 1995, Privitera & Puglisi (CAT).

A temperate species occurring on streamside, soil by streams and pools together with *Conocephalum conicum*, *Rhizomnium punctatum*.

***Hypnum cupressiforme* Hedw. subsp. *resupinatum* (Taylor ex Spruce) C. Hartm.**

Calabria: Torrente Lago near Scido, 350 m a.s.l., 12 Apr 1994, *Privitera & Puglisi* (CAT).

An oceanic subspecific taxon collected on bark of *Olea europaea* L., together with *Leucodon sciuroides* (Hedw.) Schwägr., *Leptodon smithii* (Hedw.) Weber & D. Mohr, *Pterogonium gracile* (Hedw.) Sm.

The chorological notes are taken from Düll (1984-85) for the general distribution, and Cortini Pedrotti (1992) for the Italian distribution; the ecological exigencies are reported according to Amann (1912), Augier (1966), Boros (1968).

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