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### *Octodicerias fontanum* (Musci): a new record from Sicily

#### Abstract

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*Octodicerias fontanum* is recorded for the first time in Sicily. The ecology, chorology and taxonomy of this rare moss are discussed.

#### Introduction

During our research on the hygrophilous and hydrophilous bryoflora of S Italy and Sicily, an interesting species, *Octodicerias fontanum* (Bach. Pyl.) Lindb. (*Fissidentaceae* Schimp.), was found for the first time in Sicily.

The genus *Octodicerias* Brid., mainly distributed in Africa and America, is represented in Europe only by *O. fontanum*, a submediterranean species.

In winter 1994, this species was found submerged in the slow-flowing of the River Ciane (Syracuse, SE Sicily), about 2 km from its mouth. In this place it grows on stones at c. 1 m depth, mixed with other hydrophytes, such as: *Ceratophyllum demersum* L., *Cladophora glomerata* (L.) Kütz., and *Enteromorpha intestinalis* (L.) Link. The River Ciane is at present a nature reserve, instituted in 1984 for the purpose of safeguarding some interesting species, including *Cyperus papyrus* L.

*Octodicerias fontanum* (Bach. Pyl.) Lindb., Bidr. Moss Syn.: 23, 1863. (*Conomitrium julianum* (Savi) Mont., *Fissidens debilis* Schwägr., *F. fontanus* (Bach. Pyl.) Steud., *F. julianus* (Savi) Schimp., *Fontinalis juliana* Savi, *Octodicerias fontanum* (Bach. Pyl.) Lindb., *O. julianum* (Savi) Brid., *Skitophyllum fontanum* Bach. Pyl., *S. julianum* (Savi) Lindb.).

Sicily: River Ciane, sea level, 25 Jan 1994; Basile (CAT).

Plant aquatic, to 11 cm long. Stems soft, slender, irregularly branched; leaves arranged in two rows, 2.5-3.5 mm long, distant, spreading, linear to linear-lanceolate, with entire, unbordered margin and blunt apex; sheathing laminae 1/4-1/3 total leaf length; nerve thin (30-40 µm wide above the base), ending well below the apex; cells irregularly hexagonal, with ± incrassate walls, becoming smaller toward the margins (6-8 µm wide) but enlarged in 3-4 rows on either side of the nerve (12-14 µm wide). Stem with thick-walled cells, without central strand (Fig. 1). Autoecious or more rarely synoecious; perichaetia terminal on short branches; perigonia axillary; archegonia naked, 2-3(-8); antheridia 3-5.

The species was found fertile but without sporogonia.

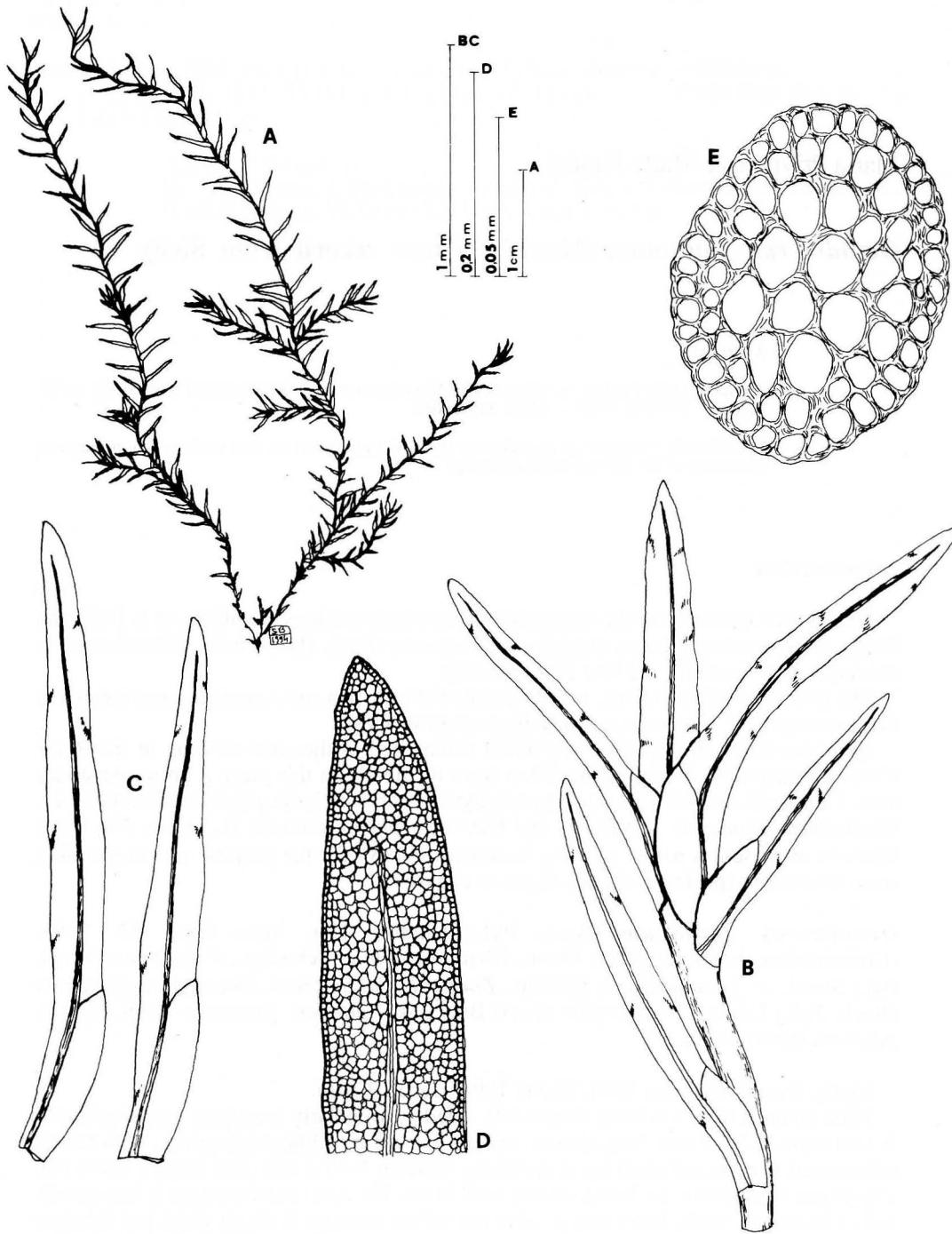


Fig. 1 - *Octodicerias fontanum* from River Ciane (Sicily). A, habit; B, portion of a branch; C, leaf outlines; D, cells at leaf tips; E, cross-section of the stem.

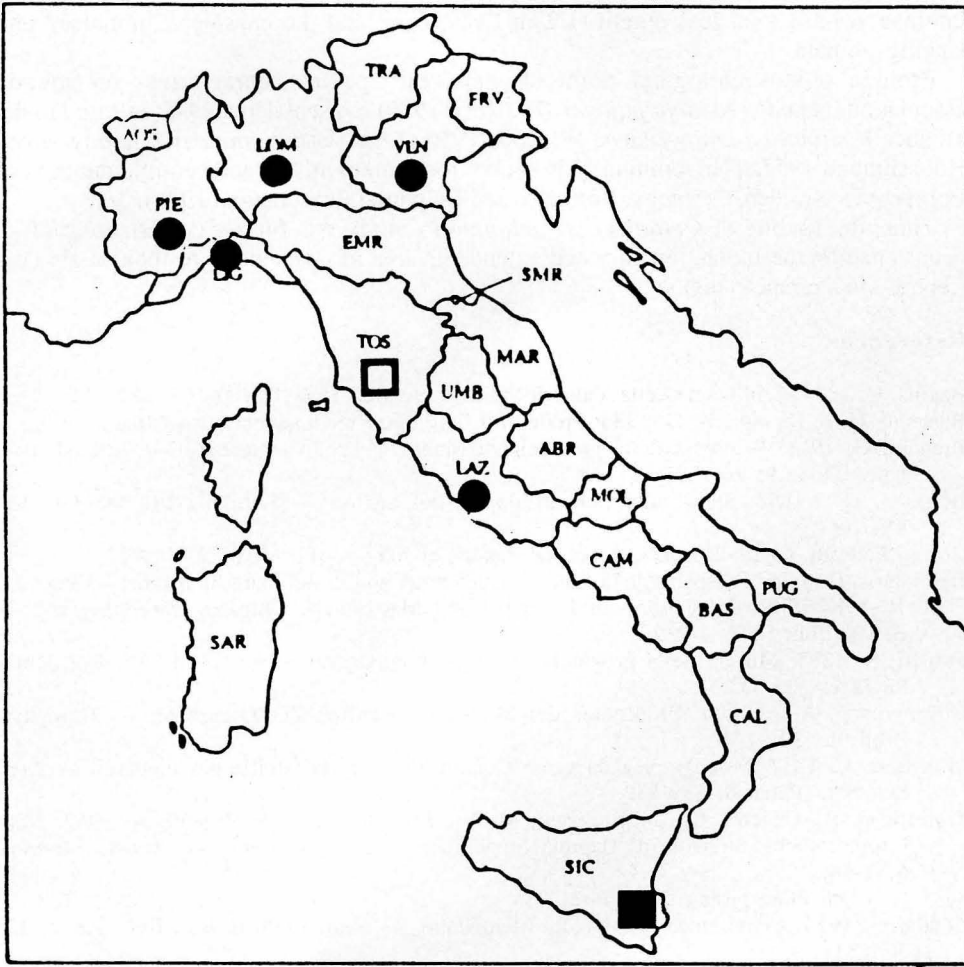


Fig. 2 - Regional occurrence of *Octodiceras fontanum*. ● old records (pre-1915); □ recent record (1967); ■ new record (1994).

From an ecological point of view, *Octodiceras fontanum* is a mesophilous, hydrophilous to aquatic moss, floating or submerged in slow-flowing, unpolluted though sometimes brackish waters. It is widespread in Europe, occurring in many countries; it is also recorded from Africa, America and Australia (Düll 1984-1985). A recent check-list of Italian mosses (Cortini Pedrotti 1992) reports the species as occurring in Italy only in a few northern and central regions, with no record known for the south of the Peninsula (Fig. 2). In particular, the species was recorded from Piedmont (Bagnis 1874), Lombardy (Balsamo & De Notaris 1834; Farneti 1888; Bianchi 1911; Zodda 1915), Venetia (Montagne 1837), Liguria (De Notaris 1846), Tuscany (Savi 1798), Latium (Brizi 1897-1898). These records are on the whole all quite old; the only recent one is from Tuscany, where *O. fontanum* was reported by Moretti & al. (1967).

The taxonomic analysis shows a close relationship with the species of *Fissidens* Hedw.; from which it differs principally in the stem lacking a central strand, the sheathing

laminae 1/4-1/3 total leaf length (1/2 in *Fissidens*), and the capsule  $\pm$  immersed and lacking stomata.

From a phytosociological point of view, the species characterizes an aquatic association, *Octodiceriatum julianae* (W. Koch 1936) Krusenstjerna 1945, referred to the alliance *Fontinalion antipyreticae* W. Koch 1936 of the class *Fontinaletea antipyreticae* Hübschmann 1957. The community is known for some northern and central countries of Europe, viz. Sweden, Germany, Romania, and Belgium (Hübschmann 1986).

Thus, the finding of *Octodicerias fontanum* in Sicily is a further confirmation of its occurrence on the Italian territory and extends its area of distribution to include also the Central Mediterranean region.

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