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A new species of *Salix* (Salicaceae) from Calabria (S Italy)

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RÉSUMÉ

BRULLO, S. & G. SPAMPINATO (1993). Une espèce nouvelle de *Salix* (Salicaceae) de la Calabre (Sud Italie). *Candollea* 48: 291-295. En anglais, résumés français et anglais.

Salix brutia est une espèce nouvelle décrite et illustrée des sols alluviaux des fleuves de la Calabre. Ses affinités taxonomiques avec *S. triandra* L. sont examinées.

ABSTRACT

BRULLO, S. & G. SPAMPINATO (1993). A new species of *Salix* (Salicaceae) from Calabria (S Italy). *Candollea* 48: 291-295. In English, French and English abstracts.

Salix brutia from the alluvial soils of the Calabria rivers is described and illustrated as a species new to science. Its taxonomical relationships with *S. triandra* L. are discussed too.

KEY-WORDS: Taxonomy — Flora — Italy — SALICACEAE — *Salix brutia*.

Introduction

In the course of floristical and phytosociological researches on the Calabrian rivers, a lot of *Salix* populations showing close affinities with *S. triandra* L. were found. These relationships regard mainly the occurrence of flowers with three stamens and glabrous ovaries; but on the basis of literature data as well as of herbarium and field investigations, the Calabrian plants result well differentiated from the typical specimens of *S. triandra* in numerous characters regarding chiefly the leaf shape and the morphology of floral structures. Therefore those populations, which on the whole result quite homogeneous, can be referred to a species new to science.

Salix brutia Brullo & Spampinato, **spec. nov.** (Fig. 1, 2).

Typus: Italia, Calabria, F. Mesima (autostrada A3, svincolo Serre), 30.3.1990, *Brullo & Spampinato* s.n. (holotypus CAT).

Frutex vel arbor parvula, 1-5 m alta. Rami cortice rugoso, glabro, lucido, brunneo-viridiscenti vel brunneo-rubrescenti. Stipulae caducae, reniformes vel obscure semicordatae, 1.8-8.5 mm longae. Petioli 0.3-1 mm longae. Lamina foliorum elliptica, oblonga vel subrotunda, margine serrulato, apice rotundato vel obtuso saepe apiculato, basi truncata vel breviter angustata, 2-5(-6.5) cm longa,

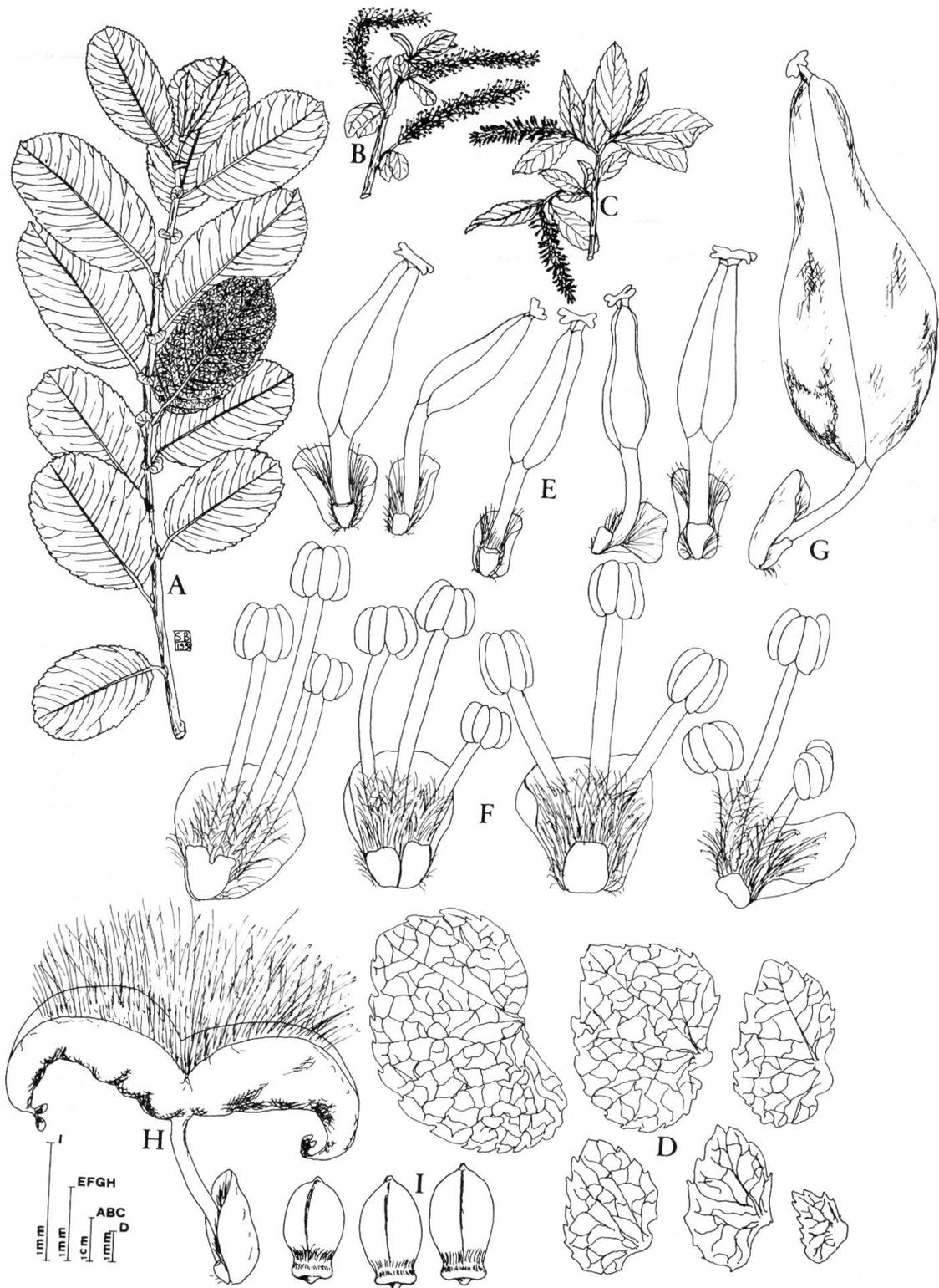


Fig. 1. — *Salix brutia* Brullo & Spampinato (from type locality).

A, sterile branch; B, branch with male catkins; C, branch with female catkins; D, stipules; E, female flowers; F, male flowers; G, closed capsule; H, opened capsule; I, seeds.

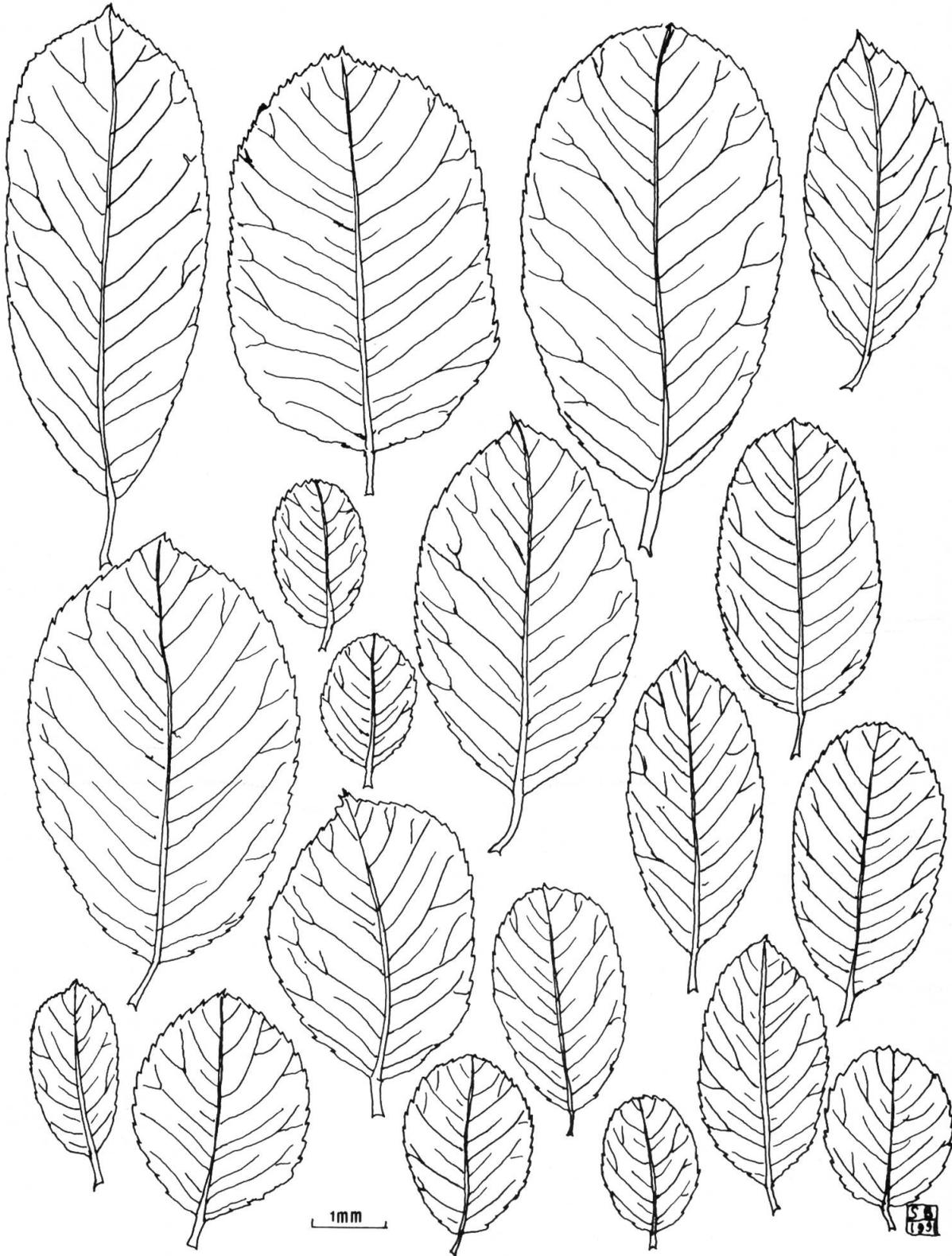


Fig. 2. — Leaf variability of *Salix brutia* (specimens coming from various Calabrian localities).

Character	<i>S. triandra</i>	<i>S. brutia</i>
Leaf outline	oblong-lanceolate to oblong-ovate	elliptical to suborbicular
Nerves at each side of the leaf	15-25	5-12(-15)
Leaf dimension	5-10(-15) × 1-1.7 cm	2-5(-6.5) × (1.2-)1.5-3.5 cm
Leaf margin	denticulate	serrulate
Leaf apex	acute to acuminate	rounded to obtuse
Leaf base	obtuse to attenuate	truncate to attenuate
Upper leaf face	dark green and shining	pale green and opaque
Stipules	semicordate	reniform to sub-semicordate
Male catkins	(3-)5-6 cm	2.5-4.5 cm
Female catkins	(3-)4-5(-7) cm	2-3 cm
Scale colour	brown-yellowish	yellowish
Scale outline	ovate to lanceolate-oblong	subrounded to subelliptical
Stamen filaments	equal or subequal	central one longer than lateral ones
Number of nectaries of male flower	2	1-2(-3)
Gynophore	0.5-0.8 mm long, shorter than scale	1.3-1.6 mm long, longer than scale
Capsule stipe	max. 1 mm long, shorter than scale	1.7-1.8 mm long, longer than scale

Table 1. — Comparative characters between *S. triandra* and *S. brutia*.

(1.2-)1.5-3.5 cm lata, superne glabra, pallide viride, opaca, subtus glauco-albescens, pruinosa, 5-12(-15) nervis prominentibus in quoque latere. Amenta lateralia, praecocia, ciliata, pedunculis foliosis 5-12 mm longis, mascula 2.5-4.5 cm longa, feminea 2-3 cm longa. Bractea luteola, suborbiculata vel subelliptica, lanuginosa intus, ♂ 0.5-1.2 mm longa, ♀ 0.6-1 mm longa. Nectarium luteum, quadrangulare vel obovatum, emarginatum ad apicem, ♂ unicum vel bipartitum, saepe 2 antice et 1 postice, 0.5-0.7 mm longum, ♀ unicum 0.3-0.4 mm longum. Stamina 3, filamentis liberis pubescentibus basi, inaequalibus, mediano 3-4 mm longo, lateralibus 1.8-3 mm longis, anteris luteis, rotundo-subellipticis, ca. 0.7 mm longis. Ovarium subpyriforme 1.8-2.3 mm longum, glabrum, gynophoro 1.3-1.6 mm longo, glabro. Stylus brevis, 0.1 mm longus, vel subnullus, stigmatibus 2, divaricato-patentibus, bilobatis ad apicem. Capsula pyriformis, 4-5 mm longa, stipite 1.7-1.8 mm longo, e bractea longe exserto. Semina olivacea, elliptica, apiculata, 0.8-1 mm longa, breviter stipitata, dilatata basi.

Specimens examined

Calabria: Fiume Mairo, s.d., *De Pasquale* (FI); ibid., Marina di Crotona, Budetto presso il Fiume Neto, 17.3.1912, *Lopez* (FI); Ad ripas Montis Calabriae in locis humentibus, sept., *Pasquale* (FU); Locus Flumen Mesima prope Monteleone, 14.5.1877, *Arcangeli* (FI); ibid., 11.5.1877, *Biondi* (FI); In fructus rarissime inveni prope Rizziconi, s.d., *Pasquale* (FI); Foce F. Neto, 5.5.1989, *Spampinato* (CAT); ibid., 29.3.1990, *Brullo & Spampinato* (CAT); Fiume Fiumarello (Altomonte), 30.3.1990, *Brullo & Spampinato* (CAT); Foce F. Crati, 29.6.1989, *Scelsi & Spampinato* (CAT); Fiume Crati (Tarsia), 30.3.1990, *Brullo & Spampinato* (CAT); F. Mesima (autostrada A3, svincolo Serre), 30.3.1990, *Brullo & Spampinato* (CAT); F. Esaro, 29.6.1989, *Scelsi & Spampinato* (CAT); Torrente Pastella (S. Eufemia d'Aspromonte), 19.4.1991, *Brullo, Scelsi & Spampinato* (CAT); Torrente Pietragrande sotto Delianova, 27.6.1989, *Scelsi & Spampinato* (CAT); Torrente Lago sotto Scido, 27.6.1989, *Scelsi & Spampinato*, (CAT).

Ecology

Salix brutia is very frequent along the Calabrian rivers, where it occurs mainly in the last part of their course, limitedly to areas characterized by a climate of thermo-mesomediterranean type.

Normally it grows together with other woody hygrophytes, as *Salix alba* L., *S. amplexicaulis* Bory, *S. purpurea* L. subsp. *lambertiana* (Sm.) Neum., *S. elaeagnos* Scop., *Alnus glutinosa* (L.) Gaertner, *Populus nigra* L., etc. From the phytosociological point of view, above mentioned species characterize a particular type of alluvial forest belonging to *Salicetalia purpurea* Moor 1958, which is floristically and ecologically well differentiated from the allied plant-communities described from the N Mediterranean and C European countries.

Relationships

Until now the specimens of *Salix brutia* were attributed to *Salix triandra* L., mainly for the occurrence of male flowers with three stamens (cf. MARTINI & PAIERO, 1988). Effectively, *S. brutia* shows close relations with the latter species, but it results quite distinct from that one in some floral characters, but mainly in the leaf shape. In fact, *S. brutia* is characterized by leaves shorter and wider, elliptical to suborbicular with max. 12 pairs of veins, while *S. triandra* has leaves long and narrow, oblong-lanceolate to oblong-ovate with 15-25 pairs of veins. Previously the taxonomical value of the leaf character was taken in to consideration by BORZI (1885), which referred the Calabrian populations to a new taxon named *S. triandra* var. *brevifolia*. In particular the author included in this variety, differentiated by obovato-elliptical or ovate leaves, the Tuscany populations too. Successively, FIORI (1923) placed this taxon as synonym of *S. triandra* var. *microphylla*, described by WILLKOLMM & LANGE (1861) from Spanish specimens. Effectively in some European populations of *S. triandra* s.str., the leaves can sometimes show an elliptical-ovate shape, but in any case the other specific characters persist; on the contrary all the *S. brutia* populations, apart from the occurrence of numerous morphological differences compared to those of *S. triandra*, always show a quite uniform and peculiar type of leaf. As concerns the most important diacritic characters between the two species, they are mentioned in the Table 1. In particular *S. brutia* for its leaves abaxially glaucous and opaque shows narrower resemblance with *S. triandra* subsp. *discolor* (Koch) Arcangeli, since in the subsp. *triandra* the leaves are pale-green and lightly shining beneath.

From the phytogeographical point of view, *S. brutia* seems confined to the rivers of the Calabria (S Italy), coinciding with the extreme meridional part of the Apennines. Therefore, this species can be considered as a thermophilous element occurring in coastal places or in areas of the basal zone, which are generally characterized by very hot climate condition. In comparison with *S. triandra*, eurosibirian element distributed up to subalpine belt and having a subcontinental character, *S. brutia* represents a schizoendemic, differenziated from the former probably in consequence of its fitting to more thermic habitats occurring in the most meridional part of the Italian peninsula.

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