

## WHAT IS *MELANDRIUM GLUTINOSUM* ROUY?

por

HONOR C. PRENTICE

**Abstract.** It is concluded that *Melandrium glutinosum* Rouy belongs in Section *Elisanthe* of *Silene*. It is certainly a distinct species and its correct name is *S. marizii*. A description is given. The species is believed to be endemic to the Iberian peninsula and occurs among granite boulders in the mountains of central Spain and northwest Portugal.

**Resumen.** Se concluye que *Melandrium glutinosum* pertenece a la Sección *Elisanthe* del género *Silene*. Es, con certeza, una especie distinta y su nombre correcto es *S. marizii*. El texto da una descripción taxonómica. Se supone que esta especie es endémica de la Península Ibérica y se encuentra entre las rocas graníticas gigantes de las montañas de España Central y del Noroeste de Portugal.

During a study of *Silene* Section *Elisanthe* Fenzl I examined the relationship between *Melandrium glutinosum* Rouy and the other species in this section.

S. M. Walters included this taxon *Fl. Eur.* 1 (1964) in a note under *Silene alba*. J. Franco *Nov. Fl. Port.* 1 (1971) has treated it as a subspecies of *S. dioica*. From an examination of Mariz's description of the species and from the original specimens in COI I found it difficult to place it in either species. In 1976 I visited populations of *M. glutinosum* at Senhora do Castello, Mangualde, Portugal (one of Mariz's localities); Caramulinho, the summit of the Serra do Caramulo, Portugal; and Puerto de Menga in the Sierra de Paramera, Avila, Spain, where Rouy collected it in 1889. The plant is abundant in these localities and is distinct from *S. alba* and *S. dioica*, meriting specific rank.

The correct name for this species in *Silene* is *S. marizii* Samp. and I have set out below the synonymy and a full description of the species since neither has been published previously.

*Silene marizii* Samp., *Ann. Sci. Acad. Polyt. Porto* 4: 126 (1909) nom. nov. pro *Melandrium viscosum* Mariz non (Pers.) Čelak.

*Melandrium viscosum* Mariz, *Bol. Soc. Brot.* **5**: 98 (1887), non (Pers.) Čelak., *Lotos* **18**: 118 (1868). (Lectotype: Mangualde, Senhora do Castello, alt. 640 m, July 1885, M. Ferreira (COI)).

*Melandrium glutinosum* Rouy, *Bull. Soc. Bot. Fr.* **41**: 327 (1894), pro *M. viscosum* Mariz, non Čelak.; S. M. Walters in Tutin et al. *Fl. Eur.* **1**: 174 (1964).

*Silene dioica* subsp. *glutinosa* (Rouy) Franco, *Nov. Fl. Port.* **1**: 550 (1971).

#### DESCRIPTION

The following description was prepared after examining populations of *S. marisii* in the two Portuguese localities and one Spanish locality that I visited in 1976 (see above).

Dioecious, strongly foetid perennial up to 50 cm high. Stems procumbent to erect, arising from a short woody stock; densely clothed with soft, flexuous, extremely viscid, multicellular glandular hairs of two lengths, the longer up to 1.5 mm. Leaves entire, pale to mid-green, glandular on both surfaces. Basal leaves 4-16 cm long, sessile, spatulate to oblanceolate, dying back during flowering; cauline leaves and bracts 3-11 cm, sessile, lanceolate to ovate-elliptic. Inflorescence a dichasial cyme sometimes irregular in males; alar flowers present, pedicels long; those of male flowers 2-18 mm, of female 5-20 mm, usually patent or deflexed in fruit and elongated (11-50 mm). Calyx densely clothed with soft, straight to flexuous glandular hairs of two lengths, the longer up to 2 mm; male 9-15 mm, cylindrical to ovate, female 10-21 mm, ovate to conical; nerves usually 10 in males and 20 in females; red pigmentation common in males, occasional in females; teeth long, triangular, acute, 3-11 mm in fruiting females, with wide rounded sinuses between them. Corolla white, occasionally very pale pink; diameter, male 11-25 mm, female 11-19 mm; coronal scales obtuse with frilled margins; petals 5, divided up to half their length; claw, male 10-15 mm, female 11-16, with two auricles. Stamens 10; anthers yellow; filaments hairy at base; pollen «*S. dioica* type» (see BIRKS, 1973, p. 230). Styles 5 with long papillae. Carpophore very short. Capsule 10-21 mm, ovate to conical, often protruding beyond the calyx for over  $\frac{1}{3}$  its length when ripe; teeth reflexed after dehiscence. Seeds.

0.93-1.82 mm long, buff to fawn with convex faces, flat to convex backs, level hilar zones; plates on face of seed usually oblong, on the back isodiametric, separated by narrow, sinuous, dark brown sutures; tubercles 25-60  $\mu\text{m}$ , low, rounded.

Chromosome number  $2n = 24$ .

Pollen stainabilities from the Puerto de Menga and Caramulinho populations were 87% and 89% respectively. (All pollen stainabilities were averages from six individuals.)

### DIAGNOSIS

*S. marizii* is evidently a member of Section *Elisanthe*, and past taxonomic work has pointed to similarities between this species and *S. alba*, *S. diclinis* and *S. dioica*. In COI there are specimens of *S. alba* and *S. dioica* which have been determined as *M. glutinosum*.

The most distinctive features of *S. marizii* are as follows: the long pedicels which become patent or deflexed in fruiting females; the long calyx teeth and often exerted capsule, and the extremely viscid glandular indumentum with its pungent smell.

*S. marizii* differs markedly from *S. dioica*, possessing the following characters: densely glandular and foetid indumentum; spatulate to oblanceolate basal leaves; long calyx teeth, acute even in males; large, often exerted capsules with teeth reflexed (not rolled back) during dehiscence; white to pale pink flowers (white or pale pink flowers often occur in pure populations of *S. dioica* but populations consisting totally of pale-flowered individuals are exceptional); pale seeds with low, rounded, tubercles and sinuous plate margins.

The plant differs from *S. alba* in possessing a densely viscid, foetid indumentum (some Portuguese populations of *S. alba* (for example *S. alba* subsp. *mariziana* (Gand.) Franco) do possess a viscid indumentum, but it is less dense than that of *S. marizii* and is not foetid); very long pedicels which are patent or deflexed in fruit; and blunter and less pyriform capsules which are frequently exerted from the calyx when ripe.

Although Mariz remarked that the species is similar to *S. diclinis*, the resemblance is not striking. The pedicels of *S. diclinis*, though relatively long, are not as long as those of *S. marizii*. In the latter

species the pedicels are generally straight although pointing down in fruit: in *S. diclinis* the pedicels are strongly curved in fruit. *S. marizii* possesses larger flowers with white or pale pink petals more deeply divided than the magenta petals of *S. diclinis*. *S. diclinis* is sparsely glandular, not foetid, and has smaller, globular capsules (see PRENTICE, 1976).

I have produced artificially the following hybrids. *S. alba* ♂ × (*S. diclinis* × *dioica*) ♀; (*S. alba* × *dioica*) ♂ × *S. diclinis* ♀, and reciprocal crosses between *S. alba* and *S. diclinis* and *S. dioica* and *S. diclinis*. None of these hybrids bears any striking resemblance to *S. marizii* and all lack its distinctive pedicel, capsule and indumentum characters.

Using a male individual of *S. marizii* collected by S. M. Walters at Caramulinho in 1972, I have produced F<sub>1</sub> hybrids with *S. alba* (pollen stainability 47%), *S. dioica* (pollen stainability 36%) and *S. diclinis* (female progeny only): the hybrids are intermediate between *S. marizii* and the other parent species in each case.

#### ECOLOGY AND PHENOLOGY

Mariz described the plant as growing in rocky and stony places on granite in the submontane region. Rouy's locality at Puerto de Menga is also on granite, and the species is usually reported from areas over 640 m. In the three localities that I visited in 1976 the plant was growing in somewhat shaded rocky crevices in a thin mineral soil. Associated plants include *Arenaria montana* L.

At Caramulinho *S. foetida* Link ex Sprengel is also abundant but there is no evidence of hybridization. My attempts to produce hybrids between these two species have failed.

*S. marizii* flowers between mid-May and early June and ripe seed is produced in the second half of June. Males, as in the rest of Section *Elisanthe*, continue to flower after the females have set fruit. No pollinating insects were observed.

#### DISTRIBUTION

The species appears to have a disjunct distribution, with numerous localities in a restricted area of northern Portugal and isolated occurren-

ces at Puerto de Menga and near Béjar, Spain. (I have examined the specimens collected from these Spanish localities by Rouy and Gandoger in their herbaria at LY.)

### *Acknowledgments*

This research was carried out while I held a S. R. C. Research Studentship which is gratefully acknowledged. I am grateful to Dr. S. M. Walters for interesting me in the problem, Mr. P. D. Sell for assistance with the nomenclature, the curators of the herbaria at COI and LY for the loan of Mariz's, Gandoger's and Rouy's specimens. I would like to thank Mr. I. C. Prentice and Mr. G. Evans for help with the fieldwork.

### REFERENCES

- Birks, H. J. B. — 1973 — Past and Present Vegetation of the Isle of Skye: A Palaeo-ecological Study — Cambridge University Press, 415 pp., London.  
Prentice, H. C. — 1976 — A study in endemism: *Silene diclinis* — Biol. Conserv., 10: 15-30.

The Botany School  
University of Cambridge  
England