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A NEW TAXONOMIC ARRANGEMENT IN THE SICILIAN MEMBERS OF BRASSICA L. SECT. BRASSICA

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Summary

Brassica drepanensis (Caruel) Damanti, *B. tinei* Lojac., and *B. bivoniana* Mazzola & Raimondo are included as subspecies in *B. villosa* Biv. Furthermore, two new subspecies named *B. rupestris* subsp. *hispida* Raimondo & Mazzola and *B. rupestris* subsp. *brevisiliqua* Raimondo & Mazzola are described. Finally, a key to *Brassica* sect. *Brassica* in Sicily is provided.

Introduction

Recent revisions of the *Brassica rupestris* complex treat *B. tinei* Lojac., *B. drepanensis* (Caruel) Damanti and *B. bivoniana* Raimondo & Mazzola as distinct species close to *B. villosa* Biv. (RAIMONDO & al., 1991) or include these taxa as synonyms within *B. villosa* itself (SNOGERUP & al., 1990). Both treatments are in some ways unsatisfactory.

Indeed, despite the fact that the taxa in question are closely related and scarcely differentiated in the herbarium or in single living specimens, their distinction is much clearer in the field, where morphological characters, although unremarkable, are constant in the populations which are geographically distinct.

This question was discussed in the 3rd Workshop on "Conservation of the wild relatives of European cultivated plants" (Gibilmanna-Palermo, 21-27 September 1994, under the auspices of the Council of Europe) (Raimondo) and soon after its conclusion during a visit to the classical localities in western Sicily, where *B. villosa, B. bivoniana, B drepanensis* and *B. tinei* occur. Specialists who participated to such surveys unanimously agreed on the fact that even if such taxa do not require the specific rank, taking them away from any taxonomic role appears unadequate too; therefore some infraspecific rank is to be assigned to *B. drepanensis, B. bivoniana* and *B. tinei.*

Similarly, there was general agreement on the fact that variation within *B. rupestris* requires more consideration.

Taxonomic arrangement

On the basis of the above considered factors and of further investigations carried out especially in the field the following taxonomic approach to *B. rupestris, B. villosa* and the taxa included is proposed.

Brassica villosa Biv., *Stirp. Rar. Sicilia* 4:20 (1818).

B. bivoniana, B. drepanensis and *B. tinei* are included at subspecific rank in *B. villosa*. The new combinations proposed for each of these taxa are reported below.

B. villosa subsp. **drepanensis** (Caruel) Raimondo & Mazzola, **comb.** et **status nov.**
Bas.: *Eruca drepanensis* Caruel, *Nuovo Giorn. Bot. Ital.* 23: 240 (1891).

B. villosa subsp. **tinei** (Lojac.) Raimondo & Mazzola, **status nov.**
Bas.: *B. tinei* Lojac., *Fl. Sicula* 1(1): 113 (1888).

B. villosa subsp. **bivoniana** (Mazzola & Raimondo) Raimondo & Mazzola **comb.** et **status nov.**
Bas.: *B. bivoniana* Mazzola & Raimondo, *Lagascalia* 15 (Extra): 250 (1988).

Brassica rupestris Rafin., *Caratt. Nuovi Gen.* 77 (1810).

Variation in this species has been overlooked so far, although throughout its distribution area some populations showing distinct characters occur. Here two new subspecies from the coastal rocks in western Sicily and in the inland South of Palermo, respectively, are described.

B. rupestris subsp. **hispida** Raimondo & Mazzola **subsp. nova** (Fig. 1).

Suffrutex 5-10 (12) dm altus. Folia glaucescentia, sublyrata, 15-25 x 8-12 cm; petioli 2-5 lobati, 8-12 cm longi; laminae ovate vel late ellipticae, irregulariter dentatae, multis pilis bulbosis praeditae, praecipue superiores; foliola plantularum integra vel sublyrata, ovata, hispida. Flores flavi; sepala (6)8-12(13) 2-3.5(3.6) mm; petala (16)18-25(27) (6)7-12(13) mm. Siliquae uninerviae erecto-patentes, (35)40-65(70) 3-4.5 mm exclusis rostris subulatis 8-10 mm longis. Recedit a *B. rupestris* subsp. *rupestris* minore statura et foliis glaucis et pilosis.

Typus: "Holotypus: Monte Pizzuta, rupi di Pelavet, 1280 m s.l.m., 13.VII.1995, *E. Schimmenti & G. Scafidi*" (PAL).

Subshrub up 12 dm high. Stem leaves more or less glaucous, sublyrate, 15-25 8-12 cm; petioles 8-12 cm long, with 2-5 lobes; blades ovate to broadly elliptic, irregularly toothed, covered with many bulbose, hispid hairs especially on the upper part; seedling leaflets undivided or sublyrate, ovate, hispid. Flowers yellow; sepals (6)8-12(13) 2-3.5(3.6) mm; petals (16)18-25(27) (6)7-12(13) mm. Siliquae uninerved, erecto-patent, (35)40-65(70) 3-4.5 mm excluding subulate beak up10 mm long.

It is distinguished from *B. rupestris* subsp. *rupestris* by glaucous and more densely hairy leaves, and by the general smaller size as well.

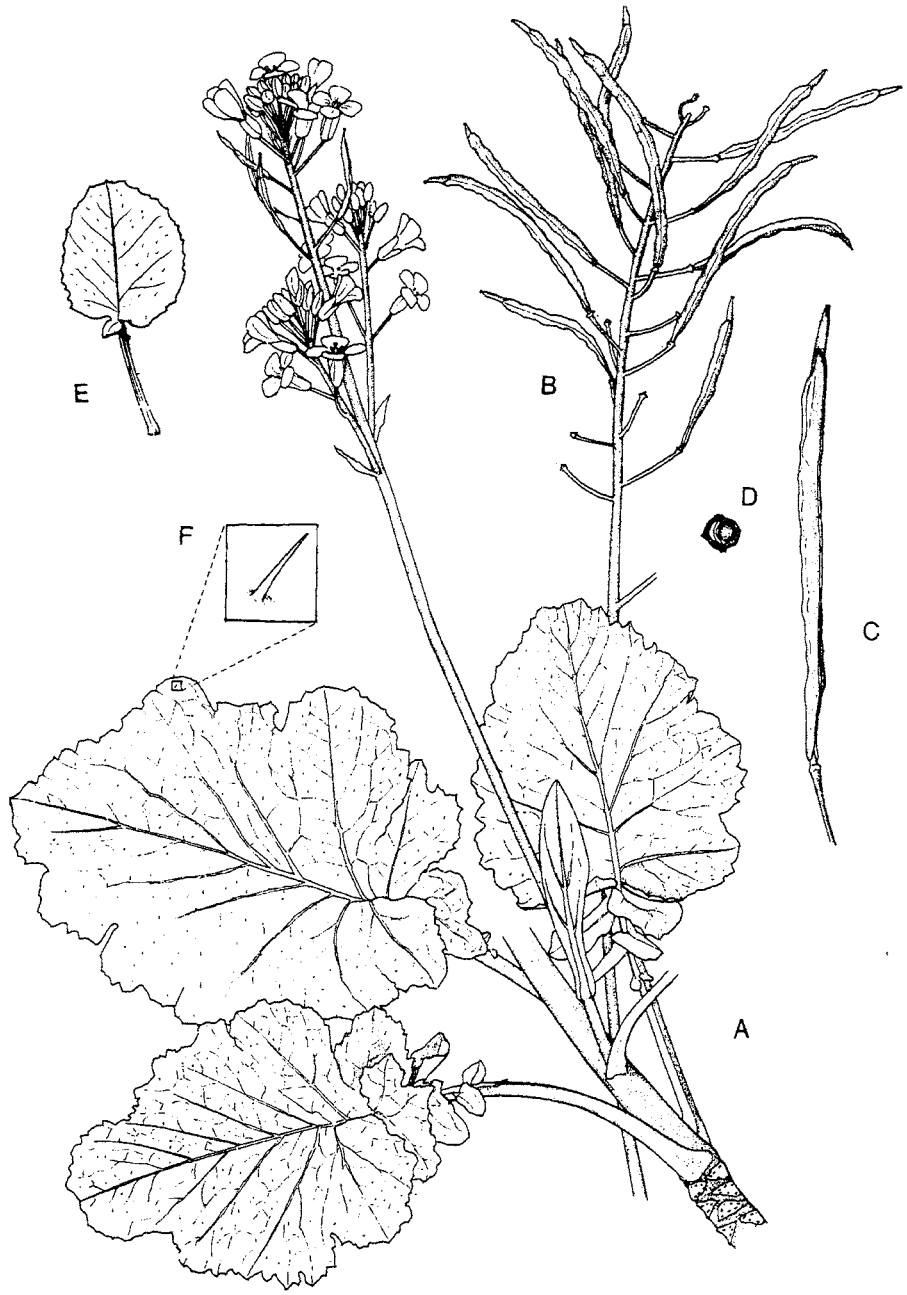

Fig. 1. *Brassica rupestris* subsp. *hispida*. A: mature plant in flower (x 0.4); B: fruiting raceme (x 0.4), C: Siliqua (x 1.3); D: siliqua in transect (x 1.3); E: seedling leaf (x 0.4); F: hair (x 17.5).

Flowering period. March to May.

Ecology. North-facing limestone cliffs, from 800 to1300 m s. l.

Distribution. Mountainous area South of Palermo (NW Sicily) including Monte Pizzuta and Monte Kumeta (Fig. 3, circles).

B. rupestris subsp. **brevisiliqua** Raimondo & Mazzola **subsp. nova** (Fig. 2)

Suffrutex validus 5-15 dm altus. Folia lobata vel sublyrata, glabra vel paucis pilis bulbosis praedita, irregulariter crenata vel dentata; foliola plantularum integra, ovata, subhirta. Flores flavidi. Sepala (7)8-10(11) (2,8)3-3.5(3.6) mm; petala (14)15-18(20) (5)6-7(8) mm. Siliquae subpatentes, isodiametrae, tetragonae et nervis prominentibus praeditae ubi siccae, (32)35-45(50) (6)6.5-7(7.5) mm exclusis rostris subulatis 6-8 mm longis.

Recedit a *B. villosa* subsp. *drepanensis* foliis glabris et foliolis plantularum dense pilosis.

Recedit a *B. rupestris* subsp. *rupestris* et *B. rupestris* subsp. *hispida* siliquis isodiametricis crassioribus et brevioribus sicut in *B. villosa* subsp. *drepanensis*.

Typus. "Holotypus: S. Vito Lo Capo (TP). Località Isolidda, rupi presso il camping El Bahira; 25 m s.l.m.; 25.III.1995. *F. M. Raimondo"* (PAL).

Subshrub 5-15 dm high. Leaves lobed or sublyrate, glabrous with scarce bulbose hairs mainly on the upper blade. Seedling leaflets undivided, ovate, hairy. Flowers pale yellow; sepals 8-10 (3-3.5 mm; petals (14)15-18(20) (5)6-7(8) mm. Siliquae erecto-patent, isodiametrical; tetragonous with an evident midrib when dried, (32) 35-45 (50) (6) 6.5-7 (7.5) mm without the subulate beak which is 6-8 mm long.

Plants are similar to *B. rupestris* as the leaves glabrous or with bulbose hairs especially in the seedling leaflets are concerned. Characters close to *B. villosa* subsp. *drepanensis* are the shape of the foliage and especially the size of the siliquae which are shorter, isodiametrical and tetragonous when dried.

The characters of *B rupestris* subsp. *brevisiliqua* and its occurrence close to *B. villosa* subsp. *drepanensis* suggest some introgressive hybridization between the two taxa.

Flowering period. December to March.

Ecology. North-facing limestone cliffs from the sea level to about 150 m.

Distribution. A circumscribed coastal area of about 1 Km^2 between Castelluzzo and S. Vito Lo Capo (TP) (Fig. 3, triangles). This area lies at the south-eastern and south-western boundaries of the distribution areas of *B. villosa* subsp. *drepanensis* and *B. villosa* subsp. *bivoniana,* respectively.

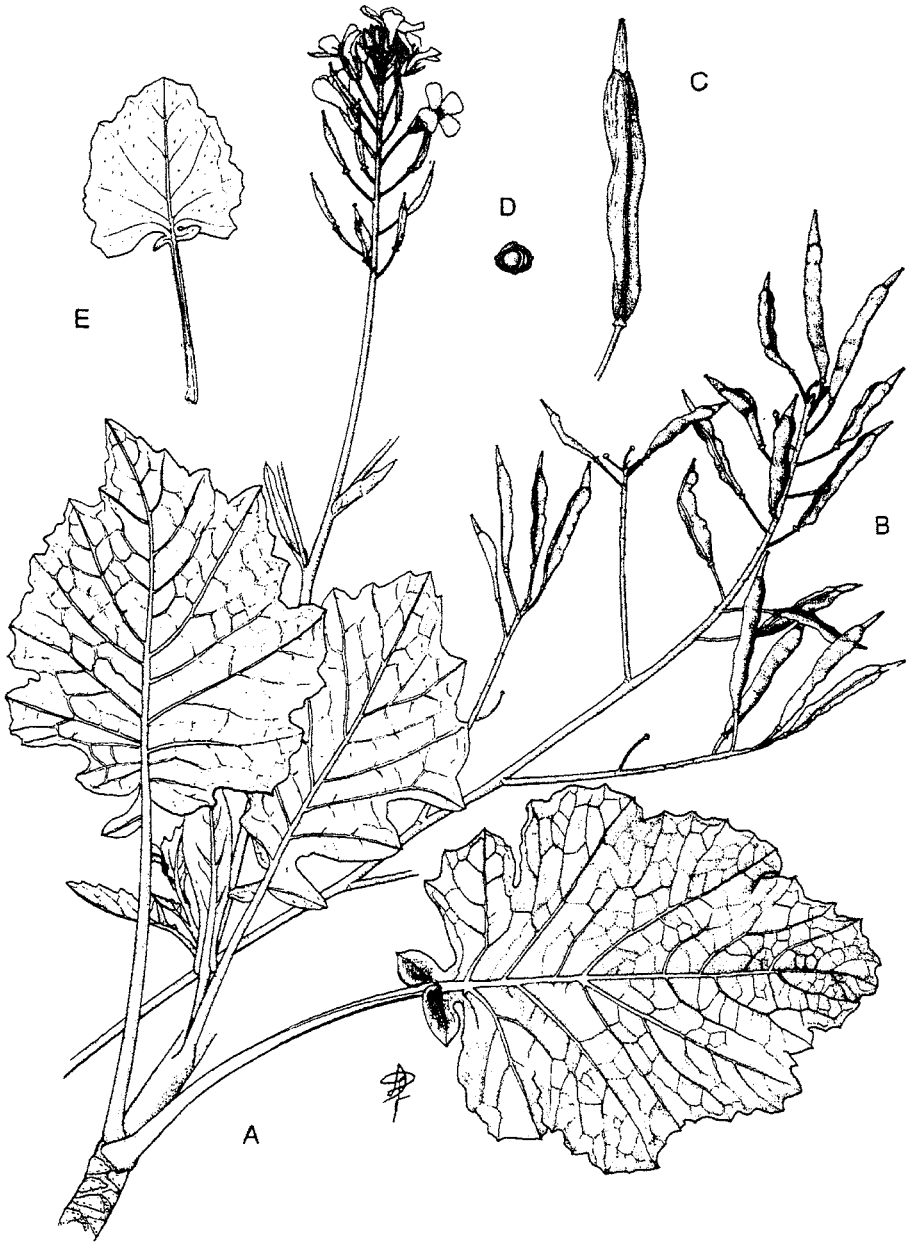

Fig. 2. *Brassica rupestris* subsp. *brevisiliqua*. A: mature plant in flower (x 0.4); B: fruiting raceme (x 0.4); C: siliqua (x 1.3); D: siliqua in transect (x 1.3); E: seedling leaf (x 0.4).

Key to the Sicilian taxa of Brassica L. sect. Brassica

Owing to the above proposed new arrangement, the following new key to the Sicilian members of *Brassica* sect. Brassica is believed to be suitable.

1. Leaves glabrous or with hispid bulbose hairs

2. Flowers yellow; siliqua isodiametric or dorsally compressed

3. Lower leaves and seedling leaflets ovate, with acute teeth; hairs, when present, bulbose; siliqua dorsally compressed or isodiametric becoming tetragonous when dried, mostly 35-65 (excl. beak) x 3-6.5 mm ..... ***B. rupestris***

4. at least the seedling leaflets hairy

5. Leaves with a regular hairy cover and then hispid; siliqua mostly 35-65 (excl. beak) x 3-4.5 mm ..... ***B. rupestris*** subsp. ***hispida***

5. Leaves glabrous, seedling leaflets hairy; siliqua isodiametric, tetragonous when dried, mostly 35-45 (excl. beak) x 6.5-7 mm ..... ***B. rupestris*** subsp. ***brevisiliqua***

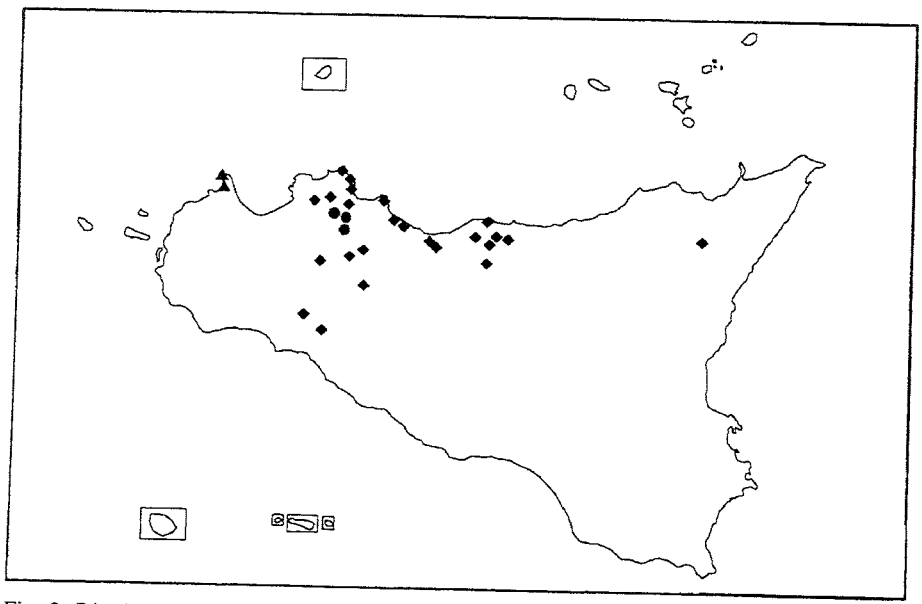

Fig. 3. Distribution of *Brassica rupestris:* (◆) subsp. *rupestris*, (●) subsp. *hispida*, (▲) subsp. *brevisiliqua*.

4. Leaves glabrous or with rare, sparse hairs; siliqua mostly 35-65 (excl. beak) x 3-4.5 mm ..... ***B. rupestris*** subsp. ***rupestris***

3. Lower leaves and seedling leaflets narrowly ovate with acute teeth; siliqua isodiametric mostly 25-35 (excl. beak) x 10-12 mm ..... ***B. macrocarpa***

2. Flowers white; siliqua laterally compressed ..... ***B. insularis***

1. Leaves villous or pubescent

6. Base of the petiole auriculate; petiole up to 15 cm ..... ***B. incana***

6. Base of the petiole not auriculate; petiole up 30 cm. ..... ***B. villosa***

7. Leaves more or less deeply lobed, their margins irregularly toothed; petiole without a pronounced wing

8. Lower leaves and seedling leaflets narrowly ovate to ovate, deeply lobed, irregularly toothed; siliqua isodiametric or dorsally compressed

9. Lower leaves and seedling leaflets ovate; siliqua isodiametric mostly 30-60 (excl. beak) x 3.5-4 mm, valves with a prominent midrib; rostrum conical..... ***B. villosa*** subsp. ***villosa***

9. Lower leaves and seedling leaflets ovate to triangular, siliqua mostly 45-75 (excl. beak) x 3.5-3.8 mm, slightly dorsally compressed without a prominent midrib; rostrum slender ..... ***B. villosa*** subsp. ***bivoniana***

8. Lower leaves and seedling leaflets roundish to broadly ovate, more less lobed, coarsely toothed; siliqua laterally compressed, mostly 25-30 (excl. beak) x 3-4 mm ..... ***B. villosa*** subsp. ***tinei***

7. Leaves lyrate, their margins crispate-denticulate; petiole with a pronounced wing; siliqua isodiametric, tetragonous when dried, mostly 30-45 (excl. beak) x 5-6.5 mm..... ***B. villosa*** subsp. ***drepanensis***

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