F. M. Raimondo, P. Mazzola & D. Ottonello

On the taxonomy and distribution of *Brassica* sect. *Brassica* (*Cruciferae*) in Sicily *

Abstract

Raimondo, F. M., Mazzola, P. & Ottonello, D.: On the taxonomy and distribution of *Brassica* sect. *Brassica* (*Cruciferae*) in Sicily. — Fl. Medit. 1: 63-86. 1991. — ISSN 1120-4052.

The geographical distribution of the Sicilian taxa included in *Brassica* sect. *Brassica* is critically reviewed on the basis of herbarium data and field records representing all populations known to date. The detailed morphological analysis results in the recognition of 8 discrete taxa, here treated at the level of species: *Brassica insularis*, *B. macrocarpa*, *B. rupestris*, *B. incana*, *B. villosa*, *B. drepanensis*, *B. tinei* and *B. bivoniana*. All except *B. insularis* and *B. incana* have their centre of distribution and diversity in Sicily where 5 are endemic, whereas *B. rupestris* also extends locally to Calabria. A key for identification of the Sicilian species is provided, along with full descriptions and synonymies, illustrations, dot maps, and critical comments.

Introduction

The taxa of *Brassica* sect. *Brassica* occurring in Sicily are rather hard to delimit. This difficulty has resulted in different taxonomic interpretations and classifications of these taxa, especially as regards the question of the appropriate taxonomic rank (Lojacono Pojero 1888, Schulz 1919, Fiori 1923-1925, Onno 1933, Heywood 1964, Snogerup 1980, Pignatti 1982, Snogerup & al. 1990).

Some of the taxa appear as homogeneous and geographically well defined units, whereas others are in need of a thorough reassessement of their taxonomic status and geographical distribution, especially in central and western Sicily where the highest diversity is found. The main causes of past uncertainties are the lack of clear and constant morphological characters and the use of spurious features thought to be diagnostic; furthermore some earlier treatments were mainly based on the study of atypical and incomplete specimens belonging to ancient collections, or on field observations rather than on herbarium specimens. Also, the names of most Sicilian taxa have not yet been formally typified. On the other hand, characters of the seedlings as well as cytological, microscopic, analytical, and interfertility data, etc., have been recently used (Gómez-Campo & Tortosa 1974, Gustafsson & al. 1976, Snogerup 1979, Gómez-Campo 1980, Takahata & Hinanta 1980, Stork & al. 1980, Snogerup & Persson 1980), and were found to be relevant for the

*Study supported by a grant of M.U.R.S.T.

understanding of the biology and variation of the taxa, but they are mostly impossible to ascertain by conventional herbarium studies and cannot be immediately assessed in the field. We were able to demonstrate, however, that many of the morphological features recognized and described by the early Sicilian botanists, when considered in conjunction with geographical data, can be of great value. The past taxonomic knowledge of Sicilian populations of *Brassica* sect. *Brassica*, and the formal taxa resulting from that knowledge, were therefore to a large extent confirmed by our own results.

Materials and methods

Our study is designed as a complement to the careful, experimentally based recent work by Snogerup & al. (1990) on the Mediterranean representatives of *Brassica* sect. *Brassica*. This deliberate complementarity means that we have refrained from trying to repeat, totally or in part, the chromosome studies, crossing experiments and biometrical analyses of the Swedish authors, nor have we aimed at duplicating their herbarium studies. Mediterranean material consulted by us is mainly that which is kept in institutions whose holdings were not, or only in part, studied by Snogerup & al., viz.: B, BOLO, FI, K, MS, NAP, PAL, and PI. We have verified original material of all taxa described from Sicily and have, where appropriate, lecto- or neotypified their names. The major emphasis of our work was not, however, on the study of the earlier herbarium material but on the investigation of the populations in the wild. During our studies we have visited nearly all known localities of wild cabbages in Sicily, and have discovered a number of new ones. Some non-Sicilian localities of Sicilian taxa were also visited by us for comparison. We were therefore able to gain direct insight into the structure and variability of the natural populations. For each of them new, complete herbarium specimens were prepared, and seeds were sampled. Our second main purpose was the comparative investigation of taxonomically valuable morphological features, many of which had so far been neglected: indumentum, shape and dissection of the leaves, venation of the fruit valves, and shape of the fruit particularly as viewed in transect. Seedlings from every known population were raised in the Botanical Garden of Palermo and their development was studied in detail up to the unfolding of their seventh or eighth leaf, after which voucher specimens were prepared among the most typical leaves (3th or 4th).

Taxonomic treatment

Brassica insularis Moris, Fl. Sardoa 1: 168. 1837 ≡ *B. oleracea* var. *insularis* (Moris) Cosson, Comp. Fl. Atlant. 2: 185.1887 ≡ *B. oleracea* subsp. *insularis* (Moris) Rouy & Fouc., Fl. France 2: 54.1895 ≡ *B. cretica* subsp. *insularis* (Moris) Onno in Österr. Bot. Z. 82: 316.1933. — Fig. 1. — **Ind. loc.:** [Sardinia] "Inter saxa, Domus de Medusa prope samugheo". — **Lectotypus:** 6.1828, *Moris* (TO), selected by Snogerup & al. (1990: 304).

Suffrutex up 120 cm high. Stem branched, woody, 10-15 mm thick. Leaves glabrous; lower leaves, without the 10-15 cm long petiole, 25-30 x 15-20 cm, narrowly ovate to

Fig. 1. *Brassica insularis*. **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 0.5).


C
D
A
B
E

lanceolate, sublyrate in the lower part; upper leaves undivided, gradually smaller, becoming linear, their margins with irregularly scattered, acute teeth. Seedling leaves broadly ovate to oblong. Racemes up 100 cm, many-flowered. Flowers fragrant; pedicels 10-20 mm, suberect; sepals (9-)10-13(-14) x 2-4 mm; petals white, 20-28 x 10-14 mm. Siliqua patent, subcylindrical, slightly compressed laterally, 35-70 x 3-5 mm without the 10-20 cm long, 1-2-seeded beak rostrum. Fl.: III-IV. — $2n = 18$ (Lentini & al. 1990).

Habitat: maritime volcanic cliffs (in our area). — *General distribution*: Corsica, Sardinia, Algeria, Tunisia, Pantelleria. — *Local distribution*: Pantelleria near Punta del Formaggio (Fig. 5).

Specimens examined: Pantelleria, s.d., *s. coll.* [*Todaro*] (PAL); Pantelleria, "rupi marittime presso Punta del Formaggio" 20.3.1963 *Catanzaro* (FI); Pantelleria, "Rocce verticali a strapiombo sul mare e nella sottostante cala, nel tratto Cala Tramontana (Elefante) Faraglione dietro Isola", 30.3.1962, *Catanzaro* (PAL); Pantelleria, "nelle falesie presso Punta del Cultignolo", 120 m, 8.7.1986, *Romano & al.* (PAL).

Notes: The sole locality known in Pantelleria is near Punta Formaggio (Catanzaro 1966). A specimen preserved in the Herbarium of Todaro (PAL) almost certainly comes from that same locality, which constitutes an obvious connecting link between the Sardinian and the N African populations.

B. macrocarpa Guss., Ind. Sem. Horti Boccadifalco 1825: 3. 1825 ≡ *Eruca macrocarpa* (Guss.) Caruel in Nuovo Giorn. Bot. Ital. 23: 240. 1891. — Fig. 2. — **Ind. loc.:** [Sicilia] "Favignana al Castello di S. Caterina". — **Lecto- vel Neotypus** (selected here): Favignana, *Gussone* (NAP - Herb. Guss.).

Suffrutex up 150 cm high. Stem woody, up 20 mm thick. Leaves glabrous; lower leaves, without the 10-20 cm long petiole, 15-25 x 10-20 cm, ovate, sublyrate, with the apical lobe acute and the margin coarsely and irregularly toothed; upper leaves gradually becoming undivided and smaller; seedling leaves undivided, ovate, acute, irregularly toothed. Racemes up 100 cm long, branched. Pedicels 10-20 mm, erecto-patent; sepals (9-)10-12(-13) x 2-4 mm, yellowish; petals (18-)20-30(-32) x (8-)9-11(-12) mm, bright yellow. Siliqua subisodiametric, the valves with an inconspicuous midrib, (20-)25-35(-40) x (8-)10-12(-13) mm without the (8-)10-15(-18) mm long, 1-2 seeded beak rostrum. Seeds reticulate. — Fl. II-IV. $2n = 18$ (Ferrarella & al. 1981).

Habitat: maritime limestone cliffs and slopes. — *Distribution*: Endemic to the islets of Favignana and Marettimo W of Sicily (Fig. 5).

Specimens examined: s. loco, s. d., *Lojacono* (PAL); s. loco, s. d., s. coll. [*Todaro*] (PAL); Favignana, 3.1854, *Todaro* (PAL); Favignana, Apr., *s. coll.* (PAL); Favignana, s. d., *Todaro* (PAL); Favignana, 9.3.1978, *Ottonello* (PAL); Favignana, 11.4.1979, *Ottonello* (PAL); Favignana, s. d., *Gussone* (NAP, typus); Favignana, Apr, *Gussone* (NAP); "In rupibus calcareis montosis", Feb.-Mar., *Gussone* (NAP); Marettimo, 10.5.1829, *Gussone* (NAP); Marettimo, "In rupibus calcareis maritimis", 3.7.1899, *Ross*

Fig. 2. *Brassica macrocarpa*. **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 0.5).


B
C
D
E
A

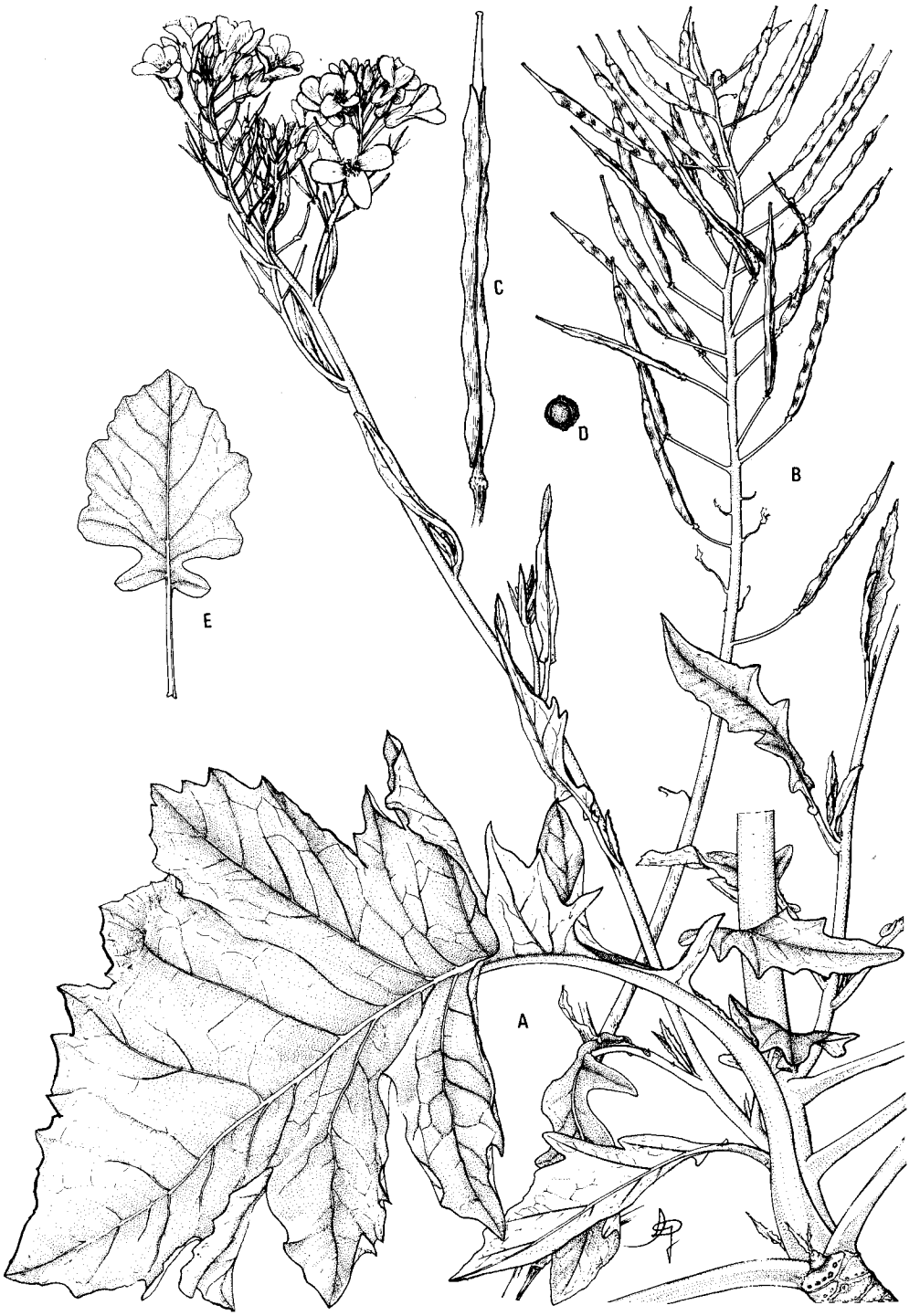
(B); Marettimo, Libbano, 31.5.1947, *Francini & Messeri* (FI); Marettimo, Capo Bassano, 29.5.1947, *Francini & Messeri* (FI); Marettimo, "Rupi calcaree ombrose sul Monte Falcone", 28.4.1987, *Ottonello & Mazzola* (PAL); Favignana, 1824, *Gussone* (BOLO); Marettimo, 1829, *Gussone* (BOLO); Favignana, "in rupibus maritimis", 4.1887, *Lojacono* (FI); Marettimo, 1843, *Tineo* (FI); Favignana, 6.1854, *Todaro* (FI); Favignana, "in rupibus ad Castellum S. Caterina", 5.1855, *Huet du Pavillon* (FI); Favignana, "in rupibus maritimis", 4.1888, *Ross* (FI); Marettimo, "cima di Pizzo Campana", 26.4.1935, *Francini & Messeri* (FI); Marettimo, at Pizzo Falcone, 27.5.1947, *Francini & Messeri* (FI); Marettimo, "in rupibus calcareis maritimis", 3.7.1899, *Ross* (FI; K); Marettimo, Isole Egadi, 16.5.1898, *Bricknel* (PI).

Notes: The distributional range of this morphologically well characterized species, is restricted to the islets of Favignana and Marettimo. Its populations were examined by Francini & Messeri (1956). Gussone (1844) and Lojacono Pojero (1888-1889) recorded *Brassica macrocarpa* also for Levanzo, but its presence there, could not be confirmed by Di Martino & Trapani (1968). *B. villosa* has also been recorded for the Egadi islands (Gussone 1844), but the presence of pubescent populations in that archipelago needs confirmation. The specimen here selected as type is undated, and its being associated with other material collected by Gussone during 1829 (i.e. after the publication of the protologue) suggests that it may not be original material and is better considered as a neo- rather than a lectotype.

B. rupestris Rafin., Caratt. Nuov. Gen.: 77.1810. ≡ *B. oleracea* subvar. *rupestris* (Rafin.) Cosson, Comp. Fl. Atlant. 2:184.1887 ≡ *B. oleracea* var.*rupestris* (Rafin.) Paol. in Fiori & Paol., Fl. Italia 1: 446.1898 ≡ *B. sylvestris* subsp. *rupestris* (Rafin.) Onno in Österr. Bot. Z. 82: 327.1933. — Fig. 3. — **Ind. loc.:** [Sicilia] "Nasce fra le rupi nelle montagne vicino Palermo, al Caputo, nel Monte Etna vicino Bronte e Randazzo & c." — **Neoptypus** (selected here): "In rupibus calcareis Palermo, 4.1858", *Todaro* (PAL).
= *B. rupestris* var. *longirostris* Guss. Fl. Sicul. Prodr. 2: 279. 1828. — **Neotypus** (selected here): "Palermo monti, aprile, *Tineo*" (PAL). = *B. sempervirens* Schrank, Pl. Rar. Hort. Monac. 1, tab. 10.1817. **Ind. loc.:** not cited. — **Lectotypus** (selected here): illustration on tab. 10 in Schrank, Pl. Rar. Hort. Monac. 1.1817.

Suffrutex up 150 cm high. Stem woody, up to 20 mm thick. Leaves glabrous or sometime, with sparse, hispid, bulbose hairs; lower leaves without the up 20 cm long petiole, (15-)20-30(-40) x 10-15(-20) cm, ovate, lyrate, with 2-6 large lobes, and more or less deeply toothed margin, often auriculate at the base; upper leaves undivided, gradually smaller. Seedling leaves undivided or sublyrate, usually broadly ovate, coarsely toothed, Racemes up to 100 cm long in a branched panicule. Pedicels 10-20 mm, erecto-patent to erect sepals (6-)8-12(-13) x 2-3.5 mm; petals (16-)18-5(27) x (6-)7-12(-13) mm, yellow. Siliqua erecto-patent, more or less curved and torulose , slightly compressed, the valves 1-nerved and (35-)40-75 x 3-4.5 mm including the subulate to narrowly conic, up 10 mm long rostrum. — Fl.: XII-IV — $2n = 18$ (Colombo & al. 1979).

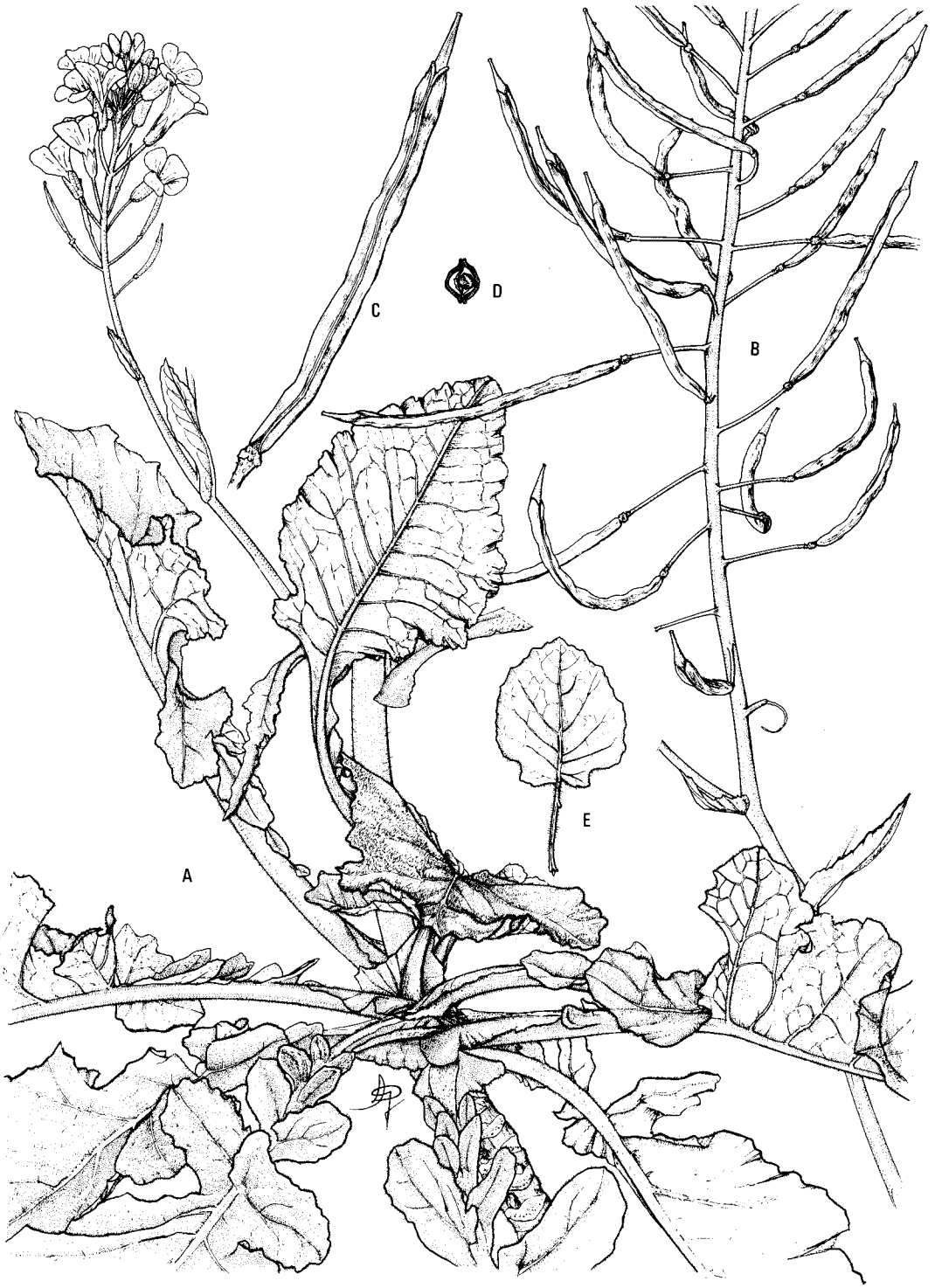
Fig. 3. *Brassica rupestris*. **A:** mature plant in flower (x 0.4); **B:** fruiting raceme (x 0.4); **C:** siliqua (x 1.3); **D:** siliqua in transect (x 1.3); **E:** seedling leaf (x 0.5).


C
D
B
E
A

Habitat: Limestone cliffs between sea level and 1.100 m. — *General distribution*: Sicily and Calabria near Stilo, province of Catanzaro (Hammer & al. 1986). — *Local distribution*: From Roccella Valdemone (W of Catania) westward (Fig. 5).

Specimens examined: **[Sicily]**: Gorgo del Drago, 20.4.1987, *Fici* (PAL); Castle of Calatubo (TP), 9. 6.1987, *Ottonello & Gianguzzi* (PAL); Polizzi at the Pietà, "rupi esposte a W", 16.6.1987, *Mazzola* (PAL); Monte Gallo, 10.4.1850, *s. coll.* [*Porcari*] (PAL); Palermo, "In rupibus calcareis", 4.1858, *s. coll.* [*Todaro*] (PAL, typus); Mondello, 1.4.1874, *Reina* (PAL); Palermo, 1854, *s. coll.* [*Tineo*] (PAL); S. Maria di Gesù, 4.3.1856, *s. coll.* [*Tineo*] (PAL); Monte Pellegrino, "fessure delle rupi", 4.1875, *s. coll.* (PAL); Palermo, "in rupibus calcareis", s.d., *Todaro* (PAL); S. Maria del Bosco, s. d., *s. coll.* [*Citarda*] (PAL); Pellegrino, Apr., *s. coll.* [*Tineo*] (PAL); Palermo, "monti", Apr., *s. coll.* (PAL, sub "var. *longirostris*", typus); Palermo, Monte dell'Occhio, May, *Gussone* (NAP); Monte dell'Occhio, "Siliquis erectis crassioribus angulatis", s. d., *Gussone* (NAP); Monte dell'Occhio, May, *Gussone*, (NAP, sub "*B. cretica* var. siliquis angustis incurvis erectis"); Sagana, s.d., *Gussone* (NAP); Palermo, "In rupibus calcareis montium", s. d., *s. coll.* (B, sub "*B. balearica*"); Palermo, "In rupibus calcareis reg. infer. et montanae", s. d., *Ross* (B); Corleone, "Alle gole del Drago", 8.4.1987, *Raimondo & Mazzola* (PAL); Roccamena, "Rupe nei pressi dell'abitato" 26.10.1989, *Certa & Gambino* (PAL); Collesano, "Rupi di Cozzo Croci, sopra il centro abitato", 16.5.1988, *Raimondo & Mazzola* (PAL); Cefalù, "rupi della rocca", 2.1.1983, *Raimondo & Mazzola* (PAL); S. Vito Lo Capo, at the Pizzo Monaco, 17.3.1986, *Ottonello & Romano* (PAL); Macari, "Rupi", 29.3.1986, *Ottonello* (PAL); Castelbuono, at Passo Scuro, 13.3.1983, *Raimondo & Mazzola* (PAL); Monte Pellegrino, "All'Addaura nelle rupi ai margini della strada", 3.1.1984, *Fici* (PAL); Altavilla Milicia, "In contrada Sperone, 10 m", 23.4.1973, *Ottonello* (PAL); between Macari and S. Vito Lo Capo, "Pareti calcaree a 80 m s.l.m. esposte a W", 8.8.1985, *Raimondo* (PAL); Sambuca di Sicilia, "Rupi a Sud del lago Arancio", 4.4.1986, *Mazzola* (PAL); Caccamo, "Rupi sovrastanti il letto del fiume S. Leonardo, m 200", 12.4.1986, *Raimondo & Mazzola* (PAL); Capo Zafferano, 3.2.1985, *s. coll.*, (PAL); Roccella Valdemone, "Poco frequente sulle rupi esposte a settentrione, a N e a NE dell'abitato", 16.4.1990, *Raimondo & Gianguzzi* (PAL); Castelbuono, "Rupi dei Monti Gemelli", 17.7.1906, *Martelli* (FI, sub "*B. macrocarpa* Guss., "siliquae desunt"); Monte dei Cani, 8.4.1989, *Romano* (PAL); Palermo, "in rupibus", s. d., *Borzì* (BOLO); Palermo, "in monti", 1824, *Gussone* (BOLO); "Monti di Palermo (M. dell'Occhio)", 1824, *Gussone* (BOLO); Palermo, "in rupibus calcareis", s. d., *Todaro* (PI); Palermo, "ad rupes calcareas", s. d., *Todaro* (PI); Palermo, "in rupibus calcareis", 2.4.1902, *Ross* (PI); Palermo, "ad rupes calcareas", 1856, *Todaro* (FI); Palermo, at Monte Pizzuta, 8.18842, *Parlatore* (FI); Monte Pellegrino, "in rupibus calcareis montanis", s. d., *Lojacono* (FI); Palermo, at S. Maria di Gesù, 22.2.1835, *Parlatore* (FI); s. loco, 6.1854, *Sorrentino* (FI); Palermo, "in rupibus calcareis", 1868, *Todaro* (FI); Palermo, "in rupibus elatis", 5.1882, *Lojacono* (FI); Palermo, "rupi calcari di Monte Pellegrino', 4.2.1912, *Vanari* (FI); Palermo, 4.1898, *Ross* (K); Isnello, at Favara, 7.4.1987, *Raimondo & Mazzola* (PAL); Isnello, at Aquileia, 7.4.1987, *Raimondo & Mazzola* (PAL); Termini Imerese, Monte S. Calogero, 11.5.1989, *Mazzola* (PAL); Caltabellotta, "Rupi", 10.5.1985, *Mazzola* (PAL); Rocca Busambra, 7.3.1984, *Raimondo & Mazzola* (PAL). — **[Calabria]**: near Stilo (Reggio Calabria), "lungo le pendici di un costone calcareo rivolto a Nord-Est ad una altitudine di m 200 ed oltre", 19.9.1986, *Hammer & al.* (FI); Stilo (Reggio Calabria),

Fig. 4. *Brassica incana*. **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 0.5).


A
B
C
D
E

"Parete calcarea sopra la chiesetta bizantina", 20.1.1990, *Mazzola & al.* (PAL).

Notes: Brassica rupestris, as other name of Sicilian species established by Rafinesque, needs a neotype. For this purpose a specimen from the first locality quoted in the protologue, where the taxon in question is widespread, has been selected.

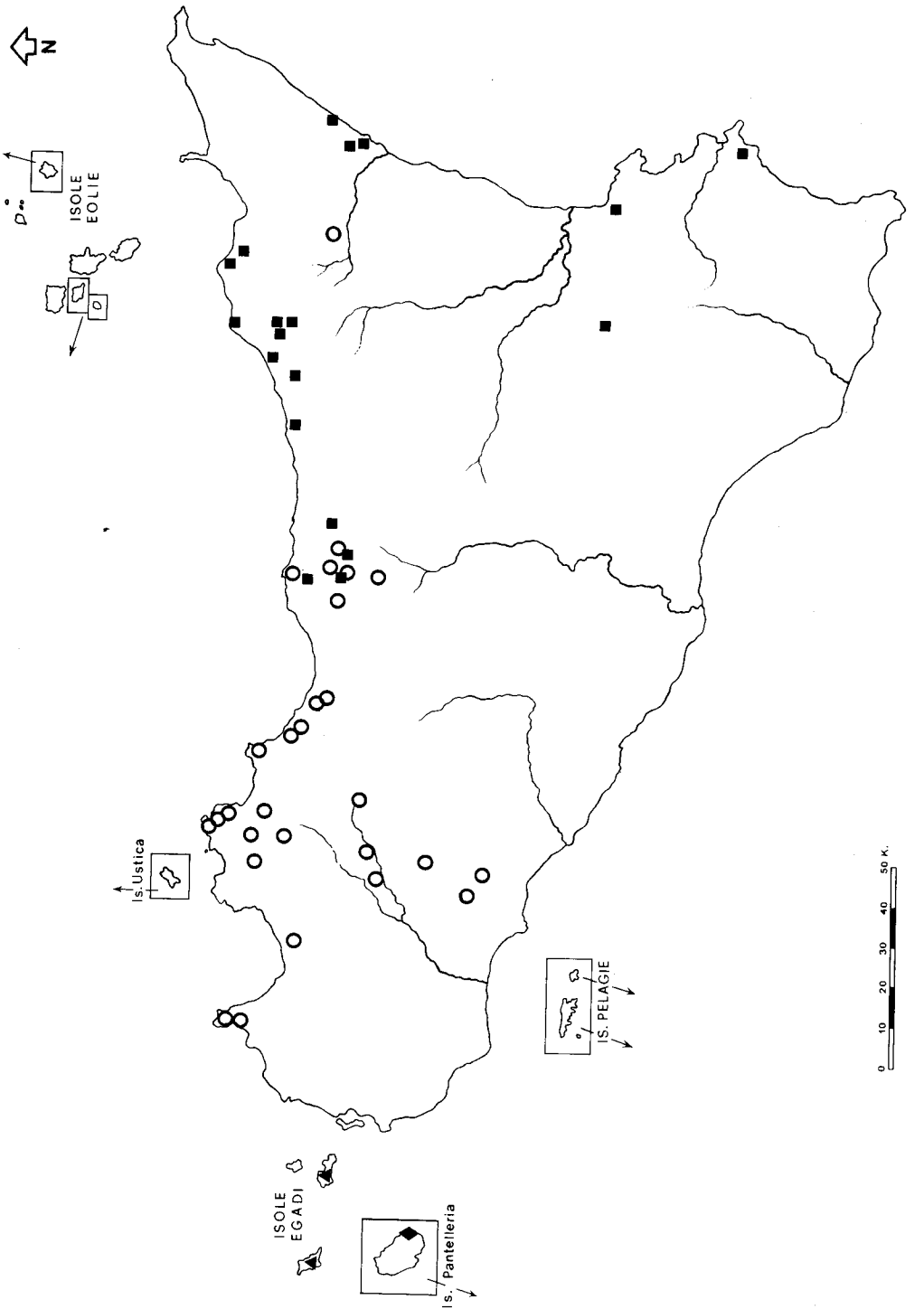
B. rupestris, in spite of its variability, is a morphologically clearest and taxonomically distinct species. In the wild, hybrids between *B. rupestris* and other villous species do occur. They are easily recognized by having both the hispid, bulbose hairs of *B. rupestris* and the soft indumentum of *B. villosa* (Onno 1933, Heywood 1964, Pignatti 1982, Snogerup & al. 1990) *B. bivoniana*, *B. drepanensis* or *B. incana*. They are formed where the ranges of the parent species overlap.

B. rupestris occurs mainly in north-western Sicily, in the area comprised between the Madonie mountains and Trapani, where it can be regarded as a relatively frequent inhabitant of calcareous rocks. In the eastern part of the island, old records exist for Bronte and Randazzo near Mount Etna (Rafinesque 1810), Taormina (Onno 1933), Catania and Siracuse (Tornabene 1887). These localities could not yet be verified, but the occurrence of *B. rupestris* in the eastern part of Sicily is confirmed by our new record for Roccella Valdemone (Catania). Reports from Capo S. Alessio (Gramuglio & al. 1959) refer in fact to *B. incana*. For southern Italy, *B. rupestris* has been reported by Onno (1933), Heywood (1964), and Pignatti (1982), whereas others have denied its occurrence in this area (Anzalone 1979, Greuter & al. 1986). The taxonomic identity of the alleged peninsular populations of *B. rupestris*, which have been considered to belong to *B. incana* (Brullo 1985), certainly needs verification. Genuine *B. rupestris* has, however, been discovered in a locality near Stilo (Calabria, province of Catanzaro) by Hammer & al. (1987) where, as we have verified, it is seriously threatened by the cultivation of crops. A wider distribution of the species in the south of the Italian peninsula may be assumed.

B. incana Ten., Fl. Napol. 1: XXXIX. 1811-1815. ≡ *B. oleracea* subvar. *incana* (Ten.) Cosson, Comp. Fl. Atlant. 2: 184. 1887 ≡ *B. oleracea* var. *incana* (Ten.) Paol. in Fiori & Paol., Fl. Italia. 1: 446. 1898 ≡ *B. sylvestris* subsp. *incana* (Ten.) Onno in Österr. Bot. Z. 82: 318. 1933. — Fig. 4. — **Ind. loc.:** [Italia] "Colline del littorale, Camaldoli". — **Lectotypus** (selected by Snogerup & al. 1990: 317): s.d., *Tenore* (G).

Suffrutex up 150 cm high. Stem woody up 20 mm thick. Leaves softy villous: hairs usally simple, denser along the nerves and the rachys; lower leaves, without the 5-15 cm long petiole, 15-30 x 10-20 cm, ovate to lanceolate, lyrate, auriculate or amplexicaul, their margins, irregularly denticulate; upper leaves undivided, gradually smaller. Seedling leaves undivided, ovate coarsely toothed. Racemes up 100 cm long, many-flowered. Pedicels 10-25 mm, patent; sepals 12-16 x 2-4 mm, yellowish; petals 20-30 x 8-13 mm, bright yellow. Siliqua patent, slightly dorsally compressed, (40-)50-100 mm long, 3-4 x 4-5 mm iwithout conic 8-14 mm long, seedless rostrum. Seeds minutely reticulate. — Fl. III-IV — $2n = 18$ (Ferrarella & al. 1980).

Fig. 5. Distribution of *Brassica insularis* (◆), *B. macrocarpa* (▲), *B. rupestris* (○) and *B. incana* (■) in Sicily.


N
ISOLE EOLIE
Is.Ustica
IS. PELAGIE
ISOLE EGADI
Is. Pantelleria
0
10
20
30
40
50 K.

Habitat: limestone cliffs and slopes from sea level up to 800 m. — *General distribution*: S and C Italy, E Sicily, Yugoslavia, Ionian Islands in NW Greece (Snogerup & al. 1990). — *Local distribution*: E and C Sicily, westward to the Madonie Mountains (Fig. 5).

Specimens examined: Capo d'Orlando, s. d., *s. coll.* [*Porcari*] (PAL); Militello V. di Noto, Apr. *s. coll.* [*Tineo*] (PAL); V. Demone, 5.1855, *Todaro* (PAL); Capo d'Orlando, s.d., *Todaro* (PAL); "Coltivata nel R. Orto Bot.", 1888, *s. coll.* (PAL); Capo d'Orlando, "In Lapidosis calcareis", Jul., *s. coll.*, (PAL); Capo d'Orlando, s. d. *Citarda* (PAL); Fondaco dell'Agnone between Catania ed Agosta, "In rupibus montosis", *Gussone* (NAP); near Avola and Siracusa, "in rupis erectis; solo tufaceo", 4/26.4.1989, *Rigo* (B); Tindari, "Rupi", 6.5.1982, *Raimondo & Mazzola* (PAL); Mongiove (Patti), 16.8.1983, *Raimondo* (PAL); Capo S. Alessio, 31.7.1984, Ottonello (PAL); Torrente Rosmarino, S. Agata Militello, 22.3.1981, *Raimondo* (PAL); S. Agata Militello, 3.1.1984, *Ottonello* (PAL); Palermo, "Hort. Bot. ex planta culta e seminibus siculis", s. d., *Gussone* (NAP); Castel di Mola, "Rupi", 31.7.1984, *Ottonello* (PAL); Madonie at Gonato, 14.7.1984, *Ottonello* (PAL); S. Fratello, 8.4.1987, *Romano* (PAL); Isnello, "rupi fra l'abitato e il fiume" *Mazzola* (PAL); Castel Mola near Taormina, "nei muri inculta", 20.3.1885, *Borzì* (MS); Castel Mola, "In rupibus" 4.1887, *Borzì* (MS); Taormina, "nelle rupi calcaree", 4.4.1906, *Fiori* (FI); Taormina, 4.3.1906, *Fiori* (FI, sub *B. rupestris* Raf.); Cefalù, "at S. Nicola", 27.4.1988, *Raimondo & Mazzola* (PAL); S. Mauro Castelverde at Cozzo Arfarama, 22.5.1988, *Gianguzzi & Certa* (PAL); Frazzanò, Contrada Daza, 5.5.1988, *Gianguzzi* (PAL); Longi at Passo della Zita, 5.5.1988, *Gianguzzi* (PAL); S. Marco d'Alunzio at "Malupirtusu", 16.5.1988, *Gianguzzi* (PAL); Acquedolci at San Teodoro, 12.5.1987, *Mazzola* (PAL).

Notes: The distributional area of this species includes parts of the Yugoslav coast, of central and southern Italy and of Sicily, where only *Brassica incana* subsp. *incana* occurs. The latter is widespread in the eastern part of the island, reaching west as far as the Madonie mountains where it has been found at Gonato (S of Castelbuono) and S. Nicola (S of Cefalù) and where an old record for Isnello (Strobl 1903) has also been verified. In this latter locality both *B. rupestris* and *B. incana* occur. Other records for localities in western Sicily (Lojacono 1906, Bartolo & al. 1976, Brullo & Marcenò 1979) belong in first to *B. bivoniana* or *B. drepanensis* rather than to *B. incana*. On the other hand, herbarium materials from eastern Sicily and the Madonie mountains, that had been misidentified as *B. villosa* (Strobl 1903, Onno 1933, Pignatti 1982), belongs in fact to *B. incana*.

B. drepanensis (Caruel) Damanti in Naturalista Sicil. 10: 91. 1891 ≡ *Eruca drepanensis* Caruel in Nuovo Giorn. Bot. Ital. 23: 240. 1891 ≡ *B. macrocarpa* var. *drepanensis* (Caruel) Paol. in Fiori & Paol., Fl. Italia 1: 447. 1898 ≡ *B. macrocarpa* f. *villoso-incana* Lojac. in Malpighia 20: 118. 1906. — Fig. 6 (from Raimondo & al. 1986). — **Ind. loc.:** [Sicilia] "Monte di Trapani". — **Holotypus:** 6.1855 (manu Citarda), *s. coll.* [*Citarda*] (PAL).

Suffrutex up 150 cm high. Stem woody, up 20 mm thick. Leaves densely villous; lower leaves, including the 10-15 cm long petiole, up to 40 x 15 cm ovate, lyrate with a

Fig. 6. *Brassica drepanensis*. **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 0.5).