



A new species of *Capparis* (Capparaceae) from ultramafic substrata in New Caledonia

SILVIO FICI

Dipartimento di Scienze Agrarie, Alimentari e Forestali, Università di Palermo, Via Archirafi 38, 90123 Palermo, Italy.
E-mail: silvio.fici@unipa.it

Abstract

A new species of *Capparis*, *C. parvifolia*, is described and illustrated from New Caledonia, where it is known from a few localities on Mont Kaala on ultramafic substrata. The new species is characterized by the relatively small, linear leaf-blade and by the small size of the sepals, petals, stamens, gynophore and fruit. Its affinities with related taxa are discussed and its conservation status assessed.

Key words: *Capparis* sect. *Busbeckea*, ecology, North Province

Introduction

The genus *Capparis* Linnaeus (1753: 503) includes about 250 species distributed in the tropical and subtropical regions of the Old and New Worlds (Fici 1993). As underlined by Jacobs (1965: 402), this genus has been scarcely investigated in New Caledonia. He recorded from that island five species, two of them incompletely known or showing deviating forms, whereas recently Morat *et al.* (2012) reported only three species. During a study of collections of *Capparis* from New Caledonia at P, unidentified specimens from Mont Kaala, a peak near Kaala-Gomén, North Province, were examined. This material turned out to belong to an undescribed species of *Capparis* sect. *Busbeckea* (Endl.) Benth & Hooker (1862: 109), distinguishable from other Pacific and Australian species by its leaf morphology and flower and fruit features.

Capparis parvifolia Fici, *sp. nov.*

Type:—NEW CALEDONIA. Pente Nord du Mt. Kaala, 100 m., 25 December 1966, *MacKee 16170* (holotype P [06804852]!, isotypes MO [6450391], NOU [072503, 072504]).

Diagnosis:—A *C. artensis* Montrouzier foliis minoribus linearibus, sepalis et petalis minoribus, staminibus et gynophoro brevioribus, fructo minore praecipue differt.

Climbing shrub up to c. 3 m long. Twigs slender, pubescent with dense, minute, simple hairs. Stipular thorns recurved, up to c. 1–1.5 mm long, often lacking on flowering twigs. Petioles 3.5–8 (–9) mm, pubescent. Leaf-blades linear, in some cases slightly wider above the middle, 4–8.8 (–10.5) times as long as wide, (2–) 2.2–6.5 × 0.4–0.8 cm, pale-bright green; base acute or blunt; apex acute or blunt; surfaces glabrous; veins c. 8–16 on each side of the midrib, thin, decurrent along the margin. Flowers in terminal corymbs or racemes up to 10 cm long in the available material, in some cases conferted at the summit of short, lateral twigs 2.5–3 cm long or solitary in the axils of the upper leaves; pedicels 0.9–2 cm long, pubescent. Sepals (4–) 6–8 × 5–7 mm, acute or slightly pointed at apex, pubescent outside, glabrous or loosely pubescent inside, outer pair boat-shaped, coriaceous, inner pair thinner. Petals unguiculate, white, 9–11 × 4–7 mm, undulate at apex, woolly or pubescent outside particularly at base and margins, loosely woolly inside. Stamens c. 50–58; filaments 1–1.3 cm long; anthers basifixed, 1.5–2 mm long. Gynophore 1–2 cm long, glabrous; ovary ovoid or ellipsoid, 2–3 × 1–2 mm, glabrous; stigma knob-shaped. Fruit ellipsoid, (0.7–) 0.9–1 × 0.5–0.6 cm in the available material, apiculate, glabrous. Fig. 1.

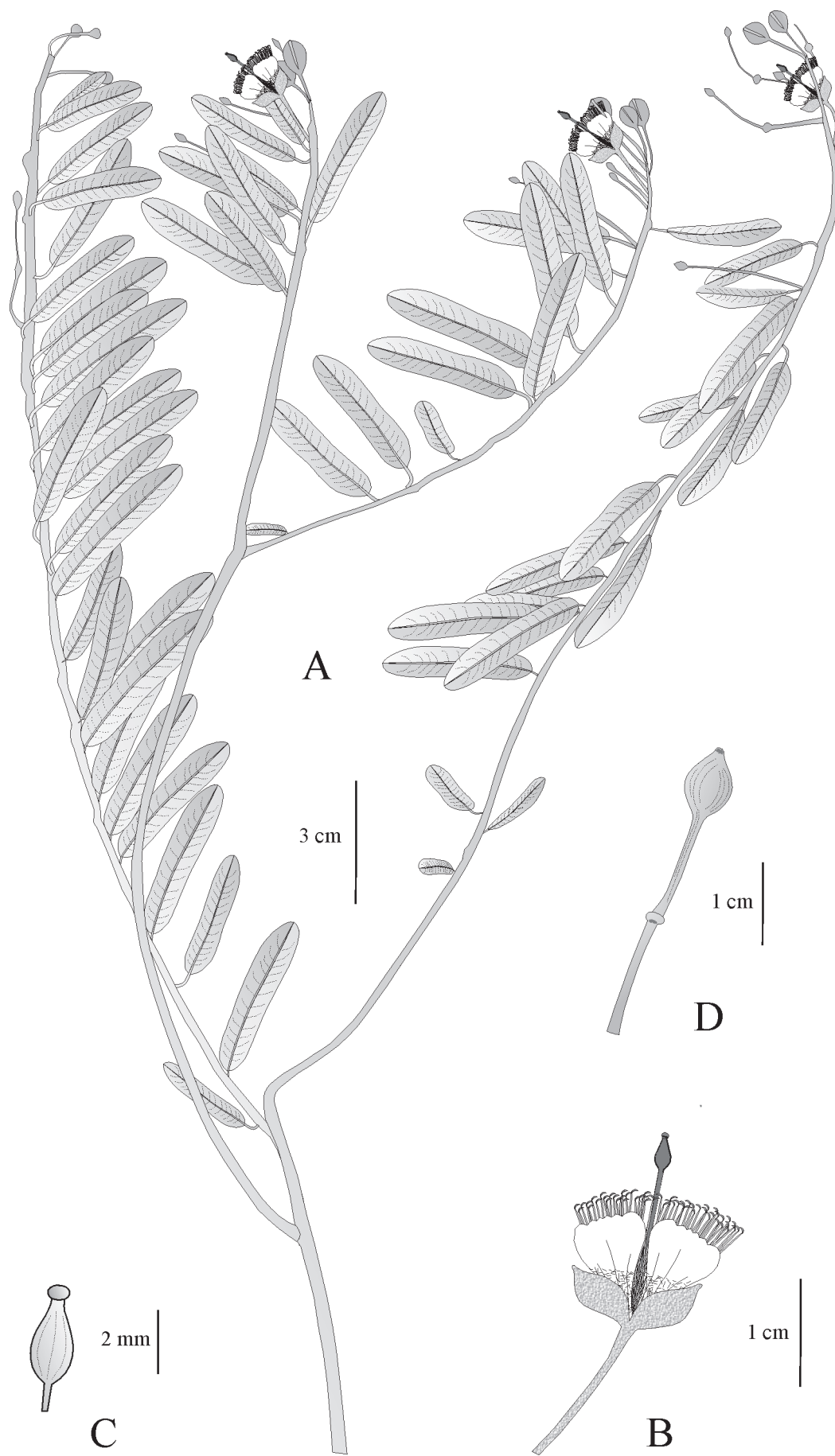


FIGURE 1. *Capparis parvifolia*. **A.** Flowering branch. **B.** Flower. **C.** Ovary. **D.** Fruit (A, B, C from *MacKee 16170*; D from *MacKee 33063*). Drawn by Silvio Fici.

Distribution and habitat:—*Capparis parvifolia* is known from a few localities on Mont Kaala, North Province, New Caledonia, in maquis on ultramafic substrata at c. 100–800 m elevation. The new species appears to be rare on “terrain rocheux serpentineux” (MacKee 16170).

Phenology:—Flowers in December and January (based on available material).

Conservation status:—The new species is assessed here as Vulnerable (VU D2), according to IUCN Red List Categories and Criteria (IUCN 2012), due to its restricted area of occupancy and low number of locations so far known in proximity of a mining area.

Notes:—The genus *Capparis* is represented in the Pacific and Australia by several species belonging to sect. *Capparis* Linnaeus (1753: 503), sect. *Monostichocalyx* Radlkofer (1884: 101) and sect. *Busbeckea* (Jacobs 1965, Fici 2003, 2014, 2015). Sect. *Busbeckea*, distributed in Australia with outliers in southern Asia and the western Pacific, includes 13 to 15 species characterized by leaves well-developed and persistent, juvenile shoots mostly different from the adult ones and outer sepals connate in bud (Jacobs 1965). *Capparis parvifolia* is mainly distinguished from other species of this section by its small, linear leaf-blade and by the small size of the sepals, petals, gynophore and fruit. It shows affinities with *C. artensis* Montrouzier (1860: 177), a species widespread in New Caledonia and Vanuatu, which, however, differs in various characters, i.e., leaves of adult shoots with petiole 1.5–2.5 cm long, leaf-blade ovate, 6–10 × 3.25–5.75 cm, outer sepals c. 1.5–2 × 1.25–1.5 cm, petals c. 2 × 1.25 cm, stamens (2.7–) 3–6 (–6.5) cm long, gynophore 5.5–8 cm long and fruit 3–3.5 cm in diameter (Jacobs, 1965). The new species is also related to *C. dielsiana* Schlechter (1906: 112), an incompletely known species close to *C. artensis* (Jacobs 1965).

Within sect. *Busbeckea* linear leaves and small flowers are present in *Capparis thozetiana* (Mueller) Mueller (1882: 5), endemic to south-eastern Queensland, which differs from *C. parvifolia* being an erect shrub with shorter petioles (0.5–1.5 mm), mucronate leaves, solitary, mostly axillary flowers and fewer (16–20) stamens (Jacobs 1965). Flowers having sepals and petals of similar size are recorded in another species from southern Queensland, *C. humistrata* (Mueller) Mueller (1882: 5), a spreading bush differing from the new species in its straight, longer (6–8 mm) thorns, ovate leaves and solitary, axillary flowers. Within the same section linear leaves are also recorded for *C. divaricata* Lamarek (1785: 606), a shrub or small tree from India and Sri Lanka. It should also be noted that vegetatively *C. parvifolia* can resemble juvenile forms, showing linear leaves, of *C. quiniflora* Candolle (1824: 247), a species belonging to sect. *Monostichocalyx* widespread in New Caledonia and in several other areas from Indonesia to northern Australia. The latter species is readily distinguished by its adult shoots which bear ovate or obovate leaves and flowers serial in supra-axillary rows.

Ultramafic substrata are widespread in New Caledonia, where these habitats support shrub communities known as “maquis minier” that cover c. 4.500 km². These phytocoenoses include about 1200 species of vascular plants, 90% of them endemic. The area of Mont Kaala is one of the hotspots of plant diversity in New Caledonia, with 9 narrow endemic species so far recorded here on ultramafic substrata (Wulff *et al.* 2013).

Other collections seen:—NEW CALEDONIA. Mont Kaala (Pente Nord), 800 m, 17 April 1977, *MacKee 33063* (P [04746160]); NEW CALEDONIA. Mt. Kaala, south of Koumac, ca 500 m, 6 January 1981, *McPherson 3483* (P [04746668], MO [3015532], NOU).

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