FABACEAE

A NEW SPECIES OF *BAUHINIA* FROM SOUTHERN MOZAMBIQUE AND THE REINSTATEMENT OF *BAUHINIA MACRANTHA*

Bauhinia burrowsii *E.J.D.Schmidt*, sp. nov.

TYPE.—Mozambique: Inhambane Province, near Mapinhane, 22° 13.385' S and 34° 54.347' E, 4 April 2010, *E.J.D. Schmidt 5022* (PRE, holo.; BNRH, Ernst Schmidt Herbarium, K, LMA, PRU, iso.).

Shrub up to 5 m high; bark smooth and grey, sometimes covered with small lenticels; branches terete, reddish brown, sparsely puberulous, hairs reddish and soon lost, becoming grey with age; remnants of older branchlets form stout, branched thorn-like structures. *Leaves* alternate, 2-lobed to ± two-thirds of way, lobe apices rounded, base truncate to rounded; leaf lamina wider than long, 20–50 × 30–70 mm; venation palmate with 9 primary veins, veins darker than lamina in dried specimens, reticulation not prominent; dark green and hairless above, slightly paler below with white minutely appressed-puberulous indumentum, virtually invisible to the naked eye; margin entire; petiole 8–20 mm long. *Inflorescence* a terminal minutely appressed-puberulous raceme, up to 55 mm long, with up to 18 flowers; pedicels 3–10 mm long. *Flowers* bisexual and pentamerous, buds ± 45 mm long, upper part (sepals) ± 25 mm long and linear-lanceolate in outline; hypanthium ± 20 mm long, finely puberulous. *Petals* white, very narrowly elliptic to obovate, 20–33 × 2–4 mm, margin crisped, outside covered in small basifixed glands (± 2 mm long), also present in young vegetative parts. *Stamens* 5, very slender, 30–40 mm long, white; anthers 2.5–3.5 mm long, dorsifixed close to middle of anther. *Stigma* 1.0–1.5 mm in diam., peltate. *Style* 3–6 mm long. *Pod* dehiscent, narrowly oblanceolate to linear-oblong, 60–220 × 17–28 mm, dark brown. *Seeds* up to 14 per pod, brown to olive, obovate to subcircular, 7–12 × 5–10 mm. Figures 1–5.

Diagnostic characters and affinities: the limited distribution and small flowers with narrow petals are diagnostic for *B. burrowsii*. The closest affinity would be *Bauhinia petersiana* Bolle. In flower, the new species is easily distinguished by the lack of prominent pink stamens and the generally smaller flowers. The width of petals in *B. petersiana* is at least 6 mm, whereas in *B. burrowsii*, the maximum is 4 mm. Furthermore, the anthers in the latter species are dorsifixed close to the middle of the anther; whereas in *B. petersiana*, they are situated more towards one side and are much larger—a minimum of ± 6 mm (up to 14 mm) long—as opposed to a maximum of 3.5 mm long in *B. burrowsii* (Brenan 1967; Coates Palgrave 2002; Schmidt *et al.* 2007). In short, the flowers of *B. burrowsii* are about half the size of *B. petersiana* with a different colour and a morphologically different anther attachment (Figure 5). In herbarium specimens, the leaves of *B. burrowsii* are glossier above than those of *B. petersiana*.

Distribution and habitat: currently only known from the type locality to the east of Mapinhane and a collection made by Barbosa & Balsinhas on 28 March 1952 [*G. Barbosa & A. Balsinhas 5042* (K, photo.!)]. Although collected the same time of the year, the latter specimen does not have flowers and is therefore easily mistaken. There is some doubt as to where exactly this specimen was collected, since it refers to a Vilanculos-Mabote-Mambone-'*cruzamento*' [crossing]. If this refers to the turn-off at Mapinhane (which seems to be the only logical conclusion, although the name is not used), this would be close to the type locality for *B. burrowsii*. It can be regarded as endemic to the area. It occurs in open woodland. This is part of the southern Zanzibar-Inhambane regional mosaic (White 1983). Another endemic, *Croton inhambanensis* Radcl.-Sm. was described from the same area. This species was subsequently collected as far south as Paindane on the coast and *B. burrowsii* may also occur as far south as the *C. inhambanensis*. Another endemic plant described from the vicinity is *Croton aceroides* Radcl.-Sm.

Status: *Bauhinia burrowsii* can be described as locally common where the type specimen was collected. The area is sparsely populated and the main economic activity is non-commercial existence agriculture, *i.e.* the planting of maize and cassava on a few scattered small plots. A commercial cattle farm has recently been established in the area. Thus far, this agriculture has had a minimal effect on the survival of the plant. Further studies are needed to establish if plants of the new species are indeed threatened. If it does occur further south in the Paindane area it would be under threat locally because of the threat of human expansion.

Etymology: the epithet honours John Burrows, for his unselfish contribution to the knowledge of the plants of southern Africa. The proposed common name for the species is the *Manyikeni Bauhinia*, after *Zimbabwe de Manyikeni*, a historical site close to the type locality. A visit to the site by the author led to the discovery of the plant.

Other specimens examined

MOZAMBIQUE.—2234 Mabote: 'entre o cruzamento de estradas Vilanculos-Mambone-Maboti e o Maboti, a 8.7 km de cruzamento' [between the cross-roads Vilanculos-Mambone-Maboti and the 8.7 km crossing], 28 Mar. 1952, *G. Barbosa & A. Balsinhas 5042* (K, photo.!); near Mapinhane, (–BA) 22° 13.388'S and 34° 54.395'E, 27 Mar. 2009, *E.J.D.Schmidt 4670* (Ernst Schmidt Herbarium, LMA, PRE); *ibid.*, (–BA) 22° 13.371'S and 34° 54.370'E, 4 Apr. 2010, *E.J.D.Schmidt 5020* (Ernst Schmidt Herbarium, LMA).

THE REINSTATEMENT OF *BAUHINIA MACRANTHA*

During the research into the species of *Bauhinia*, it became apparent that the current classification of *Bauhinia petersiana* Bolle is unsatisfactory. Brummitt & Ross (1975) treated the differences between the taxa previously known as *B. macrantha* Oliv. and *B. petersiana*, and came to the conclusion that they should be treated as subspecies, namely *B. petersiana* Bolle subsp. *serpae* (Ficalho & Hiern) Brummitt & J.H.Ross and *B. petersi-*

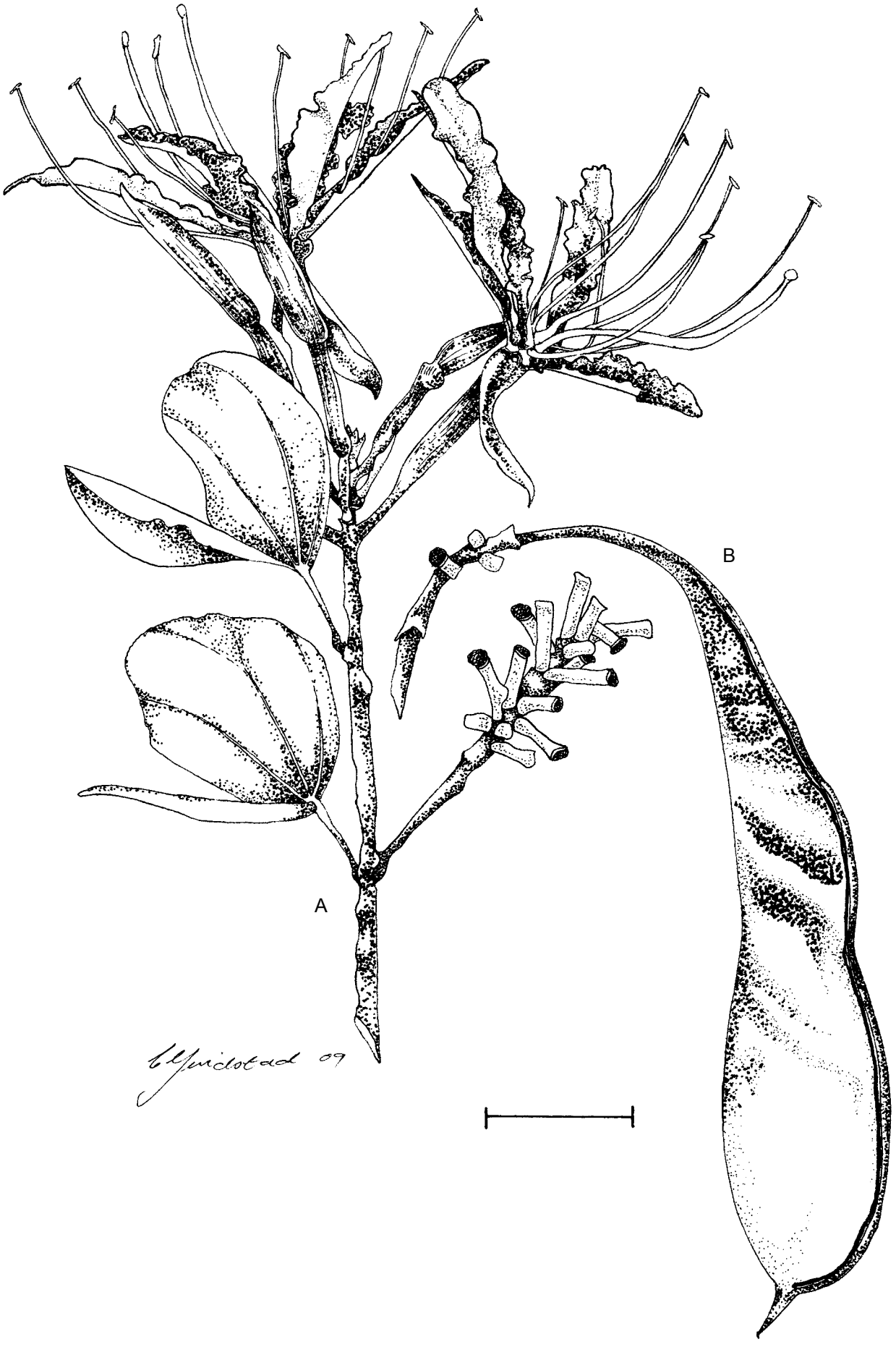

FIGURE 1.—*Bauhinia burrowsii*, *E.J.D. Schmidt 4670* (PRE): A, flowering branchlet; B, fruit. Scale bar: 20 mm. Artist: Carla Grinstad.

FIGURE 2.—*Bauhinia burrowsii*, habit in type locality, April 2010. Photographer: Ernst Schmidt.

FIGURE 3.—*Bauhinia burrowsii*, flowers at type locality, March 2009. Photographer: Ernst Schmidt.

FIGURE 4.—*Bauhinia burrowsii*, flowers and fruit at type locality, March 2009. Photographer: Ernst Schmidt.

ana Bolle subsp. *petersiana*. The name *serpae* referred to the previously entity known as *B. macrantha* and was a result of an unfortunate decision in Seattle in 1969 at the International Code of Botanical Nomenclature meeting (Coetzer & Ross 1977). The subspecies name was later changed to *B. petersiana* Bolle subsp. *macrantha* (Oliv.) Brummitt & J.H.Ross (Brummitt & Ross 1982). The main reasons for regarding the taxa as subspecies and not full species are that their distributions are almost entirely allopatric and that there is, according to the authors, sufficient overlap of characteristics to justify it.

An allopatric distribution may be an indication that two entities are geographical different races of the same species, and therefore subspecies. However, it is also a well-known source of full species known as allopatric speciation. It is interesting, however, that in Zimbabwe and Zambia the two entities do occur together. They are therefore strictly not allopatric. There are no reports or collections of intermediates from these areas in which they occur together. If they were indeed of the same species one would have expected intermediates. There are almost no variations within the entities throughout their respective ranges. Therefore the evidence on distribution supports the recognition of these entities as full species.

Furthermore a combination of overlapping features is not conclusive proof of entities being mere subspecies and not full species. It may also be used to differentiate between species. There are many keys that use a combination of overlapping keys to differentiate between species. Field observation and field botanists support the full species status of these entities.

FIGURE 5.—Photographic comparison between flowers of *Bauhinia petersiana* subsp. *petersiana* (left) and *B. burrowsii* (right). Photographer: Ernst Schmidt.

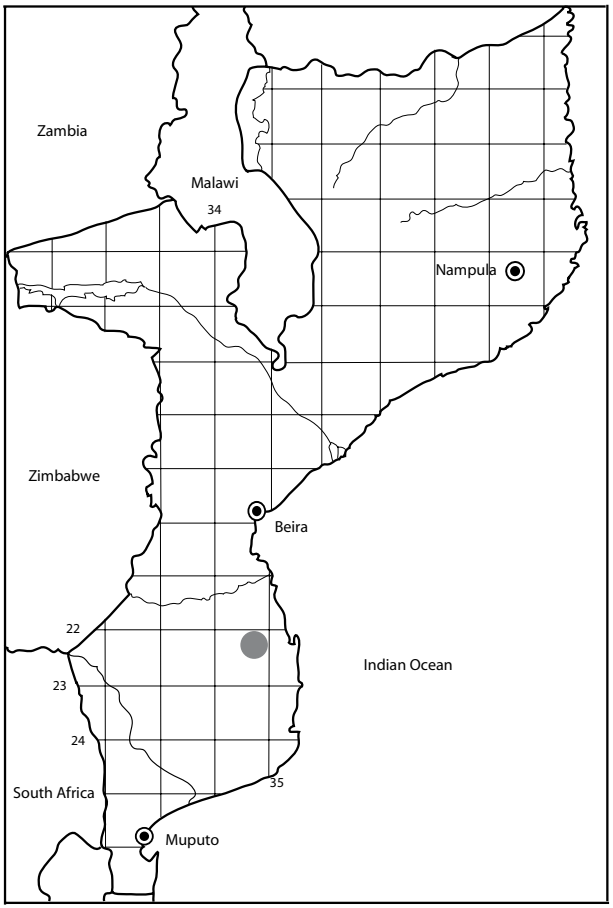

FIGURE 6.—Known distribution of *Bauhinia burrowsii.*

The author therefore respectfully reinstates the entities as full species as it was before 1975 and the correct names are as follows (there are no subspecies for these species):

Bauhinia macrantha Oliv. in Flora of Tropical East Africa 2: 289 (1871). Type: Angola, Ninda, *Serpa Pinto 9* (LISU, holo.).

Bauhinia petersiana Bolle in Peters, Naturwissenschaftliche Reise nach Mossambique: '…' Botanik 1: 24 (1861). Type: Mozambique, 'rios de Sena', *Peters s.n.* (B, holo. †, K).

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