

IRIDACEAE

TAXONOMIC NOTES ON *MORAEA* (IRIDEAE) IN CONGO AND ADJACENT COUNTRIES

The genus *Moraea* Miller, now with some 210 species (including several in press or manuscript), is centred in southern Africa (Goldblatt 1986; Goldblatt & Manning 2010), but extends through tropical Africa to Ethiopia and Eritrea in the north and to Nigeria and Cameroon in the west. Outside the continent, two species of sect. *Gynandiris* (Parlatore) Goldblatt (Goldblatt 1998) occur in the Mediterranean basin and Middle East. Goldblatt (1977) recognised 24 species in tropical Africa, but later separated *M. stricta* Baker from *M. thomsonii* Baker (Goldblatt 1986). Of these 25 tropical African species, six are shared with eastern southern Africa, leaving 19 species restricted

to tropical Africa. Geerinck (2001), focusing on the genus in Shaba Province of Congo (Kinshasa), has recently described one new species, *M. schaijesiorum* Geerinck, and reduced two species recognised by Goldblatt (1977) to synonymy in *M. ventricosa* Baker: *M. macrantha* Baker to varietal rank as var. *macrantha* (Baker) Geerinck and *M. verdickii* De Wild. to the rank of forma in var. *macrantha*. In addition, Geerinck described f. *boussardiana* Geerinck of var. *ventricosa* and f. *witteana* Geerinck of var. *macrantha*. These infraspecific taxa were distinguished by minor details of perianth size and colour, with var. *ventricosa* and var. *macrantha* based on flower size, specifically

outer tepals and anthers, and f. *boussardiana* and f. *witteana* by flower colour alone.

Moraea ventricosa is particularly distinctive among the several large-flowered species of subgen. *Grandiflora* Goldblatt in its yellow, white, or blue flowers with outer tepals 40–55 mm long, inner tepals 37–45 mm long, and anthers 8–11 mm long. Both the larger outer and smaller inner tepal limbs are characteristically spatulate, obtuse and ultimately fully reflexed, with the broad style branches and crests arching to lie nearly horizontally, and the ovary is always included in the spathes (Goldblatt 1977, 1993, 1996). The species favours wet habitats such as stream banks, seeps, and dambos; and occurs across central Africa from Angola to Tanzania. *Moraea macrantha*, with much the same range, is a plant of well-drained, open woodlands or grasslands, and has larger, consistently blue flowers with outer tepals 57–80 mm long, inner tepals 55–75 mm long, and anthers 12–15 mm long. Both species flower late in the season, mainly March to May or June.

Moraea verdickii is less well known to us but it blooms early in the season, mostly November to February, usually has an exerted ovary, and has relatively large yellow, or rarely white flowers, with outer tepals mostly 60–80 mm long (rarely to 100 mm) and the inner tepals 45–70 mm long, acute and evidently erect (as far as we are able to determine) (Goldblatt 1977; see also Geerinck 2005: photo 4). In comparison, plants of *M. ventricosa* that we have examined always have smaller flowers with an included ovary and the diagnostic, markedly obtuse inner and outer tepals with fully reflexed limbs. These features are also evident in a photograph accompanying the type of f. *boussardiana*.

In view of the correlated morphological and ecological characteristics, we feel justified in maintaining *Moraea verdickii* and *M. macrantha* as separate species distinct from *M. ventricosa*. Within *M. ventricosa* as thus circumscribed, however, we consider the rank of forma to be trivial and not worthy of recognition, and we therefore reduce the forms to synonymy. The forms in this case appear to be local colour variants and a full review of the tropical African species over their entire ranges should be undertaken before any infraspecific taxa are identified. Those wishing to recognise Geerinck's forms remain free to do so as the names exist and constitute an alternative treatment of the group, at least in Congo.

Finally, we have examined the type of *Moraea schaijesiorum* and conclude that it differs in no significant way from *M. clavata* R.C.Foster, until now recorded in the literature only from Angola and Zambia, to the south and west of Congo. However, a collection of *M. clavata* from Shaba [*Schaijes & Michiel* 2083, 6 Sept. 1983, 17 km WSW of Kolwezi (K)], not cited by Geerinck, is the first record of the species in the Congo. The type of *M. schaijesiorum* was collected in 1988, and both it and the earlier Shaba collection match typical *M. clavata* in their relatively small, yellow flowers with outer tepals 20–35 mm long, short foliage leaf inserted in the middle of the stem, single sheathing leaf, and spathes 45–70 mm long. The early flowering time (November in the type), is also consistent with *M. clavata*, the main blooming time of which is from October to Decem-

ber (Goldblatt 1977). The occurrence of the species in Shaba, not far from the Zambian frontier is not surprising. We have no hesitation in reducing *M. schaijesiorum* to synonymy in *M. clavata*.

Moraea clavata R.C.Foster in Contributions from the Gray Herbarium 114: 49 (1936), as nom. nov. pro *Moraea gracilis* Baker: 272 (1878), hom. illegit. non A.Dietr. (1833). Type: Angola, Huila, near Lopollo River, *Welwitsch 1545* (BM, lecto.!, designated by Goldblatt: 287 (1977); K!, LISU!, isoleccto.).

M. schaijesiorum Geerinck: 11 (2003), syn. nov. Type: Congo, [Shaba], plateau de Manika, road from Kolwezi to Musokatanda, 8 Nov. 1988, *Schaijes 4144* (BR, holo.!).

Moraea macrantha Baker, Flora of tropical Africa 7: 340 (1898). *M. ventricosa* var. *macrantha* (Baker) Geerinck: 4 (2001). Type: Malawi, Northern Province, *Whyte s.n.* (K, holo.!).

Moraea arnoldiana De Wild.: 16 (1902). Type: Congo, [Shaba], Kasenga, *Verdick 606* (BR, holo.!).

Moraea ventricosa Baker in Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew 1895: 73 (1895). Type: Zambia, Northern Province, Fwambo, *Carson 37/1984* (K, holo.!).

M. bequaertii De Wild.: 540 (1913). *M. ventricosa* f. *bequaertii* (De Wild.) Geerinck: 4 (2001). Type: Congo, [Shaba], Lubumbashi, 5 Apr. 1912, *Bequaert 316* [BR, lecto.!, designated by Goldblatt: 280 (1977)].

M. ventricosa f. *boussardiana* Geerinck: 4 (2001), syn. nov. Type: Burundi, Kigamba, 3 Apr. 1977, *Reekmans 5982* (BR, holo.!).

Moraea verdickii De Wild. in Annales du Musée du Congo Belge, Bot. 4: 17 (1902). *M. ventricosa* var. *macrantha* f. *verdickii* (De Wild.) Geerinck: 5 (2001). Type: Congo, [Shaba], Lukafu, *Verdick 281* (BR, holo.!).

M. ventricosa var. *macrantha* f. *witteana* Geerinck: 5 (2001), syn. nov. Type: Congo, Parc National Upemba, Riv. Kenia, 28 Mar. 1947, *De Witte 2470* (BR, holo.!).

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