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Baroniella collaris Klack. (Apocynaceae, Periplocoideae), a new species from Madagascar

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ABSTRACT

KLACKENBERG, J. (2002). *Baroniella collaris* Klack. (Apocynaceae, Periplocoideae), a new species from Madagascar. *Candollea* 57: 67-70. In English, English and French abstracts.

Baroniella collaris Klack., a new species of *Apocynaceae*, *Periplocoideae* from Madagascar, is described, illustrated and compared with related taxa.

RÉSUMÉ

KLACKENBERG, J. (2002). *Baroniella collaris* Klack. (Apocynaceae, Periplocoideae), une nouvelle espèce décrite de Madagascar. *Candollea* 57: 67-70. En anglais, résumés anglais et français.

Baroniella collaris Klack., une nouvelle espèce des *Apocynaceae*, *Periplocoideae* de Madagascar, est décrite, illustrée et comparée aux taxons apparentés.

KEY-WORDS: APOCYNACEAE - Periplocoideae – *Baroniella* – Madagascar – Taxonomy.

Baroniella Costantin & Gallaud is a small periplocoid genus of suffrutescent twiners with small reddish to violet flowers. The genus is endemic to the eastern part of Madagascar, where it is known from sea level in littoral forest as well as from rain forest and drier areas up to 1700 m altitude. Most species were earlier placed in the African genus *Baseonema* Schltr. & Rendle. In a recent revision of *Baroniella*, seven species were recognized of which three were described as new (KLACKENBERG, 1997). In the course of preparing the *Periplocoideae* for the “Flore de Madagascar et des Comores”, I have come across a recently collected specimen from the heavily undercollected Masoala peninsula of north-eastern Madagascar. This specimen does not correspond to any known species of *Baroniella*, and must be recognized as a new species, *Baroniella collaris*. It was found in littoral forest, a habitat in which hitherto only one species of this genus has been found, viz. *B. camptocarpoides* Costantin & Gallaud. In contrast to *B. collaris*, however, *B. camptocarpoides* is a probably rather common species with a larger distribution along most of the Malagasy East coast.

Baroniella collaris is most similar to *B. longicornis* Klack. from the Marojejy Mts., a mountain range neighbouring the Masoala Peninsula to the north-west. Both species have lax and rather few-flowered inflorescences with large flowers for this genus, and a similar, distinctly 5-lobed style head. Furthermore, the two species share the same leaf structure, both in shape, venation and anatomic characters. *Baroniella collaris* differs, however, e.g. by its high corona tube and much shorter connectival prolongations.

The affinity of *B. collaris* to *B. longicornis* is confirmed by a cladistic study. In a PAUP analysis (SWOFFORD, 1991), including seven species of *Baroniella*, twenty-two morphologic

characters were used, several of which were derived from leaf anatomy (KLACKENBERG 1997, tab. 1 & fig. 2). Morphologic data of *B. collaris* has now been added and analysed. *Baroniella collaris* coincide with *B. longicornis* in all characters discussed by KLACKENBERG (1997, tab. 1) except for character 14 (corolla lobes > 5 mm long) and character 18 (prolonged connectives – an autapomorphy for *B. longicornis*). The new analysis with *B. collaris* included, resulted in a consensus tree of four most parsimonious trees, that shows *B. collaris*, *B. longicornis* and *B. multiflora* to form a clade united by two unique anatomic synapomorphies, namely 1) the raised part above the vessels with more or less isodiametric parenchyma cells instead of a palisade layer, and 2) the raised part above the vessels being covered by a double epidermis instead of the normal single one (= ch. 6 and 7 in KLACKENBERG, 1997: 386 & fig. 1.3).

The hitherto described species of *Baroniella* have red to usually dull red or violet flowers (KLACKENBERG, 1997). *Baroniella collaris* has light greenish white corolla with pinkish red centre (fide coll.), i.e. a slightly deviating shade of colour from earlier described taxa. However, although more pinkish and only concentrated to the centre of the flower, the red pigment characteristic of *Baroniella* species is present. It is also interesting to note that the structure of the corona is similar in *B. collaris* and *B. longicornis*. As discussed in KLACKENBERG (1997: 388, character 16) *Periplocoideae* are usually furnished with corona lobes outside (opposite) the stamens. In contrast, in *Baroniella*, which has the corona lobes fused into a more or less distinctly 10-lobed ring, the larger lobes are inbetween the stamens, not opposite them. *B. collaris* and *B. longicornis*, however, deviate somewhat from the majority of the species in this genus by having the inter-staminal lobes and the lobes opposite the stamens more or less of the same size (Fig. 1D; KLACKENBERG, 1997, fig. 7.3). *Baroniella multiflora* (Choux) Bullock differs from *B. collaris* and *B. longicornis* by its more numerous and smaller flowers (< 5 mm in diameter), and by having unequally long corona lobes, the interstaminal lobes being distinctly larger (KLACKENBERG, 1997, fig. 8.3). An autapomorphy for *B. collaris* is the distinct corona tube (Fig. 1D), and for *B. longicornis* the much prolonged connective (KLACKENBERG, 1997, fig. 7.3).

***Baroniella collaris* Klack., spec. nova** (Fig. 1).

Typus: MADAGASCAR, Prov. Antsiranana, Masoala National Park, 2 km W of Cap Est, 5 m alt., 23.I.1999, Schatz & al. 3763 (Holo-: MO).

Species haec ad Baroniellam longicornem Klack. et B. multifloram (Choux) Bullock accedens sed distincta ab utroque corona alte collariformi; ab illa connectivo multo minus ultra loculus dilatato, a hac inflorescentia pauciflora et etiam floribus duplo majoribus differt.

Suffrutescent glabrous twiner, 1-2 m high. Leaves opposite, herbaceous; blade ca 5-6 × 2-3 cm, elliptic to obovate, cuneate, shortly acuminate to apiculate; margin entire; venation pinnate, looped with the secondary veins ± straight and parallel to each other; midrib and secondary veins raised above, ± even with the leaf surface below when dry; epidermis ± smooth on both sides; petiole 3-5 mm long.

Inflorescences terminal on branches, longer than the adjacent leaves, 5-9 cm long; cyme lax, ± regularly dichasially branched, with lower internodes 2-3 cm long, few-flowered; pedicels 7-12 mm long; bracts < 1mm long, falling off.

Flowers pentamerous, actinomorphic, glabrous in all parts. Calyx lobes free, ca 0.8 × 0.9 mm, shorter than the corolla tube, very broadly ovate, obtuse to subacute at the apex, with 5 rather broad colleters at the sinuses; margin entire. Corolla ovoid in bud, contorted with the right lobe margins overlying, not to slightly twisted, with the lobes fused at the base for ca. 1/5 of their length into a wide tube, light greenish white with pinkish red centre; tube ca. 1.0 mm long; lobes ca. 4.0 × ca. 2.7 mm, elliptic, obtuse to subacute at apex. Corona arising from the base of the corolla tube in form of a distinct ca. 0.9 mm high cylinder, at top with 5 lobes opposite and 5 lobes in-between the staminal filaments; interstaminal lobes truncate, reaching almost to the style head; lobes opposite the staminal filaments obtuse, about as long as the interstaminal ones.

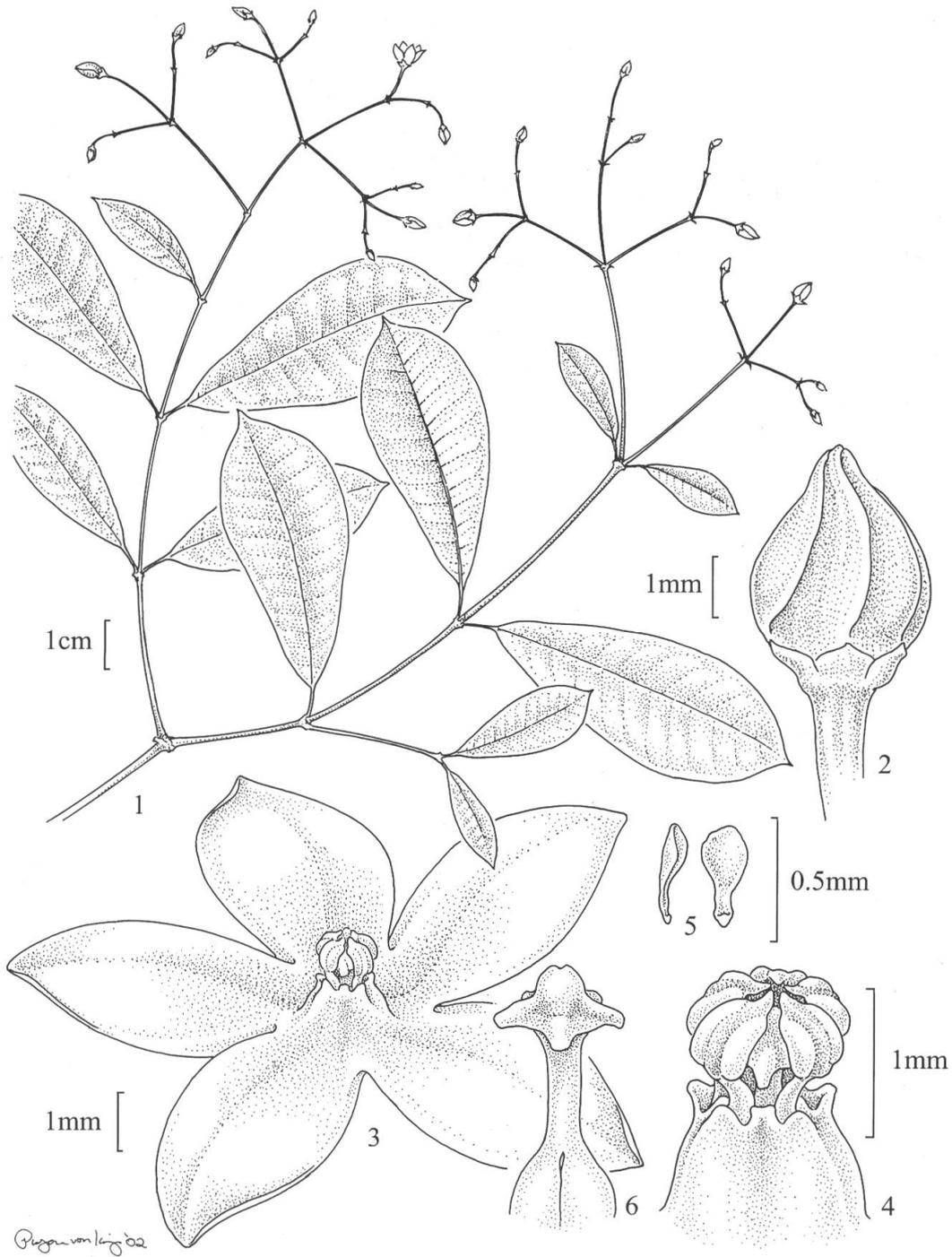


Fig. 1. – *Baroniella collaris* Klack. 1, habit; 2, flower in bud; 3, mature flower; 4, corona and anthers surrounding the style head; 5, pollen carriers; 6, style head. Drawn by Pollyanna von Knorring, Stockholm.

[1-6, Schatz & al. 3763 (MO)]

Stamens 5, inserted on the inside of the corona tube, free; anthers \pm rectangular; filaments ca. 0.4 mm long; connectives prolonged; prolongation flattened, \pm triangular, distinctly shorter than the thecae. Pollen carriers situated on 5 interstaminal lobes (knobs) on the style head, 0.3-0.4 mm long; spathe obovate; stalk short. Ovary of 2 mostly separate carpels, subinferior, with numerous ovules. Styles at the very base 2 but united into 1 for almost all of their length; style head thick, discoid but topped by a broad and short part and with 5 marginal lobes protruding between the anthers; interstaminal lobes entire, divaricate to slightly deflexed; style including style head ca. 1.1 mm high.

Follicles not seen.

Distribution and habitat. – *Baroniella collaris* is known only from the type that was collected in littoral forest in the Masoala Peninsula. It was in flower in January.

Baroniella collaris is recognized by its few but large flowers (ca. 1 cm in diameter) and by its distinct corona forming an almost 1 mm high tube which is crowned by small equally long lobes.

The species epithet “collaris” alludes to the high, collar-like corona.

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