

# **Pentopetia viridis Klack. & Meve (Apocynaceae, Periplocoideae) : a new species from Madagascar**

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# Pentopetia viridis Klack. & Meve (Apocynaceae, Periplocoideae), a new species from Madagascar

Jens Klackenberg & Ulrich Meve

## Abstract

KLACKENBERG, J. & U. MEVE (2007). *Pentopetia viridis* Klack. & Meve (Apocynaceae, Periplocoideae), a new species from Madagascar. *Candollea* 62: 211-214. In English, English and French abstracts.

*Pentopetia viridis* Klack. & Meve, a new species of Apocynaceae, Periplocoideae, from northern Madagascar, is described, illustrated and compared with related taxa, particularly with its probable sister species *Pentopetia dolichopodia* Klack.

## Key-words

APOCYNACEAE – PERIPLOCOIDEAE – *Pentopetia* – Madagascar – Taxonomy

## Résumé

KLACKENBERG, J. & U. MEVE (2007). *Pentopetia viridis* Klack. & Meve (Apocynaceae, Periplocoideae), une nouvelle espèce de Madagascar. *Candollea* 62: 211-214. En anglais, résumés anglais et français.

*Pentopetia viridis* Klack. & Meve, une nouvelle espèce d'Apocynaceae, Periplocoideae, du nord de Madagascar, est décrite, illustrée et comparée avec des espèces affines, en particulier avec sa probable espèce soeur *Pentopetia dolichopodia* Klack.

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During a floristic inventory project of the Daraina region near Vohémar in NE Madagascar run by Conservatoire et Jardin botaniques de la Ville de Genève, an unidentified *Periplocoideae* with green flowers was found. After having seen photos of the plant it became evident that this was an undescribed taxon. A closer examination of herbarium material proved this plant to represent a new species of *Pentopetia* Decne., which is here described and illustrated.

***Pentopetia viridis* Klack. & Meve, spec. nova** (Fig. 1, 2)

**Typus:** MADAGASCAR. Province de Diego-Suarez: Antsiranana, sous-préfecture de Vohemar, commune rurale de Daraina, forêt d'Antsahabe, 13°13'S, 49°33'E, 1000 m, 28.XI.2004, Gautier, Ranirison & Nusbaumer LG 4770 (holo-: G!; iso-: P, UBT!).

*Species haec habitu Pentopetiae dolichopodii primo adspectu maxime similis, sed corollae tubi lobis longiore, coronae lobis filiformibus et sub-basaliter in tubi corollae insertis, etiam floribus viridibus differt.*

Suffrutescent scrambling liana with younger branches finely hairy. Leaves herbaceous (coriaceous?), decussate; blade elliptic, 5–10 × 2–4 cm, cuneate at base, acute to shortly acuminate at apex, puberulous below, glabrous above; venation pinnate, looped; primary nerves diverging at 70–80° from the mid-rib; veinlets not to very faintly visible when dry; midrib and primary nerves slightly raised below when dry, ± even with leaf surface above or mid-rib slightly impressed near the base; petiole distinct, 3–4 mm long, hairy. Inflorescences terminal, much shorter than the subtending leaves, about 1–1.5 cm long, puberulous; cyme irregularly branched with internodes up to 3 mm long or much shorter, ca 5-flowered; pedicels 2–3 mm long; bracts narrowly triangular, 2–3 mm long. Flowers pentamerous, actinomorphic. Calyx lobes broadly ovate, ca 2.8 × 2.2 mm, acute to very shortly acuminate at apex, shorter than corolla tube, straight, sparsely hairy outside. Corolla broadly ovoid and apiculate in bud, contorted with the lobes overlying to the right, not to slightly twisted to the right, fused for more than 1/2 of its length into a tube, glabrous on both sides, green; tube campanulate, ca 3.7 mm long, with distinct ridges below anther filaments near corolla base; ridges forming 5 fleshy recurved alteristaminal nectar lobes grouping cone-like around upper parts of ovaries and style; lobes deltoid to broadly ovate, ca 3.4 × 3.4 mm, acute at apex, erecto-patent with tips somewhat reflexed. Corona lobes arising ca 0.5 mm below corolla sinuses, free, ca 1.7 mm long, filiform to subulate, widened and somewhat laterally compressed at base running downwards to the staminal filaments, somewhat longer than and erecto-patent above the staminal cone, glabrous. Staminal cone ca 2 mm long, included in the corolla tube, glabrous; filaments basally fused to coronal feet, ca 0.3 mm long, filiform, straight,

inserted in the lower part of the corolla tube at a distance below the corona lobes; anthers 2 mm long with distinctly projecting connectives. Translators ca 1.3 mm long; spathe elliptic, ca 0.8 mm long, about as long as stipe and viscidium; stipe distinct. Ovaries 2, semi-inferior, with numerous ovules. Styles 2, united below the style head, ca 1.3 mm long, glabrous; style head rhomboid. Fruits and seeds unknown.

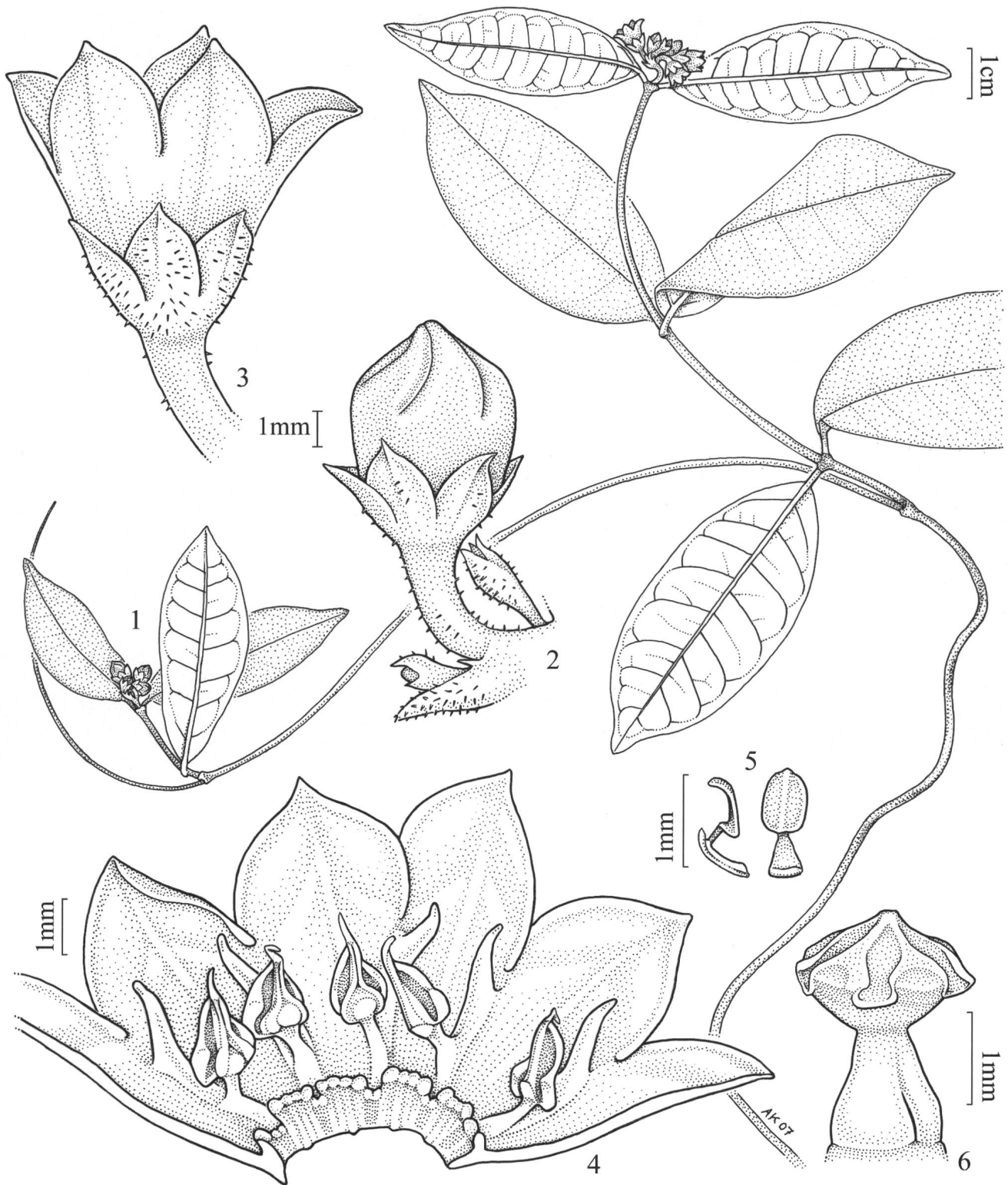
*Distribution and habitat.* – *Pentopetia viridis* is hitherto known only from Daraina near Vohemar in northern Madagascar. It was collected at about 1000 m altitude and flowered in November.

*Note.* – *Pentopetia viridis* is recognized by its green and campanulate corolla with the tube longer than the lobes. The species epithet alludes to the colour of the corolla, a rare character among the predominant white, yellow, red or purple nuances known in *Pentopetia*.

This new species is placed in *Pentopetia*, a genus endemic to Madagascar, with the exception of one species, *P. andro-saemifolia*, which inhabits also the Comoro and Seychelles Islands. *Pentopetia* and adjacent Malagasy taxa were formerly known under the generic names *Acustelma* Baill., *Cryptolepis* R. Br., *Gonocrypta* Baill., *Ischnolepis* Jum. & H. Perrier and *Pentopetiopsis* Costantin & Gallaud and were revised by KLACKENBERG (1999). In this revision two genera were accepted: *Pentopetia* with 20 species and the monotypic *Ischnolepis*. Being somewhat heterogenous it could be doubted whether *Pentopetia* is monophyletic. With the wider circumscription of *Pentopetia* given in this revision, however, there is no doubt that *P. viridis* is best placed in this genus. As will be seen below, it shares several characters with various species of *Pentopetia*.

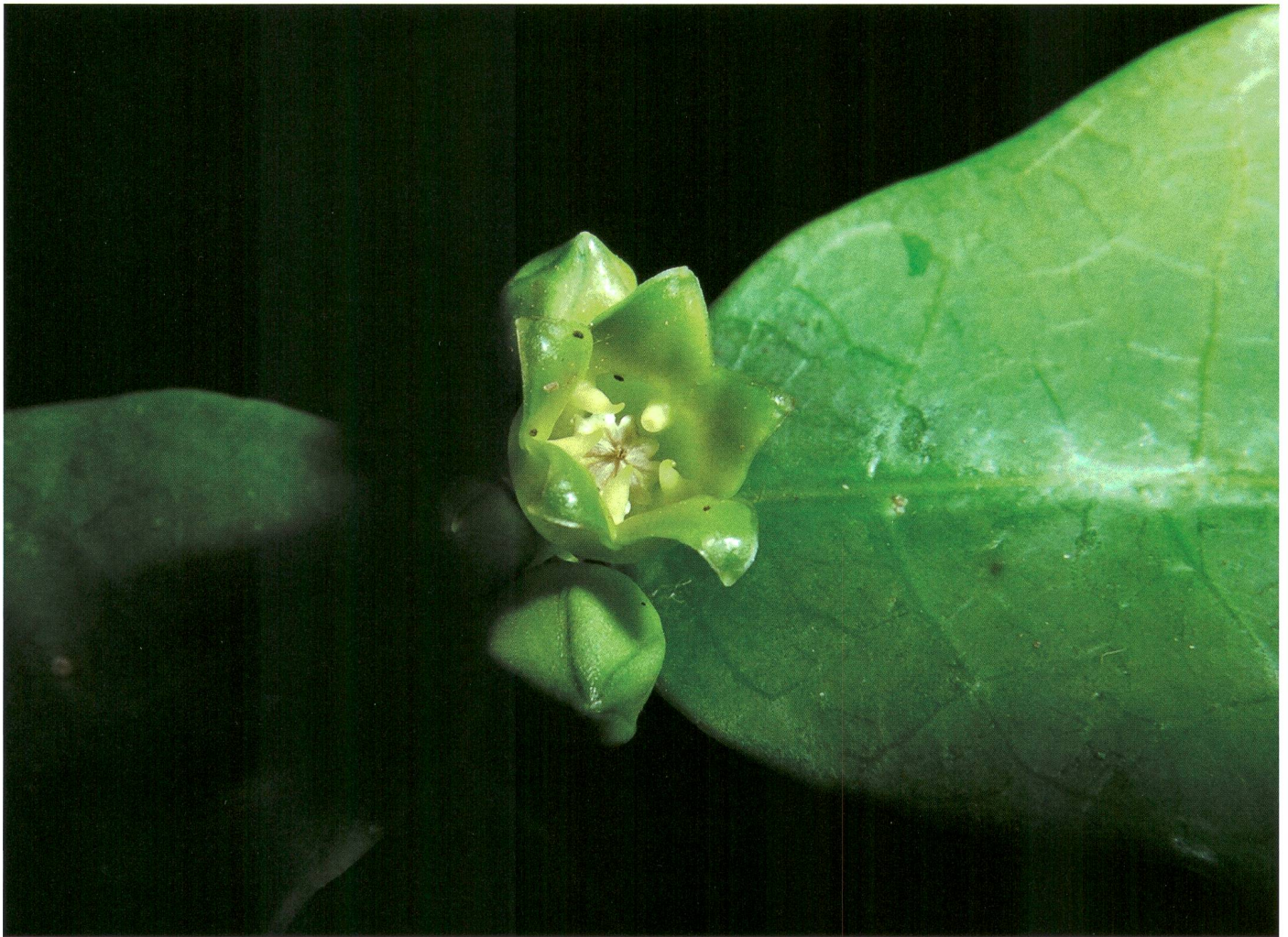
*Pentopetia viridis* is in habit and in several details similar to *P. dolichopodia* Klack., a species found in the higher mountains of the central plateau. They share the same shape of corolla with a campanulate tube and erect lobes, as well as the presence of a circle of five small reflexed nectar lobes grouped cone-like around the style hiding the ovary (KLACKENBERG, 1999: Fig. 2.2). This structure is also seen in *P. bosseri* Klack. and *P. mollis* Jum. & H. Perrier.

Although at first glance seeming quite similar, *P. viridis* differs from *P. dolichopodia* in several characters, e.g. by having entirely green flowers (versus purple or reddish flowers in *P. dolichopodia*), by its subulately filiform corona lobes (versus broad and short as well as truncate lobes), by the corolla being fused into a tube for more than half of its length (versus about 1/3), and by the staminal filaments being inserted at a distance below the corona lobes deep inside the tube (versus fused with the corona lobe and placed in the sinuses of the corolla lobes). The translator of *P. viridis* has the same structure as in most *Pentopetia*, with its rounded to elliptic spoon on a narrowed stipe, this in contrast to the unique translator of



**Fig. 1.** – *Pentopetia viridis* Klack. & Meve. **1.** Habit; **2.** Flower in bud; **3.** Mature flower; **4.** Corolla from within with gynoecium removed; **5.** Translators; **6.** Style and style head.

[Gautier & al. LG 4770, G] [Drawn by Andrea Klintbjer, Stockholm]



**Fig. 2.** – Type of *Pentopetia viridis* Klack. & Meve in flower.  
[Photo: Conservatoire et Jardin botaniques de la ville de Genève]

*P. dolichopodia*. In this latter species the spoon is peltate, placed on a broad stipe that is fused together with the adhesive disc into one flat and large basal part (KLACKENBERG, 1999: Fig. 4.6 & 31). This character undoubtedly marks *P. viridis* as a distinct species from its probable sister-species *P. dolichopodia*.

*Pentopetia viridis* shares with *P. elastica* Jum. & H. Perrier a corolla with a long glabrous tube and erect lobes, as well as erecto-patent corona lobes forming a cone above the stamens (KLACKENBERG, 1999). *Pentopetia elastica*, however, is easily distinguished from *P. viridis* by its white-flowered corolla with pitcher-shaped tube, by its narrowly triangular calyx lobes, as well as by lacking basal alternistaminal nectar lobes.

## References

- KLACKENBERG, J. (1999). Revision of the Malagasy genera *Pentopetia* and *Ischnolepis* (Apocynaceae s.l., Periplocoideae). *Candollea* 54: 257-339.