



New taxa of *Impatiens* (Balsaminaceae) from Madagascar IX. *Impatiens lutzii*, a new species from Montagne d'Ambre National Park

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Impatiens lutzii, a new species of *Impatiens* subg. *Trimorphopetalum*, is described from Montagne d'Ambre, Madagascar. It is morphologically similar to *Impatiens luisae-echterae*, *I. callmanderi* and *I. silviana* from Masoala, and to *I. decaryana* from central Madagascar, but differs from these species in the shape and ornamentation of the lower sepal, as well as the shape of the dorsal petal and the lateral united petals. A comparative table to distinguish *I. lutzii* from similar species of *Impatiens* is provided.

Key words: endemism, flies, flora, forest, myophily, pollination, taxonomy, *Trimorphopetalum*

Introduction

Madagascar harbours an unusual group of *Impatiens* (Linnaeus 1753: 937), which is characterized by the navicular lower sepal lacking a spur. It was originally described as a genus of its own, *Trimorphopetalum* Baker (1887: 454), but subsequently included by other authors (e.g., Warburg 1897; Perrier de la Bâthie 1934; Fischer & Rahelivololona 2002) in *Impatiens*. A first phylogeny of *Impatiens* (Yuan *et al.* 2004) showed that the spurless members of *Impatiens* from Madagascar are monophyletic, and ongoing molecular analyses (unpublished data) support this view. *Impatiens dorstenioides* (Baker 1887: 454) Warburg (1895: 391) was for a long time the only known species of this group until Perrier de la Bâthie (1934, 1948) published his revision of *Impatiens* and added 45 new species. During our revision of Balsaminaceae for the “Flore de Madagascar et des Comores” (Fischer & Rahelivololona 2000, 2004, 2007a, b; Fischer *et al.* 2003), several further taxa were described, and *Trimorphopetalum* was recognized as a subgenus (Fischer & Rahelivololona 2002).

In this paper we describe a peculiar new species of *Impatiens* subg. *Trimorphopetalum* from Montagne d'Ambre National Park. This part of Madagascar is covered by lowland to montane rainforest and harbours nine species of *Impatiens*, most of which are largely restricted to this area. The present study is based on the investigation of living and dried specimens. For the new species, *Impatiens lutzii*, three different collections have been available. A short history of the exploration of *Impatiens* in Madagascar as well as details on terminology and measurements are provided by Fischer & Rahelivololona (2002). Herbarium acronyms follow Holmgren *et al.* 1990.

Impatiens lutzii Eb.Fisch. & Raheliv., *sp. nov.* (Figs. 1–3)

Impatiens luisae-echterae, *I. callmanderi*, *I. silvianae* et *I. decaryanae* *affinis sed forma et ornamentatione sepali inferiori, forma petali dorsali et forma et innervatione petalorum lateralium valde differt.*

Type:—MADAGASCAR. Antsiranana, Parc National Montagne d'Ambre, montane rainforest near Camp des Roussettes, 12°02'33.7''S 49°09'23.3''E, 8 October 2014, 1222 m, Fischer & Andriamiarisoa 128 (holotype TAN!; isotype KOBL!).

Erect herb, glabrous. Stems 150–350 mm tall. Leaves with petiole 18–20 mm long, lamina lanceolate to ovate, 50–80 × 24–28 mm, with acute apex, margin with 8–9 crenulations, each sinus with a filiform fimbria. Flowers yellow-green with dark purple venation, lower sepal almost entirely dark purple. Pedicels 30–40 mm long, glabrous. Lateral sepals two, 7–8 × (0.8–)1–1.2 mm, green. Lower sepal 13–15 × 8 mm, ovate with acute apex, nearly entirely dark purple, with 3 prominent veins, callus with central vein and net-like ornamentation with ca. 7 pits on each side. Dorsal petal helmet-like, 14–15 × 6 mm, transparent greenish yellow with purple venation, dorsal crest in lower third with a 1 mm long projection. Lateral united petals 28–30 mm long, upper petal greenish with purple veins, 7 × 1.5–2 mm, acute, lower petal 19–20 × 8–10 mm, rounded at apex, green-yellow with purple venation, sinus between upper and lower petal 1.5–2 mm wide. Anthers 5–6 mm long. Ovary 5 mm long. Fruit 10 × 5–5.5 mm.