

A view across the
Zombitse reserve in
southwest Madagascar,
the type locality for
Habenaria tianae. The
baobab is *Adansonia za*

A new *Habenaria* from Madagascar

PHILLIP CRIBB and DAVID ROBERTS
describe and illustrate a new species,
Habenaria tianae, and discuss its
conservation status

HABENARIA TIANAE, discovered during field work in Madagascar in February 2007, does not fit any of the described Madagascan species (Hermans *et al* 2007). It was first discovered in a narrow strip of dry deciduous forest, on white sand, in a shallow valley, at about 800m elevation, to the west of the Isalo National Park in south-central Madagascar. Two days later, rather more plants in better condition were found in the Zombitse National Park,

growing in similar conditions on the floor of deciduous forest, at about 500m elevation, with several other orchid species in the genera *Habenaria*, *Nervilia* and *Oeceoclades*.

***Habenaria tianae* P.J. Cribb & D.L. Roberts sp. nov.**

In sectione *Pentacerate* (Thouars) Schltr. affinis *H. leandrianae* Bosser sed planta majore, foliis majoribus 10–20cm longis (nec 6–13cm longis), inflorescentia 2–7-flora (nec 8–10-flora), sepalis 18–21mm longis (nec

6–13mm), lobis lateralibus labelli modice tantum longioribus quam lobo medio (nec bis longioribus), calcaris 10–12cm longo (nec 4–6cm longo) satis differt. Type: Madagascar, Toliara Province, Sakahara, Zombitse, 18 Feb 2007, *Ranarivelo*, Roberts, Cribb & Razafindraibe 575 (holotype K, isotype TAN).

Description

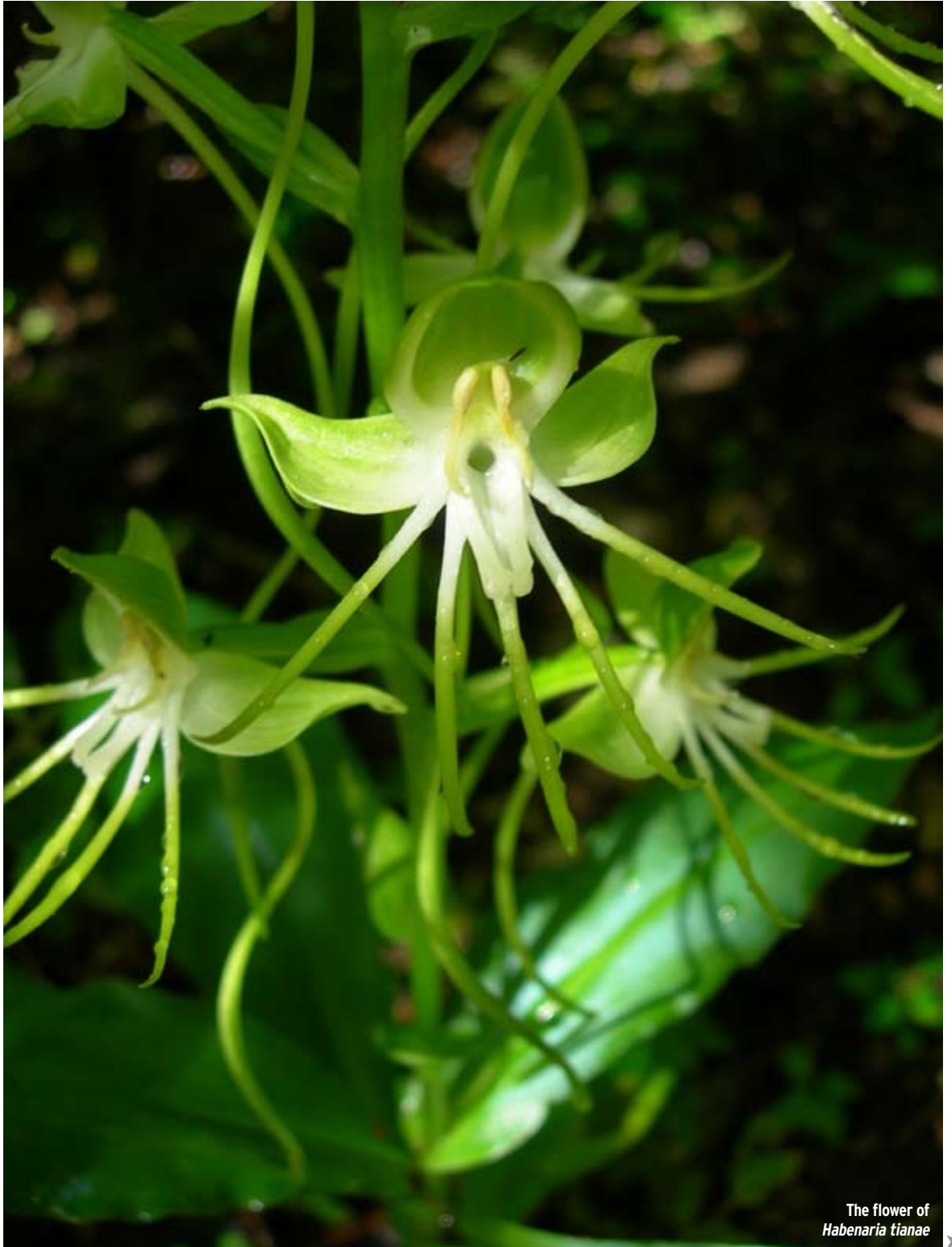
Terrestrial herb 35–50cm tall, growing from an ellipsoidal tuber. **Roots** clustered around the base of the white stem. **Leaves** several, spirally arranged towards the middle of the stem, relatively thin-textured, obovate-oblancheolate, acute to acuminate, 10–20 x 3.3–4.8cm, sheathing at the base, lower leaves with 2–3cm long petioles and

Despite growing in a National Park *Habenaria tianae* is under threat due to sapphire mining

sheathing at base. **Inflorescence** laxly 2–7-flowered; bracts lanceolate, acuminate, 2–2.5cm long. **Flowers** green with white petals and a white lip; pedicel and ovary ???cm long. **Dorsal sepal** cucullate, ovate-elliptic, acute, 18–20 x 11–12mm, forming a hood with the petals. **Lateral sepals** spreading-reflexed, obliquely ovate, acute, 20–21 x 7–8mm. **Petals** bifid to base; posterior lobe adnate to the petals, linear-falcate, acute, 18 x 0.6mm; anterior lobe, upcurved in apical half, linear, acute, 28–30 x 0.7–1mm. **Lip** 3-lobed; side lobes upcurved, linear-falcate, acute, 25–27 x 0.7–1mm; mid-lobe pendent, linear, acute,

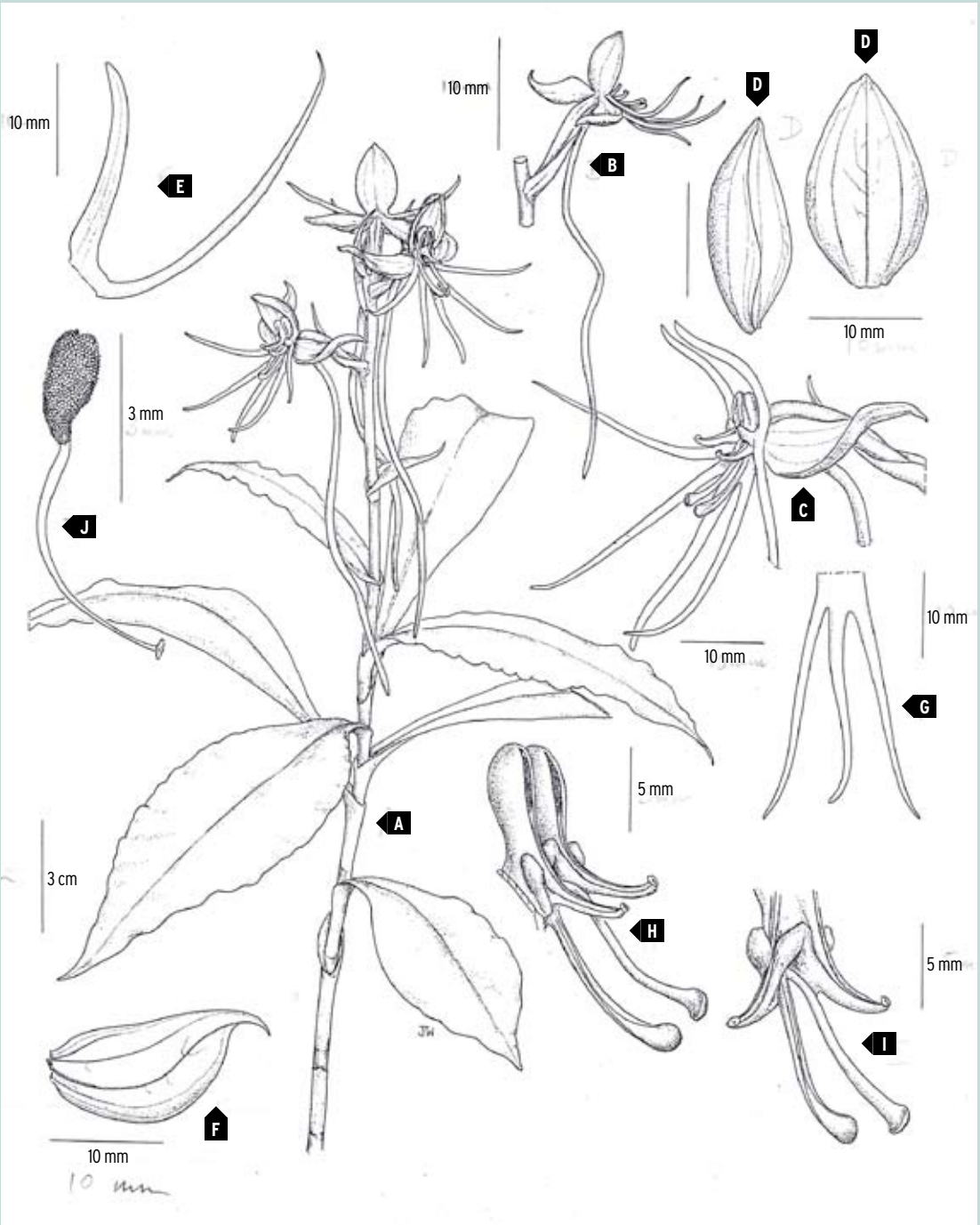


A group of *Habenaria tianae* in their natural habitat



The flower of
Habenaria tianae

HABENARIA TIANAE



A habit **B, C**, two views of the flower **D** dorsal sepal **E** petal **F** lateral sepal **G** lip, flattened **H** column, oblique view **I** rostellar and stigma lobes **J** pollinarium. Scale bars as indicated. All drawn from the type by Juliet Beentjie.

21–23 x 1–1.2mm; spur ribbon-like, loosely spiralled, 10–12cm long. **Column** 6–7mm high; rostellar arms 6–6.5mm long; mid-lobe triangular, much shorter than the anther loculi and placed between them; stigmas clavate, 12mm long.

Specimens examined: Madagascar, Fianarantsoa Province, Isalo, near Ilakaka, 16 Feb 2007, *Ranarivelo, Roberts, Cribb & Razafindraibe 557* (K, TAN); Toliara Province, Sakahara, Zombitse, 18 Feb 2007, *Ranarivelo, Roberts, Cribb & Razafindraibe 575* (holotype K, isotype TAN).

Distribution: south-central and southwest Madagascar; Fianarantsoa and Toliara provinces only.

Habitat: dry deciduous forest on white sand; 500–800m.

Conservation status: EN (A1c; Bla, b; C2a i-v)

Observations

Habenaria tianae is the largest flowered species of section *Pentaceras* (Thouars) Schltr. in Madagascar. It is allied to *H. leandriana* Bosser but is a larger plant, up to 50cm tall, with larger obovate-oblongate, 10–20cm long leaves. It has a 2–7-flowered inflorescence, and larger green and white flowers with 1.8–2.1cm long sepals, 2.8–3cm long anterior petal lobes, a larger 3-lobed lip, with side lobes only slightly longer than the mid-lobe, and a 10–12cm long spur. The type grows in the same forest as the type of *H. leandriana*, but the type of the latter is clearly distinct.

This spectacular orchid is named for Tiana Ranarivelo, one of Kew's staff members in Madagascar, who discovered the first specimen of this plant near Isalo in February 2007. The type locality is considerably further west along the road to Toliara.

Habenaria tianae is a very local plant, a fact emphasised by its recent discovery despite its showy nature.



Habenaria tianae
in full bloom

Its conservation status is judged to be endangered (EN) based on the Red List categories and criteria (IUCN 2001) because its type habitat, although protected in a National Park, is vulnerable to the predations of sapphire miners who have pock-marked the forest there with mining pits. The other locality is also vulnerable, being a very small and

unprotected forest patch where recent logging was observed. ■

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IUCN (2001) Red List Categories and Criteria 3.1. Published on the web, www.iucn.org/themes/ssc/redlists/techdocs.htm