

**ANTHORRHIZA CAMILLA:
A NEW SPECIES OF RUBIACEOUS ANT-PLANT**

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SUMMARY

A new species of *Anthorrhiza*, *A. camilla* from Papua New Guinea is described. Its relation to the remainder of the genus is discussed.

INTRODUCTION

The genus *Anthorrhiza* Huxley & Jebb has only recently been described (Huxley & Jebb, 1990, 1991). During preparation of the final manuscript a ninth species was collected, too late to be included with the original eight species.

This species is of the spiny variety, with a more specialised tuber anatomy. It does not conflict with the original generic conspectus (Huxley & Jebb, 1990).

***Anthorrhiza camilla* Jebb, *spec. nov.* – Fig. 1**

Tuber globosum, spinis ramosis densis, aureofulvis. Pagina supra habens foraminum. Caules unus usque pauci, densissime spinosi. Folia lanceolata, usque ad 17 × 3,3 cm. Stipulae rotundatae, caducae. Inflorescentia spinosa, spinis in parietibus angustis inter areas florigeras impositis. Corolla albo-viridis, lobi petalorum trianguli, antherae flavae. Stigma sexlobum, pyrenae 6. — Typus: Papua New Guinea, *Jebb 854* (holotypus LAE).

Description after all the collections examined:

Tuber globose, to 15 × 10 cm; surface irregular; green. Spines dense, to 1.6 cm, stiff, irregularly stellate, 1–5 branches; golden brown. A single large, 1–4 cm entrance hole at base of tuber, also numerous round lipped entrance holes 1.5–2 mm across on tuber surface, and several entrances at tuber apex, adjacent to stem. Pores absent. Warded tunnels 1–3, arising from a basal vestibule by narrow necks; large, flattened, some interconnecting with smooth-walled tunnels. Smooth-walled tunnels much branched, ± tubular, some arising from the basal vestibule of the central warded tunnel, not or rarely to the actual tuber base; also opening to the tuber surface, and at tuber apex, adjacent to stem. *Stem(s)* 1 or 2, upcurved, to 25 cm long, 2.5 cm thick, rounded. Spines dense, markedly longer and more densely branched, and branched to a higher degree than tuber spines; to 2.5 cm long, with 8–20 side branches, these often branched again; mounted on tapered woody base to 0.7 × 0.3 cm. Stems occasionally dorsiventral with respect to spine cover. *Leaves* erect, clustered at stem apex.

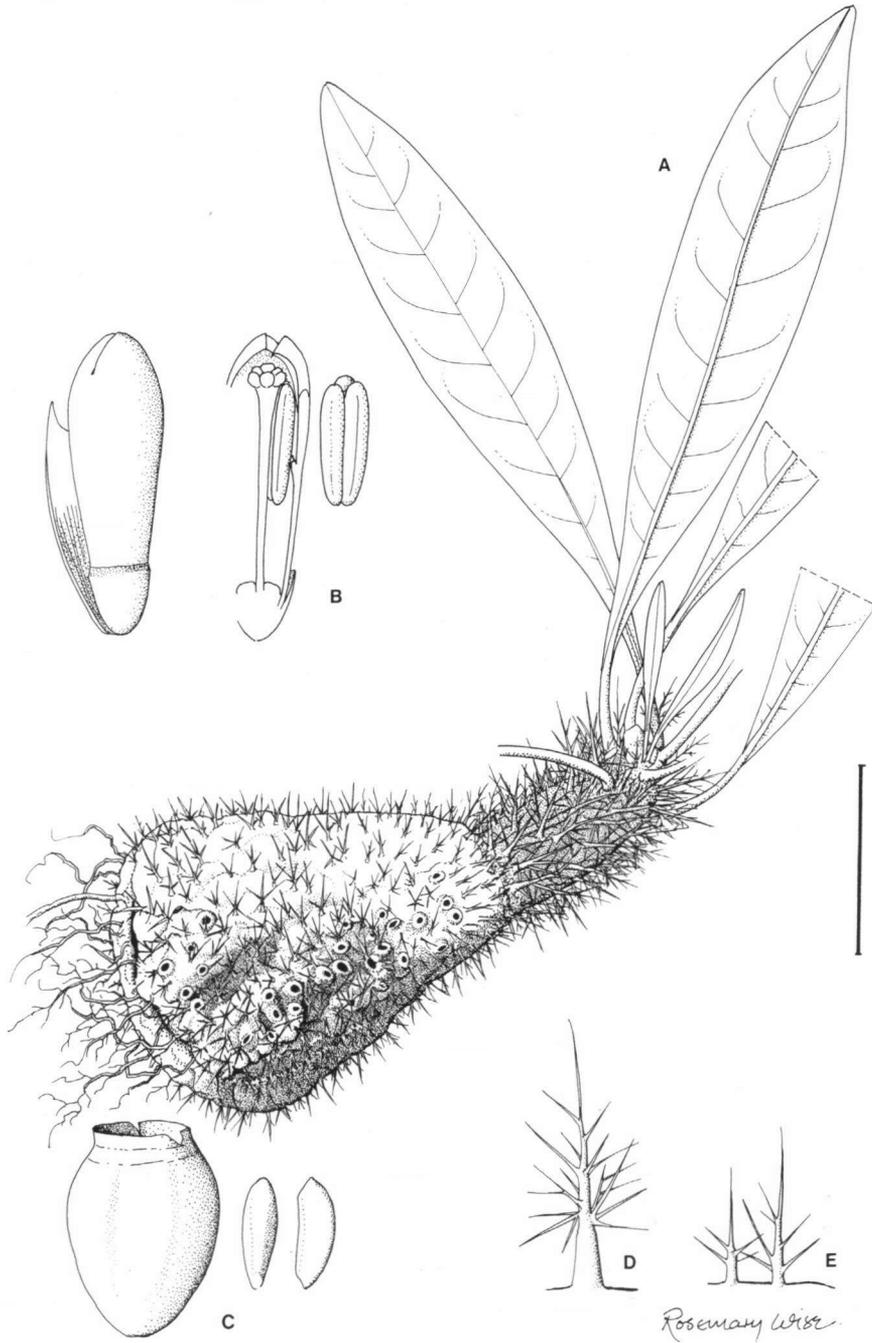


Fig. 1. *Anthorrhiza camilla* Jebb. A. Habit; B. flower with anther detail; C. fruit and pyrene, axial and lateral views; D. stem spine; E. tuber spine (A, D, E: Jebb 854; B: Jebb 857; C: Jebb 849). Scale bar: A = 5 cm; B, C = 5 mm; D, E = 2 cm.

Lamina lanceolate, 11 × 2 to 17 × 3.3 (13.5 × 4) cm, widest in middle and tapering to apex, apex obtusely acute, tapering equally to base. Midrib prominent below, rounded; 11–14 veins; margin abruptly recurved, paler than lamina. Petiole narrowly winged, 2–3.5 cm. Stipules rounded, to 0.3 cm long, with a blunt central process to 0.1 cm; caducous. *Inflorescence* sessile, small, to 1.5 cm across; axillary, or displaced to one side; individual flower-bearing tissue in sockets with swollen stem tissue between, and around these alveoli, bearing spines. Bracts tearing irregularly, to 5 mm; papery with a ring of shorter bract hairs within; ± persistent. *Flowers* [3], homostylous, produced throughout stem. Calyx 2–2.5 mm, margin thin, flecked with small brown scales. Corolla whitish-green, glabrous, to 7 mm; tube 4.5–5.5 mm; lobes triangular, 1.5–2 mm; uncus scarcely developed. Anthers at mouth of tube, yellow, 2.5–3.5 × 1.3 mm, filament < 0.5 mm, from near base of anther. Pollen 3-porate, with small vesicles, 68–72 µm; apertures ± regular, slightly bordered (5.6 µm thick; 4 µm elsewhere); reticulation finely porate, < 1 µm. Stigma above anthers, with 6 papillose lobes, style 4.5 mm. *Fruit* obovate, baccate, yellow when unripe, to 5 × 4 mm, surmounted by calyx remains, this to 2.5 mm across. Pyrenes 6, elliptic, 3 × 1 mm, triangular in section.

Ecology – In mossy forest at 1600–2000 m altitude. A low-level epiphyte, invariably inhabited by the ant *Iridomyrmex scrutator*.

Notes – This species can only be confused with the three other spiny *Anthorrhiza* species: *A. stevensii* Huxley & Jebb, *A. caerulea* Huxley & Jebb, and *A. chrysacantha* Huxley & Jebb. From *A. stevensii* it can be distinguished by its globose, rather than flattened, tuber, larger leaves, smaller, caducous stipules, and flowers lacking hairs in the throat. From *A. caerulea* it is distinguished by its thicker, smaller leaves with a flat, rather than crinkled, margin, sessile inflorescence without a surrounding wall of tissue, and smaller greenish-white flowers. From *A. chrysacantha* it is distinguished by its shorter spines, small, papery and caducous bracts splitting irregularly, compared to the leathery, persistent and apiculate bracts of the latter, petals lacking an apical appendage, and its 6-pyrened, compared to 4-pyrened, fruits. It is of interest that this species appears to be somewhat smaller than the remaining species; however, this may as yet be a result of the small collection base.

The species is named for Camilla Huxley-Lambrick to celebrate her discovery and description of the genus.

Collections – PAPUA NEW GUINEA. Morobe Province. SE 7° 56' 147° 07', c. 8 km S of Garassa airstrip, c. 1800 m, 16/8/90, *Jebb 849* (BRI), *850* (CANB), *851* (A), *852* (L), *853* (LAE, in spirit), *854* (holo LAE), *855* (L, in spirit), *856* (UPNG), *857* (LAE), *858* (UPNG), *859* (K).

KEY TO THE SPINY ANTHORRHIZA SPECIES

The key in Huxley & Jebb (1991) can accommodate the new species with minor adjustments to couplets 4 and 5 as follows:

- 2b. Spines scattered on stem. Leaves usually less than 4 cm wide 4
 4a. Lamina less than 8 cm long, stipules persistent, rounded *A. stevensii*
 b. Lamina more than 10 cm long, stipules caducous, triangular or rounded 5

- 5a. Stem dorsiventral, more spines on upper side, spines light-brown to blackish. Leaf margin crinkled. Corolla blue *A. caerulea*
 b. Stem radially symmetrical, *rarely dorsiventral*. Spines golden brown. Leaf margin flat. Corolla white to greenish white *
- *a. Inflorescence bracts leathery, splitting regularly, apiculate, persistent. Petals with long slender lobe tips *A. chrysacantha*
 *b. Inflorescence bracts papery, tearing irregularly, not apiculate, caducous. Petals acute-rounded *A. camilla*

DISCUSSION

The tuber cavities of this species accord well with those of *Anthorrhiza caerulea*. One notable feature is the presence of entrance holes on the surface of the tuber of this species, a feature not known in the former species. *Anthorrhiza echinella* and *A. recurvispina* have entrance holes on their tuber surfaces, but neither has the concise cavity arrangement of *A. caerulea* or *A. camilla*. A second peculiarity is the absence of entrance holes, other than that of the central warted tunnel, on the base of the tuber. The smooth-walled tunnels arise from entrance holes within the basal vestibule of the warted tunnel. In *A. caerulea* and *A. chrysacantha*, on the other hand, entrances to the smooth-walled tunnels are scattered throughout the base of the tuber. The most apical chamber of the warted tunnel is more compressed in this species than in *A. caerulea*. Some of the associated warted tunnels arising from the vestibule have connections to the smooth-walled tunnels, a feature only rarely found in the former species.

Spine and inflorescence structure of this species most closely match those of *A. chrysacantha*, although the bracts are more papery and less persistent. Likewise the form and texture of the leaves is closer to this species than to those of *A. caerulea*.

Interestingly the pollen of the species matches that of *A. caerulea*, more so than the pollen of other species, with bordered pores, relatively large vesicles and fine reticulation, a combination not found elsewhere in the genus.

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