**Taeniophyllum baumei** B.Gray (Orchidaceae), a new species from Cape York Peninsula, Queensland

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Summary


Key Words: Orchidaceae, *Taeniophyllum*, *Taeniophyllum baumei*, Australia flora, Queensland flora, Cape York, McIlwraith Range, new species, taxonomy, identification key

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Introduction

A survey of mainland Australian *Taeniophyllum* was conducted recently and a total of nine species were recorded, including four new species (Gray 2015, 2017). However, another recent collection made by David Baume in 2015 from northern Cape York has shown yet another distinct species exists. Although closely resembling *T. muelleri* Lindl. ex Benth., a widespread species of the east coast of Queensland and New South Wales (Jones et al. 2018), certain floral characteristics of Baume’s specimen differ significantly to those of *T. muelleri*. The taxonomy of *T. muelleri* was revisited and it was discovered that all northern Cape York Peninsula *Taeniophyllum* collections previously identified as *T. muelleri* were in fact the same as David Baume’s specimen. This new Cape York Peninsula *Taeniophyllum* is here described as *T. baumei* (Fig. 1). A revised key to the mainland Australian *Taeniophyllum* is provided.

Materials and methods

This study is based on living plants observed in the field, as well as herbarium specimens including spirit collections deposited in BRI, CANB and CNS (herbaria acronyms follow Thiers (continuously updated)). All measurements of floral parts were made from spirit material. An illustration depicting the inflorescences of *Taeniophyllum baumei* and *T. muelleri* is provided for comparison purposes, (Fig. 2), as well as photographs of the two species observed in the field (Figs. 3 & 4).

Taxonomy

**Key to mainland Australian Taeniophyllum species (revised from Gray 2015)**

1. Sepals and petals fused near the base forming a tube; flowers <3 mm diameter .................................................. 2
2. Sepals and petals free to the base not forming a tube; flowers >3 mm diameter ............................................... 6

2. Roots triangular or flattened in cross section .......................................................... 3
3. Roots terete in cross section ........................................................................... 9

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Accepted for publication 19 July 2018
Taeniophyllum baumei B.Gray sp. nov.
Similar to T. muelleri Lindl. ex Benth. but differs in having inflorescences with 6–20(–more) flowers (versus 4–8(–9) flowers in T. muelleri), flowers tightly arranged (0.8–1.5 mm apart) (versus flowers sparsely arranged (1.7–3 mm apart) in T. muelleri), and non-self-pollinating flowers (versus self-pollinating flowers in T. muelleri). **Typus:** Queensland. **Cook District:** Wasp Creek north of Bamaga, 1 July 2015, D.F. Baume DFB55 (holo: BRI [1 sheet + spirit]; iso: CNS).

Plants epiphytic, single or in colonies. **Roots** several, 15–60 mm long, round in cross section 0.8–1 mm diameter, green. **Inflorescences** filiform, peduncle 4–8 × 0.3–0.4 mm with 1–3 bracts. **Rachis** increasing in length as flowering progresses, producing 9–20 or more flowers one at a time over several weeks; buds, flowers and capsules can be present at the same time. **Floral bracts** acute, alternate, 0.7–0.9 mm long, 0.8–1.5 mm apart and all in one plane. **Flowers** opening singly, c. 3 mm long including the spur and c. 2.2 mm across when open, pale green. **Sepals** and **petals** connate at the base into a short tube 0.5–0.8 mm long then spreading. **Dorsal sepal** narrowly lanceolate, c. 1.5 × 0.5 mm. **Lateral sepals** linear to slightly falcate, 1.5 × 0.6 mm. **Petals** lanceolate, c. 1.5 × 0.7 mm, apex acuminate. **Labellum** cymbiform, narrowly triangular, 1.8–1.9 × c. 0.5 mm, channel deepest at the base, apex acute with an erect spur c. 0.5 mm long. **Spur** subglobose, flattish.
on the underside, 0.9–1 mm. Column domed, c. 0.6 × 0.5 mm. Anther cap 0.3.5–4 × c. 0.3 mm. Pollinia 4 in two pairs, yellow. Capsule linear 6–7 × 2–2.5 mm. Figs. 1, 2A, 3.

Additional specimens examined: Australia. Queensland. Cook District: Punsand Bay, Cape York, Sep 1989, Gray 5116 (CNS); Adjacent to Laradenia Creek north of Bamaga, Sep 2017, Gray 9794 & Nowochatko (CNS); Mt Tozer, Jul 1986, Collins 20151 (CNS); Foot of Garraway Range, Sep 2017, Gray 9796 & Nowochatko (CNS); McIlwraith Range, Leo Creek Mine Road, Nov 1985, Gray 4243 (CNS); McIlwraith Range, Leo Creek Mine Road, Sep 2017, Gray 9802 et al. (CNS); Pandanus Creek, McIlwraith Range E of Coen, Jul 1978, Clarkson 2453 (BR1); Klondike Mine Road, S end of McIlwraith Range, Dec 2001, Gray 7921 (CNS).

Distribution and habitat: Taeniophyllum baumei is presently known to occur from the tip of Cape York, to as far south as the McIlwraith Range (Map 1). Specimens have been collected in Ericaceae dominated scrubs and both outside and inside rainforest margins at elevations from sea level to over 400 m.

Phenology: Flowering and fruiting has been recorded between April and December.

Notes: Taeniophyllum baumei was previously confused with T. muelleri, a widespread species occurring from the Wet Tropics in northern Queensland to northern New South Wales.
Fig. 3. Flowering and fruiting plant of *Taeniophyllum baumei* (Gray BG9795, CNS).

**Etymology:** The species is named after David Baume, collector of the type material who brought my attention to this remarkable plant.

**Acknowledgements**

Special thanks to David Baume who brought *Taeniophyllum baumei* to my attention. I am indebted to Prof. Dr Darren Crayn and Frank Zich for their assistance with loans from (BRI) and (CANB), and permission to access herbarium collections at the Australian Tropical Herbarium (CNS); Yee Wen Low, Herbarium, Singapore Botanic Gardens for assistance with the manuscript; Kieran Aland, James Walker and Mark Nowochatko for assistance with field work and Will Smith (BRI) for the distribution map.

Fig. 4. Flowering and fruiting plant of *Taeniophyllum muelleri* (Gray BG9661, CNS).
References


Map 1. Distribution of *Taeniophyllum baumei*.