ZINGIBER KELABITIANUM (*ZINGIBERACEAE*): A NEW SPECIES FROM BORNEO

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Zingiber kelabitianum from Sarawak, Borneo is described. This new species belongs to section *Zingiber*, having radical, erect inflorescences. It is related to *Z. pachysiphon* B.L. Burtt & R.M. Sm. in the large size of the plant and the robust, cylindrical inflorescences with deflexed bracts. It differs in the dense, yellow-brown indumentum of the leaf sheath and ligules, the bright red bracts, the longer bracteole and the free, well-developed lateral lobes of the labellum. The traditional uses of the plant by the indigenous people, the Kelabits, are described.

Keywords. Ginger, Kelabit, new species, Sarawak, traditional medicine.

INTRODUCTION

The genus *Zingiber* in Borneo was studied by R.M. Smith (1988) and a key to 18 species in the genus was provided. However, unknown species are regularly being found in this part of Malaysia. The new species described here was collected in the Kelabit Highlands, 4th Division, Sarawak by Hanne Christensen and Florence Apu in 1993.

Zingiber kelabitianum Theilade & H. Chr., **sp. nov. Fig. 1.**
Species *Z. pachysiphone* affinis a qua differt indumento vaginarum et ligularum aureo-brunneo, marginibus vaginarum crispis, foliis oblongis majoribus, bracteis clare rubris pubescentibus, bracteolis longioribus, et lobis lateralibus labelli bene effectis. Type: Sarawak, 4th Division, 3°40′N 115°50′E, near Pa Dalih, about 30km south of Bareo, 1100m alt., swampy area by river dominated by *Gigantochloa levis* Merr. and *Alpinia nieuwenhuizii* Valeton, 7 viii 1993, *Christensen & Apu* 313 (holo. AAU incl. alc. material and photos; iso. K).

Leafy shoots 3–4m tall. *Leaf sheaths* covered with long, weak, yellow-brown hairs especially towards the maroon, conspicuously ruffled edges. *Ligule* bilobed, 3–4cm long, covered with long, weak, yellow-brown hairs, maroon. *Petiole* shaggy. *Leaves* oblong, 45–55 × 8–10cm, glabrous above, sparse, adpressed, silky hairs below, mid-rib below densely pubescent, base attenuate, apex acuminate. *Inflorescence* radical, more or less erect. *Scape* stout, 20–25cm long; sheaths 7cm long, bright red. *Spike* ovoid or cylindric, 12–15 × 7–8.5cm, apex broadly rounded. *Bracts* elliptic, 5.5–6.5 × 3.3–3.5cm, filled with a mucilaginous fluid, densely pubescent throughout, bright red, apices deflexed, acute. *Bracteoles* lanceolate, 3 × 1cm. *Calyx* 3cm long, white.

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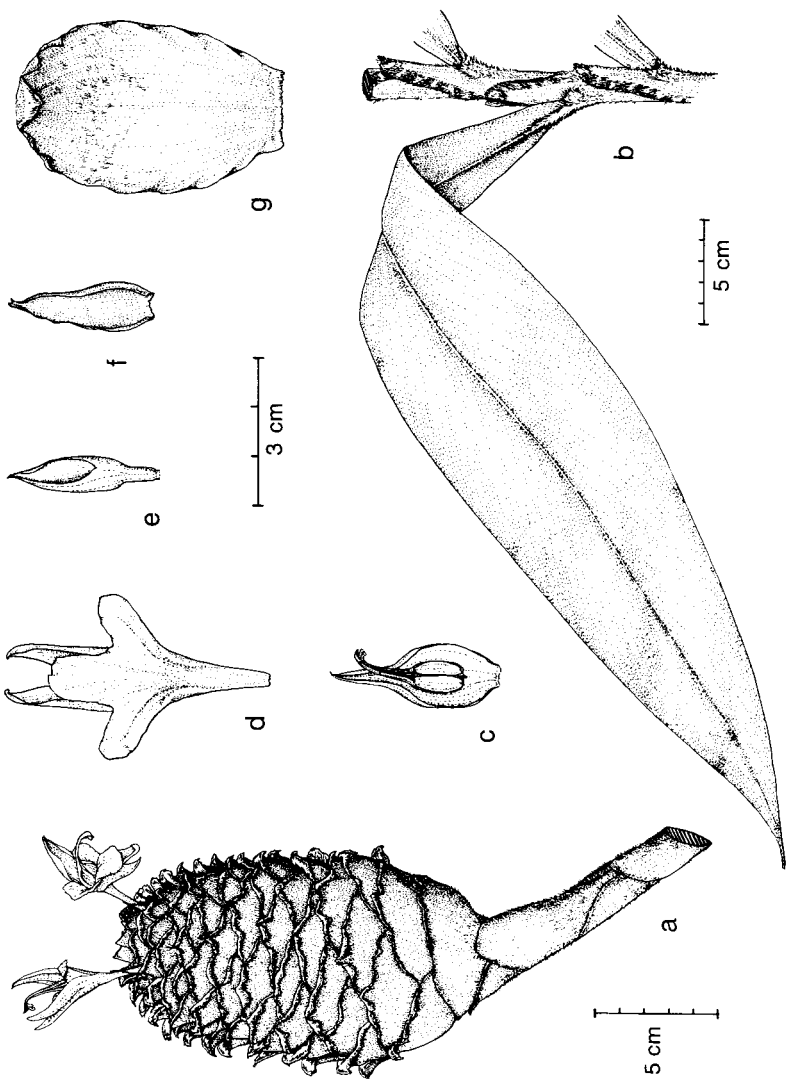

FIG. 1. Z. *kelabitianum*. a, inflorescence; b, leaf and ligule; c, dorsal corolla lobe; d, labellum above lateral corolla lobes; e, calyx; f, bracteole; g, bract.

Corolla total length 7.2cm, cream-white; dorsal lobe 3 × 1.3cm; lateral lobes 2.1 × 0.9cm, free all way down. *Labellum* 6.4cm, cream-white; midlobe oblong, 1.3 × 0.9cm, truncate; sidelobes oblong, 0.9 × 0.6cm. *Anther* 12mm, cream. *Appendage* 1.5cm, cream-white.

Vegetatively *Z. kelabitianum* is most distinctive by its large size, its conspicuously shaggy leaf sheaths with ruffled edges and its long, shaggy ligules. The robust inflorescence is held on a more or less erect, stout peduncle and is the largest inflorescence of any Sarawakian species described so far. It is allied to *Z. pachysiphon* B.L. Burtt & R.M. Sm. (1969) in the long ligules, large leaves and robust, cylindrical inflorescences with deflexed bracts. It differs by the dense, yellow-brown indumentum of the leaf sheath and ligules, the larger, oblong leaves, the bright red, pubescent bracts, the longer bracteole and the free, well-developed lateral lobes of the labellum. In *Z. pachysiphon* the bracteole is considerably shorter than the calyx and the labellum shallowly three-lobed (Smith, 1988). The measurements in the description are based on dried material except for floral characters, which are from spirit material.

Additional specimen examined. SARAWAK. 4th Division, open secondary forest, at stream near Pa Dalih, 22 iii 1993, *Christensen & Apu* 13 (AAU).

Ecology. Evergreen submontane rain forest, 900–1200m alt. Flowering in August. Not common.

Distribution. Probably endemic to the Highlands.

Uses. The Kelabit people use this species for two purposes. The aromatic shoots are eaten as a vegetable, raw or cooked. The inflorescence is believed to have medicinal properties for dogs. If a dog is ill or weak, one inflorescence is added to a pot of boiling water, the pot is removed from the fire and left for one hour. The inflorescence is squeezed and the mucilaginous liquid is fed to the dog. The agronomic potential of *Z. kelabitianum* is low as it grows too slowly to produce a commercial harvest. However, it has potential as an ornamental plant, with its robust, beautiful, red inflorescences. The edibility of aromatic shoots may add to its popularity.

Etymology and vernacular name. This species is named after the Kelabit people of Sarawak. The Kelabit name is 'Tubuh berak siah' meaning 'The big, pig ginger'.

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