AMOMUM ROSEISQUAMOSUM (ZINGIBERACEAE), A NEW EPIPHYTIC GINGER FROM BORNEO

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Amomum roseisquamosum (Zingiberaceae) is described from Sarawak, Borneo. This new species is related to *A. borneense* and *A. epiphyticum* of Smith's (1989) Group V for Bornean species, sharing an epiphytic habit, crested anther-thecae and flattened fruits, but differs in having white flowers, a shorter corolla tube equal to the calyx tube, and lateral petals connate to the labellum. The systematic position is discussed.

Keywords. Amomum, epiphyte, new species, Sarawak, Zingiberaceae.

INTRODUCTION

The genus *Amomum* from Borneo was studied by R.M. Smith (1985, 1987, 1989, 1990), and 28 species were recognized. Of these, only two were reported to be epiphytes. The new species described here is the third epiphytic *Amomum* known from Borneo.

Amomum roseisquamosum Nagam. & S. Sakai, **sp. nov. Fig. 1.**
Amomum borneensi (K. Schum.) R.M. Sm. et *A. epiphytico* R.M. Sm. planta epiphytica et capsula lateraliter complanata similis, sed floribus albis, corollae tubo e calycis tubo paulo excedenti vel aequali, petalis lateralibus inter se et ad medium labellum per dimidium longitudinis connatis differt.
Typus: Sarawak, Miri, Lambir Hills National Park, 4°12–13′N, 114°01–03′E, 150–220m alt., in mixed dipterocarp forest, near the 3rd waterfall, epiphyte at 7m above ground, bracts pink, flower white with a pink patch in the centre of lip, 23 iii 1995, *S. Sakai* 188 (holo. KYO).

Epiphytic herb, c.1m tall. *Leaves* distichously arranged; lamina 30–40 × 6–9cm, narrowly oblanceolate, glabrous, apex shortly acuminate to acute, base attenuate, margin entire; petioles up to 7cm long; ligules 4–6mm long, glabrous, coriaceous with membranous entire margin, sheath glabrous except cataphylls sparsely minutely hairy. *Inflorescences* radical, c.12 × 7cm, ovoid to obovoid, with c.7cm peduncle; bracts pink-red with a whitish tip, 4–5.5 × 2–2.5cm, oblong, coriaceous, minute hairy outside, glabrous inside, apex obtuse and apiculate, margin membranous, entire; bracteoles 18–21mm long, linear, pubescent, open to the base. *Flowers* white, one per bract; calyx tubular, 25–28mm long, slender, pubescent; corolla tube c.30mm long, pubescent outside and glabrous inside; dorsal petals c.18 × 10mm, rhomboid;

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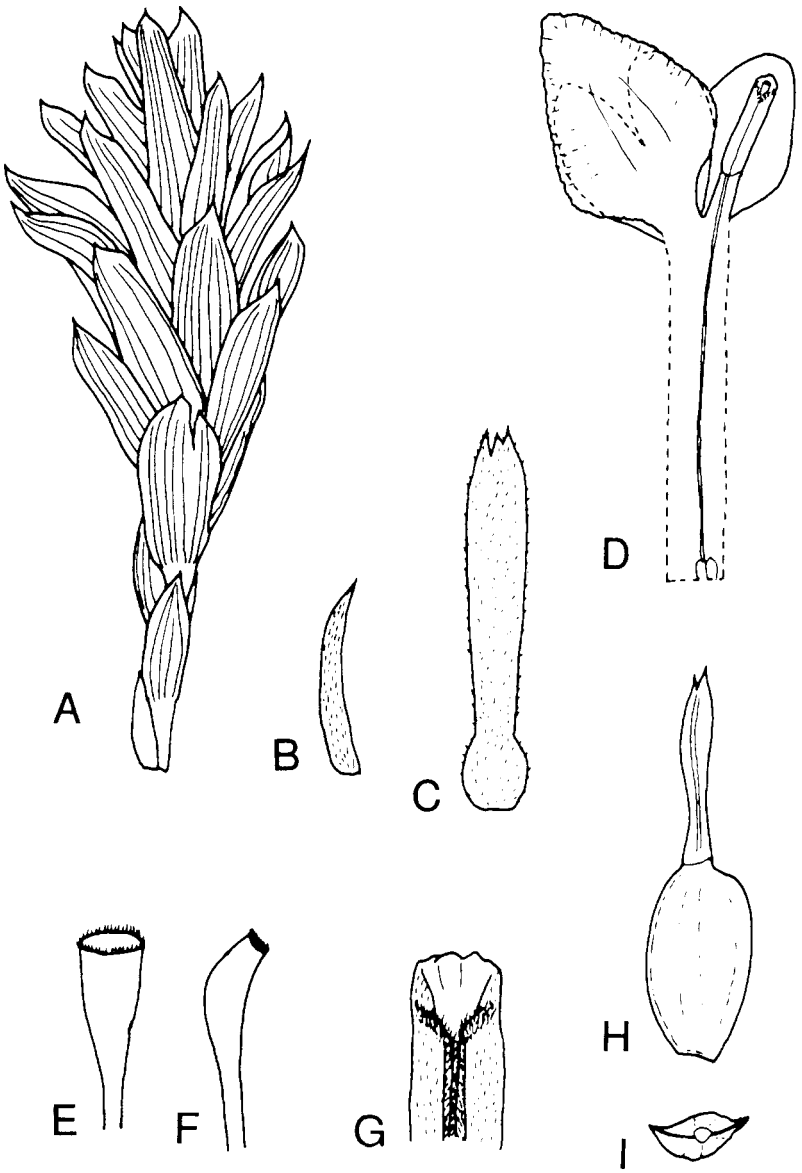

FIG. 1. *Amomum roseisquamosum*. A, inflorescence (×0.5); B, bracteole (×1.7); C, calyx tube (×1.7); D, flower dissected (×1.7); E, stigma in ventral view (×10); F, stigma in lateral view (×10); G, upper part of anther showing a pleated crest (×6.7); H, capsule surmounted by calyx in ventral view (×1); I, capsule in basal view (×1).

laterals 12 × 5mm, oblong, centrally connate to each other and to the labellum in the lower part; labellum white with a pink patch in the centre, c.20 × 10mm, rhomboid to ovate, margin undulate; lateral staminodes absent; stamen c.14mm long; filament c.5mm long; thecae parallel, c.8mm long, pubescent, with bristles between them and

TABLE 1. Differences between *A. roseisquamosum* and two allied species, *A. borneense* and *A. epiphyticum* (Smith, 1989).

	Corolla	Corolla tube to calyx tube	Lateral petals	Labellum	Ovary
A. borneense	reddish pink	long exserted	free	rectangular	glabrous
A. epiphyticum	yellow	long exserted	free	oblong or rectangular?	glabrous
A. roseisquamosum	white	almost equal	centrally connate	rhomboid-ovate	pubescent

on their tops; connective prolonged into a pleated c.1mm crest; ovary 6–7 × 7mm, trilocular with axile placentation, pubescent; stigma cup-shaped, ciliate at the mouth; epigynous glands c.3mm high. *Capsules* flattened with two distinct longitudinal ridges, obovate in dorsoventral view, sparsely pubescent, 26 × 16 × 8mm.

Ecology. Epiphytic on tree trunk in mixed dipterocarp forest.

Distribution. Borneo: Lambir Hills, Sarawak.

Smith (1985, 1986, 1989) subdivided the Bornean *Amomum* into five informal groups, but none of the diagnoses for these groups matches *A. roseisquamosum*. However, features of this new species such as epiphytic habit, crested anther-thecae and flattened fruits suggest that it is closely related to the members of Smith's Group V, *A. borneense* (K. Schum.) R.M. Sm. and *A. epiphyticum* R.M. Sm.

The differences between these two species and *A. roseisquamosum* are presented in Table 1. The most important difference is the condition of lateral petals centrally connate to each other and to the labellum in the lower part, which is regarded as the diagnostic feature of Smith's Group II. The latter group is, however, also defined by the ecristate anthers, which are not shared by *A. roseisquamosum*; the pleated crest of *A. roseisquamosum* is very similar to that of *A. borneense*. Another important difference is the relative length of corolla tube to calyx tube. Smith (1989) regarded the long exserted corolla tube from calyx tube as one of the diagnostic features of Group V, but the corolla tube of *A. roseisquamosum* is almost equal to the calyx tube.

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