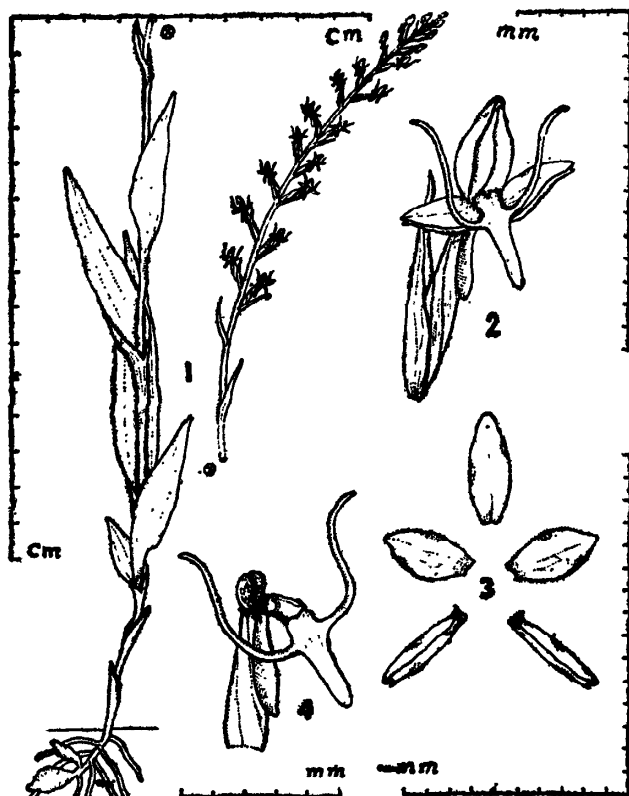


PERISTYLUS RICHARDIANUS WT. AND *LIPARIS WRAYII* HOOK. F.—TWO
GROUND ORCHIDS NEW TO NORTH EASTERN INDIA

In a general exploration and study of orchids in north-eastern India, one, so far known from the South Indian Hills and Nepal only, and another unknown in India, but known from Burma to New Guinea, were both discovered, the former in the Khasi Hills of Meghalaya, and the latter in Tirap district of Arunachal Pradesh. In view of the phytogeographical interest, and in the thought that this would stimulate finding them elsewhere, a detailed description with illustration for each, with some ecological notes, based on our material, is now provided.

Peristylus richardianus Wight, Ic. Pl. Ind. Or. 5(1): 12. 1851; Fischer in Gamble, Fl. Pres. Madras 3: 1030. 1957 (Repr. ed.);



Peristylus richardianus Wt.

Figs. 1-4: 1. Habit with separate inflorescence. 2. Flower. 3. Sepals & Petals spread out. 4. Lip & Column. (A.N. Rao 62308, ASSAM)

Tuyama in Hara, Fl. East. Himalaya 437. 1966; Seidenf. Dansk Bot. Arkiv 31 (3): 39. f. 15. 1977. *Habenaria bicornuta* Hook. f. Fl. Brit. Ind. 6: 156. 1890.

Terrestrial, tuberous, erect, simple herbs, 35-40 cm high (with inflorescence). *Tubers* 9.0-13.0 × 3.8 mm, two, unequal, ovoid. *Leaves* 5.0-7.0 × 0.7-1.0 cm, generally 4 or 5, alternate, linear-lanceolate, acuminate, sheathing at the base. *Inflorescence* spike, 11-12 cm, lax-fid. *Bracts* ca 10.0 × 2.5-3.0 mm, linear-lanceolate, longer than or equal to the ovary, 3-nerved; midnerve distinct, the laterals faint. *Flowers* 8-14 mm long, sessile, greenish-white; *dorsal sepal* ca 5.0 × 1.5-2.0 mm, oblong, notched at apex, 1-nerved; *lateral sepals* ca 4.0 × 1.0-1.5 mm, linear-lanceolate, cupulate at the apex with a subterminal median dorsal mucro, 1-nerved; *lateral petals* ca 4.0 × ca 2 mm, broader than the sepals, ovate, obtuse, 1-nerved, with or without lateral nerves. *Lip* 3-lobed, clawed towards the base; claw concave; *midlobe* ca 2.5 × 1.0 mm, slightly reflexed, conical, obtuse, 3-nerved; *lateral lobes* ca 5 mm long, horn-like, filiform, erect. *Spur* ca 4 mm, clavate. *Column* ca 1 mm. *Ovary* 8.0-9.0 × 1.5-2.0 mm, ridged. In open grasslands in association with *Herminium lanceum* (Thunb. ex Sw.) Vuijk, another terrestrial orchid.

Our plants show some variation with their greenish white flowers (instead of yellow), the one nerved perianth (instead of three) and the lateral sepals having a subterminal mucro. Also our plants bloom in September rather than in July. However these variations are not entirely unexpected and there is no doubt of their being *P. richardianus* Wt.

Specimens examined: MEGHALAYA: Upper Shillong (ca 1800 m), 7.9.1978, A. N. Rao 62308 (ASSAM). TAMILNADU: Aval-

anche (ca 1500 m), *Beddome* s. n. (Acc. Nos. 50907 B; 50917); *Lawson* s. n. (Acc. No. 51085B) (MH).

***Liparis wrayii* Hook. f.** Fl. Erit. Ind. 6: 181. 1890; Holttum, Fl. Malaya 1: 203. 1957; Seidenf. Dansk Bot. Arkiv 31 (1): 15. f. 5. 1976.

Dwarf, erect, terrestrial herbs, 15-25 cm high (with inflorescence). *Roots* 2-5 cm long, many, thick, spreading, clothed with small hairs. *Stems* 4-7 cm high, thick, 2-4 sheathed. *Leaves* usually three (rarely four), ovate or broadly elliptic-lanceolate, acute or slightly acuminate, abruptly narrowed into a short petiole continuing into a broad sheathing base, not jointed, membranous, with five distinct primary nerves, the basal one the smallest (3.0-5.0 × 1.5-4.0 cm) and

the upper two larger (8.0-13.0 × 2.5-5.0 cm). *Inflorescence* a terminal raceme, lax-flowered, longer than the leaves (up to 15.0 cm long); rachis angled, narrowly winged. *Bracts* ca 2 × 1 mm, much smaller than the ovary, broadly ovate, acute to shortly acuminate, 1-nerved, sparsely gland dotted. *Flowers* ca 1.5 cm long; perianth with deflexed margins and sparsely gland dotted, pale green or greenish white; *dorsal sepal* 6.0-7.0 × 1.5-2.0 mm, oblong, obtuse, 3-nerved; *lateral sepals* 5-6 × 2-3 mm, shorter and a little broader than the dorsal, ovate-lanceolate, acute, 3-nerved; *lateral petals* 6-7 × ca 1 mm, linear-oblong or spatulate, obtuse, curved forwards, 1-nerved. *Lip* 6-7 mm long, obovate, 2.5-3.0 mm broad at base, flabellate at the distal half (ca 4.0 mm broad), emarginate or truncate with a toothed apex and two small conical tubercles or calli on either side of the median nerve at the base (Holttum, 1957, indicates a single callus); disc with five distinct nerves, the lateral ones further branching. *Column* 3.5-4.0 × ca 1.0 mm, slightly winged at the distal half (Hook. f., 1890, says wingless); *anther cap* ca 0.5 × 1.0 mm, 2-celled, hinged behind; pollinia 4, in two pairs, small, pyriform, yellow. *Ovary* with pedicel 7-12 × ca 1 mm, prominently ridged and narrowly winged, greenish white.

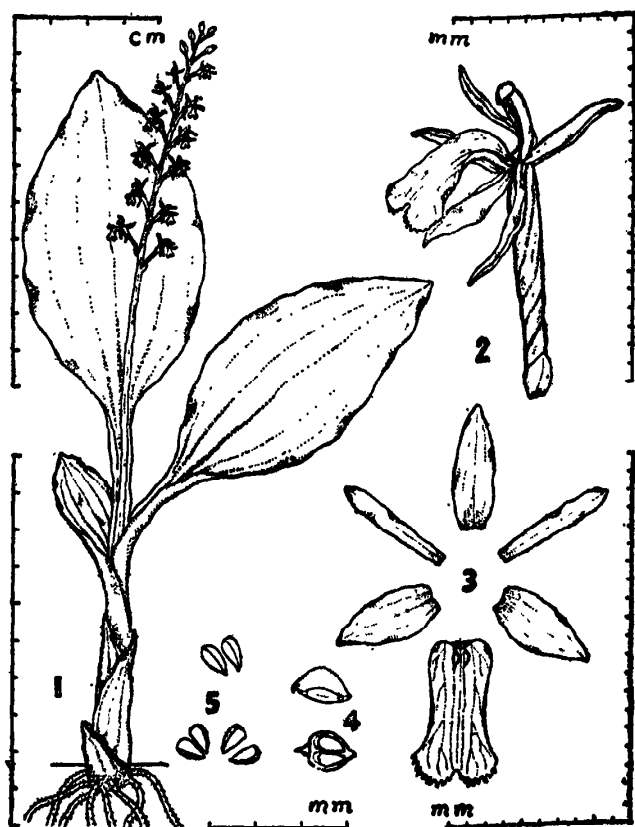
Flowering: September. In shady places in humus of forest-floor.

Specimens examined: ARUNACHAL PRADESH: Tirap Dist., Miao, A. N. Rao 73520 (ASSAM).

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Liparis wrayii Hook. f.

Figs. 1-5: 1. Habit. 2. Flower. 3. Sepals, Petals & Lip spread out. 4. Lateral & Ventral views of Anther cap. 5. Pollinia. (A. N. Rao 73520, ASSAM)