CURCUMORPHA—A NEW GENUS OF ZINGIBERACEAE

A *Curcuma*-like herb first gathered (*A. S. Rao* 38791) from the Gharbhanga forest near Gauhati in 1964, with several more individuals later collected in other areas, was kept under observation till 1970. The plants were all easily identified to *Gastrochilus longiflora* Wall., but our observations, *vis a vis* the original description of Wallich and certain connected references highlighted the doubts, felt by us on the homogenous nature of Wallich's genus *Gastrochilus*. Incidentally, Kuntze had provided a new generic name *Boesenbergia* (*Gastrochilus* Wall. 1829 being a later homonym of *Gastrochilus* D. Don, 1825, an orchid genus) and simply transferred with the two original species of Wallich, all other species also. Thus, Wallich's two species now became *B. pulchella* (Wall.) Kuntze and *B. longiflora* (Wall.) Kuntze. Holttum in his account of Zingiberaceae of Malaya (Gard. Bull. 13: 107. 1950) accepted as the type species, *B. pulchella,* characterised by a terminal inflorescence on a leafy shoot, with distichous bracts, and pointed out that Wallich's second species, *B. longiflora,* with distinct leafy and floral shoots, and spiral bracts, did not fit in with the type species. However, since the latter species did not occur in Malaya he did not pursue his doubts. Our observations of live plants has led us to confirm these characters as also a peculiar campanulate structure in the flower, made up of the confluent bases of the two petaloid staminodes, the lip and the filament (scarcely observable in herbarium specimens.) not known in *Boesenbergia*. Though this has been included in Wallich's description and drawing its distinctiveness was not obviously noted. Incidentally, a comparable structure is also present in some members of the Marantaceae.

Boesenbergia longiflora (Wall.) Kuntze, with its separate leafy and floral shoots, spikes with spiral bracts each enclosing only one flower, successively blooming one after the other, and with the campanulate structure earlier mentioned, is distinctive and cannot continue to be in *Boesenbergia*. Thus, to accommodate *Gastrochilus longiflora* Wall., a new genus is described.

Curcumorpha A. S. Rao et D. M. Verma, gen. nov.

Affinis *Boesenbergiae* Kuntze. sed caulis spurie, spicae radicales, bracteae spirales, et staminodii cupula formins e labelluo, staminidiis lateralia petaloidea et filamentum, coalescens ad basin.

Species typica—*Curcumorpha longiflora* (Wall.) A. S. Rao et D. M. Verma.

Curcumorpha A. S. Rao & D. M. Verma, gen. nov.

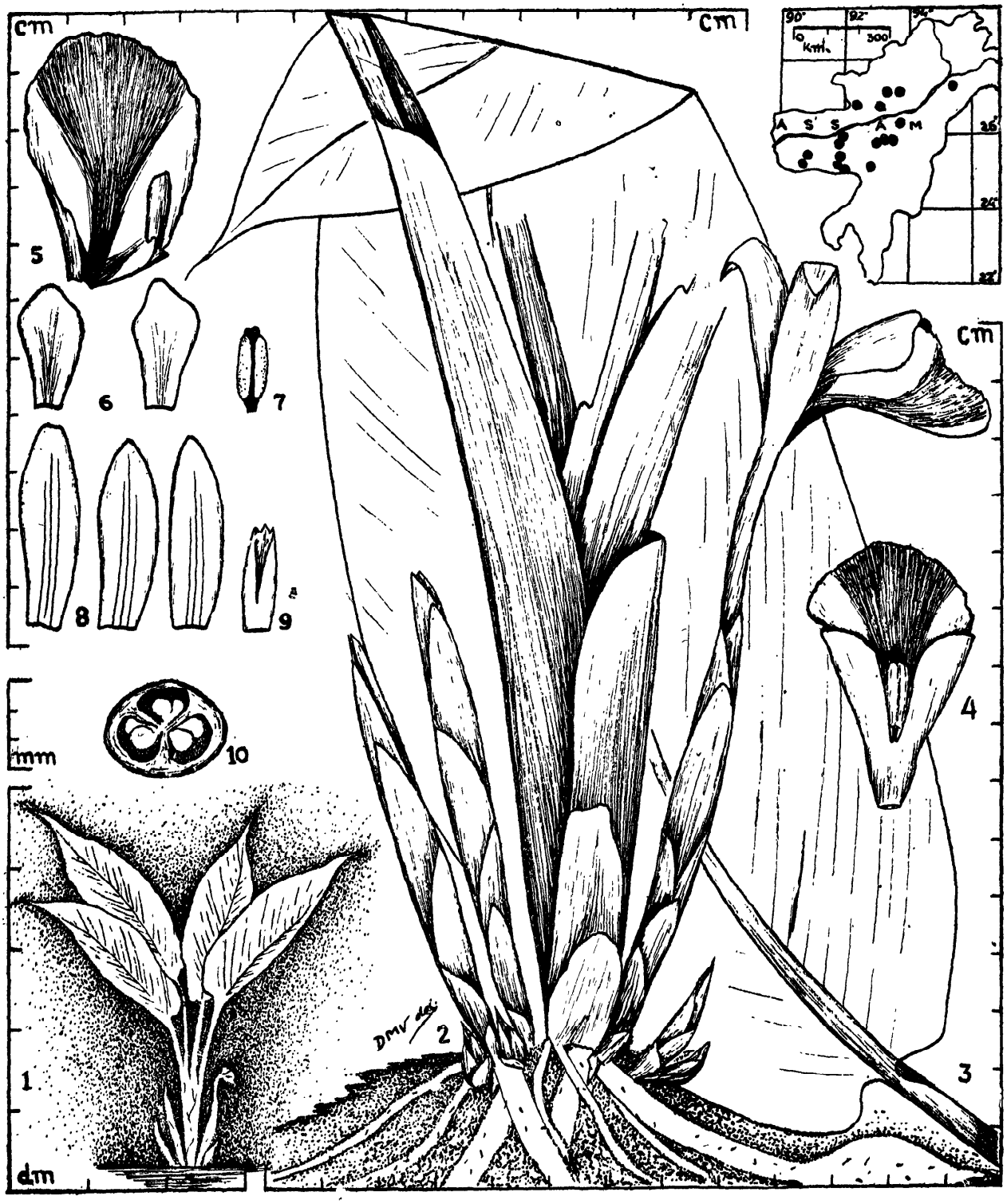
Allied to *Boesenbergia* Kuntze but differs in stem being spurious, spikes radical, bracts spiral, and a staminodial cup formed of the lip, petaloid lateral staminodes and filament, all fused at the base.

Perennial, terrestrial, rhizomatous herbs. *Stems* spurious, formed of a few leaf-sheaths. *Leaves* few, distichous, petiolate, contemporaneous with the flowers, penninerved; sheaths open. *Spikes* one to several, radical around the stem; peduncles short, slender, enclosed within spirally imbricating scales; rhachis slender; bracts few, spirally imbricate, 1-flowered; bracteoles scarious. *Flowers* fugacious, successively opening from apex downwards; calyx scarious, tridentate, deeply split on one side; corolla-tube long, slender; lobes 3, posterior larger; lateral staminodes 2, petaloid, fused at base with the lip and the filament, forming an inflated staminodial cup; lip obovate, cuneate, entire; stamen 1; filament short; anther basifixed, scarcely crested; ovary 3-celled; placenta axile; ovules many. *Fruits* not seen.

Type species: *Curcumorpha longiflora* (Wall.) A. S. Rao & D. M. Verma.

Curcumorpha longiflora (Wall.) A. S. Rao & D. M. Verma, comb. nov. *Gastrochilus longiflora* Wall. Pl. Asiat. Rar. 1: 22. t. 25. 1829. *Boesenbergia longiflora* (Wall.) Kuntze, Rev. Gen. Pl. 685. 1891.

Rhizomes short, stock-like, faintly aromatic; roots some fleshy and ending in ellipsoid tubers, others wiry, long. *Leaves* 3-4, in a basal bunch; petioles 2-25 cm long; lamina oblong-lanceolate, 10-45 cm long, 4-13 cm broad, glabrous or puberulus beneath, purplish when young, rounded and slightly cordate at the base, caudate-acuminate at the apex; sheaths purplish or green. *Spikes* one to several, successively developing, narrow, cylindrical, 3-7 cm long, on 0.5-4 cm long peduncles, 1-3 flowering together, but each only with a solitary flower at a time; bracts 2-5, appressed, lanceolate, 6-8.5 cm long, 1-1.8 cm broad, purplish or greenish; bracteoles elliptic, *ca* 4 cm long. *Calyx* 2-2.8 cm long; corolla-tube 7.5-12.5 cm long, subequal with, or upto 6 cm longer than, the bract, white or pink-tinged; corolla-lobes oblong-lanceolate, 2.5-3.5 cm long, 5-10 mm broad, white with pinkish tips; staminodial cup 1-1.5 cm



Figs. 1-10 : *Curcumorpha longiflora* (Wall.) A. S. Rao & D. M. Verma 1. Habit (reduced). 2. Basal part of plant. 3. Leaf. 4. Lip with staminodial cup and stamen. 5. Lip & stamen. 6. Staminodes. 7. Stamen. 8. Corolla-lobes. 9. Calyx. 10. T.S. Ovary. (*A. S. Rao* 38791). The inset map of Assam shows distribution.

long, white; lateral staminodes obovate-oblong, 2-2.5 cm long, 1.4-1.7 cm broad, white, subcarnose; lip 3.5-5.5 cm long, 2.5-4.8 cm broad, crumpled at margins, white with a fleshy, glossy, red median band, gradually broadening and merging upwards into a purplish red flush which ultimately becomes almost pale violet in age, the base with dense streaks of red on either side of the median band; filament *ca* 2 mm long; anther 1-1.5 cm long; connective inflexed, produced into a *ca* 1 mm large, notched crest; ovary cylindric, 7-10 mm long, white. (Figs. 1-10).

Flowering: April-September. Along forest-margins, in shady places; 150-1850 m. Like several other zingiberaceae members, in this species also fruiting has not been noticed neither in nature nor in the experimental garden, though there is free flowering.

Specimens cited: ASSAM: *Darrang*—Batasipur, *M. M. Srinivasan* 22411. Halem Tea Estate, *Burton* 21749. Tangla, *Nath* 13387. *Kamrup*—Gharbhanga, *A. S. Rao* 38791. *Lakhimpur*—Jeypore, *G. K. Deka s.n. (accn. no. 93)*. *N. Cachar & Mikir Hills*—Garampani, *Deb* 35151. Nowgong-Doboka, *Balakrishnan* 39415. Kholahat, *De* 20327. Sonaikuchi, *Balakrishnan* 39222. *Sibsagar*—Panbari, *Deb* 34846. *Assam*, s.l., *Mann* 307. MEGHALAYA: *Garo hills*—Norengiri, *Deb* 29287. Rongrengiri, *Deb* 29216. *K. & J. Hills*—Bholagonj, *G. K. Deka* 203260. Nongpoh, *De* 20326, 21089; *Joseph* 37477. Shillong, 'Woodlands', *Verma* 38422. Tharia, *G. K. Deka* 19668. NEFA—*Kameng*—Bhairabkunda-Amratola, *Panigrahi* 15229.

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SIX NOTEWORTHY CORTICOLOUS LICHENS FROM INDIA

During the study of the lichens of 24-Parganas, Indian Botanic Garden, Sibpur and Eastern Himalayas six noteworthy lichens have been discovered which show new distribution records. Two of these are new records for Indian subcontinent and others are reported for the first time from West Bengal and Assam. The specimens are deposited in the herbarium of the Cryptogamic Unit, Botanical Survey of India, Calcutta. Duplicates of the same are deposited in the Cryptogamic Division, Vermont University, Burlington (U.S.A.).

ARTHOPYRENIACEAE

Arthopyrenia planorbella (Nyl.) Zahlbr. Cat. Lich. Univ. 1: 310, 1922. *Verrucaria planorbella* Nyl. in Bull. Soc. Linn. Normand II, 7: 181, 1873.

Thallus crustose, thin, smooth, greenish-brown. Pseudothecia crowded together, minute, 0.1-0.5 mm in diameter. Spores brown 3-septate, oblong-ellipsoid, 17-24 × 8-11 μ, 8 in each ascus. Pseudoparaphyses richly branched and anastomosing forming network.

Specimen examined: West Bengal: 24-Parganas, Joypul, Dec. 1966, *Roy Chowdhury* 327.

Previously reported only from Andamans.

Trypethelium straminicolor (Nyl.) Lich. Japan. p-115, et-1890. Sertum Lich. Trop. Labuan et Singap. p-16, 1891. Zahlbr. Cat. Lich. Univ. 1: 500, 1922.

Thallus crustose, the superficial portion thin, rough, blackish. Pseudothecia crowded, blackish with minute ostioles. Asci thick walled. Pseudoparaphyses branched and anastomosing. Spores hyaline, oblong, 21-26 × 6-7 μ, 3-septate, 8 in each ascus.

Specimen examined: West Bengal: 24-Parganas, Joypul, Dec. 1966, *Roy Chowdhury* 334; Assam: Shillong Mawsami, Sept. 1967, *Dharne* 1071.

First time reported from Indian subcontinent, previous reports are from Singapore and Japan.

OPEGRAPHACEAE

Opegrapha subsulcate Muell.-Arg. in Jour. Linn. Soc. Bot. 29: 224, 1892. Zahlbr. Cat. Lich. Univ. 2: 251, 1923.

Thallus thin, greenish-grey, surrounded by blackish outlines. Ascocarp fusiform, black and indicated by blackish depressed line. Spores hyaline, 26-28 × 4-6 μ, 5-septate, fusiform, 8 in each ascus.

Specimen examined: West Bengal: 24-Parganas, Joypul, Nov. 1966, *Roy Chowdhury* 343.

Previously reported only from Manipur.

GRAPHIDACEAE

Phaeographis leprosulans Muell.-Arg. in Hedwigia 32: 186, 1891. Zahlbr. Cat. Lich. Univ. 2: 378, 1923.