

ULMACEAE

- Trema orientalis** (Linn.) Blume
Occasional, in flowers. Rihand, 1331.

URTICACEAE

- Elatostema cuneatum** Wight
Occasional in damp shady area along stream, in flowers. Hathinala, 1374.

ZINGIBERACEAE

- Curcuma angustifolia** Roxb.
Rare, in vegetative condition. Rihand, 1123.

LILIACEAE

- Chlorophytum tuberosum** (Roxb.) Baker
Occasional, in fruits. Rihand, 1301.

COMMELINACEAE

- Commelina attenuata** Koen. ex Vahl
Common among rocks near dam, in flowers and fruits. Rihand, 1306.
Murdannia nudiflora (Linn.) Brenan
Common in open area among low grass, in flowers and fruits. Markundighat, 1274; Rihand, 1282.

ARACEAE

- Plesmonium margaritiferum** (Roxb.) Sch.
Rare, in vegetative condition. Rihand, 1300.

CYPERACEAE

- Cyperus squarrosus** Linn.
Common in moist area, in flowers. Hathinala, 1356.
Scirpus roylei (Nees) Duthie
Common in moist area, in flowers. Hathinala, 1418.
Scleria elata Thw.
Rare on banks of a stream, in flowers and fruits. Hathinala, 1366.

POACEAE

- Arthraxon lancifolius** (Trin.) Hochst.
Common on river bank, in flowers. Hathinala, 1357.
Digitaria stricta Roth ex Roem. et Sch.
Occasional on river bank. Hathinala, 1375.
Eragrostiella bifaria (Vahl) Bor.
Common on river bank. Hathinala, 1369.
E. nardoides Trin.
Common on river bank, in flowers. Hathinala, 1365.
Iseilema laxum Hack.
Occasional, in flowers. Hathinala, 1368.
Pennisetum orientale L. C. Rich.
Frequent on river bank, in flowers. Hathinala, 1353.
Rottboellia exaltata Linn. f.
Common, in flowers. Rihand, 1275.

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A NEW SPECIES OF *BULBOPHYLLUM* THOU. (ORCHIDACEAE) FROM EASTERN KUMAON

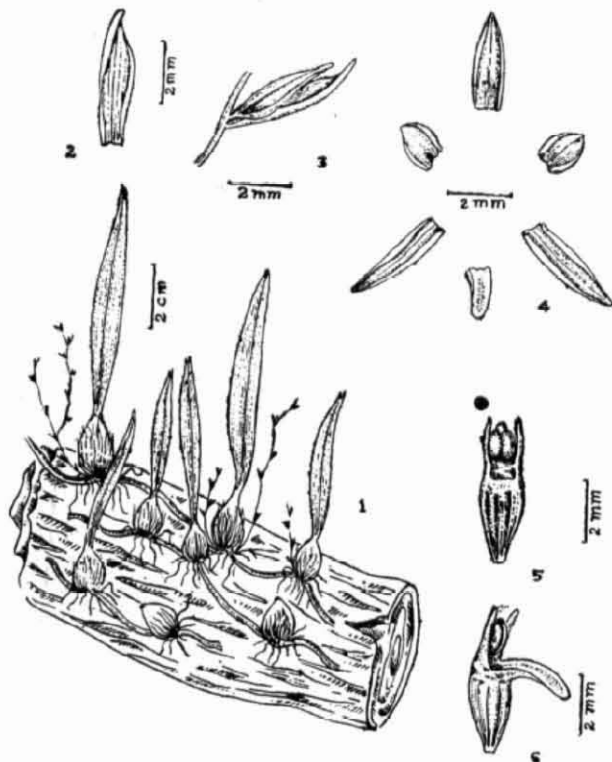
Bulbophyllum rau Arora, spec. nov.

Accedit and *B. reptans* Lindl. a quo tamen differt foliis minoribus, scapo foliis breviori, petalis ovatis subacutis trinerviis, labio non stipitato, linguiformi, non-sulcato, marginibus haud alatis, floribus numquam aperientibus.

Rhizoma filo metallico simile, tenue, 1-2 mm diam. squamis annularibus cito marcescentibus; pseudobulbi 3-5 cm distantes inter se, 1-1.5 cm longi,

obpyriformes, vaginati, vaginis ad maturitatem dilabentibus in fibras; folia lineari-oblonga, acuta, ad apicem emarginata, abrupte angustata ad basin in petiolum brevem, 4-7 cm longa, 5-8 mm lata, petiolis 2-4 mm; scapo foliis breviori, rarissime duplici, erecto, pedunculo bracteato. Flores viridescentes, conniventes, numquam aperientibus, 2-5 in singulis scapis, minute pedicellati, bracteati, bracteis oblongo-lanceolatis, 5-7 mm longis, 2 mm

latis, floribus longiores. Flores maturi alabastra simulant, 3-4 mm longi; sepalum dorsale lateralibus latius, 4 mm longum, 2 mm latum, connivens, acutum uni-nervium; lateralia vero lanceolata, cymbiformia, absque basi gibba, acuta, univernia, 4 mm longa, 1.5 mm lata; petala sepalis multo breviora, oblonga, obtusa vel rotunda ad apicem, trinervia,



Bulbophyllum raui Arora, spec. nov.
Figs. 1-6: 1. Plant with flowering spikes. 2. Bract. 3. Simulating flower. 4. Floral parts. 5. Ovary, anther column, front view. 6. Ovary with lip and anther column, side view.

2.5 mm longa, 1.5 mm lata; labium linguiforme, petalis aequilongum, spongiosum, articulatum ad pedem columnae, margine uniformi, aequae crassum ac mentum; columna 2 mm longa, recta, bicalcarata, calcaribus ad 2 mm longis, filiformibus; pes minutus, rectus; anthera una.

Typus *C. M. Arora* 37802A, et isotypi, *C. M. Arora* 37802B-C lecti in Himalaya occidentali, in regione Kumaon orientali, in distr. Pithoragarh, prope Shandev, secus viam a Shandev ad Thal, ad altit. 2000 m, die 14 octobris anni 1967 *Quercu* insidentes, et positi in Herb. BSD.

***Bulbophyllum raui* Arora, spec. nov.**

It resembles *B. reptans* Lindl., but is distinguished by its smaller leaves, scape shorter than the leaves, petals ovate, sub-acute, 3-nerved, lip not stipitate, linguiform, not grooved, margins not winged and flowers never opening.

Rhizome wiry, thin 1-2 diam. with annular scales, soon withering; pseudobulbs, 3-5 cm apart, 1-1.5 cm long, obpyriform, sheathed, sheaths on maturity splitting into fibres; leaf linear-oblong, acute, notched at apex, abruptly narrowed at base forming a short petiole, leaf blade, 4-7 cm long, 5-8 mm broad, petiole, 2-4 mm; scape shorter than the leaves, seldom in pairs, erect, peduncle bracteate; flowers greenish, connivent, never opening, 2-5 on each spike, minutely pedicelled; bracteate, bracts, oblong-lanceolate, 5-7 mm long, 2 mm broad, longer than the flowers; fully matured flowers simulate buds, 3-4 mm long; dorsal sepal broader than laterals, 4 mm long, 2 mm broad, connivent, acute 1-nerved; laterals, lanceolate, cymbiform, without gibbous base, acute 1-nerved, 4 mm long, 1.5 mm broad, petals much shorter than sepals, oblong, blunt or rounded at tip, 3-nerved, 2.5 mm long, 1.5 mm broad; lip linguiform, as long as the petals, spongy, jointed at foot of column, margin uniform, as thick as the mentum; column 2 mm long, straight, 2 spurred, spurs up to 2 mm long, filiform; foot minute, straight; anther 1. (Figs. 1-6).

WESTERN HIMALAYA: Eastern Kumaon, Pithoragarh Dist. Near Shandev on Shandev-Thal Road, 2000 m alt.; *Quercus* sp., 14th October 1967, *C. M. Arora* 37802A (Holotype) and *C. M. Arora* 37802 B-C (Isotypes) in Herb. BSD.

The species is named after Dr. M. A. Rau, Regional Botanist, Botanical Survey of India, Dehra Dun.

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