

A NOTE ON THE IDENTITY OF *HYMENOSTYLUM XANTHOCARPUM* (HOOK.) BRID.

Hymenostylium xanthocarpum (Hook.) Brid. was described by Hooker (1820) from Nepal, under genus *Gymnostomum* Nees et Hornsch. Dixon (1927) although reduced it to a synonym of *Hymenostylium recurvirostre* (Hedw.) Dix. but suggested that it deserved to be a variety of the latter. However he made no attempt to make a varietal combination. He further stated that only the type of *H. xanthocarpum* agreed with *H. recurvirostre* but there are several other collections under this name in the herbarium having much wider and less acuminate leaves which are quite distinct from *H. recurvirostre*. Chen (1941) treated this species under *Hymenostylium auranticaum* Mitt., without giving sufficient justification. Gangulee (1972) following Dixon (l.c.) again treated this species under *H. recurvirostre* (Hedw.) Dix.

Recently while working on the revision of family Pottiaceae of India the authors had an occasion to examine all the Indian species of the genus in great detail. The specimen of *H. xanthocarpum* collected by Duthie from Mussoorie, present in CAL is quite distinct both from *H. recurvirostre* as well as *H. auranticaum*. It stands out completely in broadly lanceolate to spatulate leaves as compared to linear to linear-lanceolate leaves of the other two species with which it is often confused. The specimen also agrees with the Type description as well as the drawing of the leaf from the type given by Chen (l.c.).

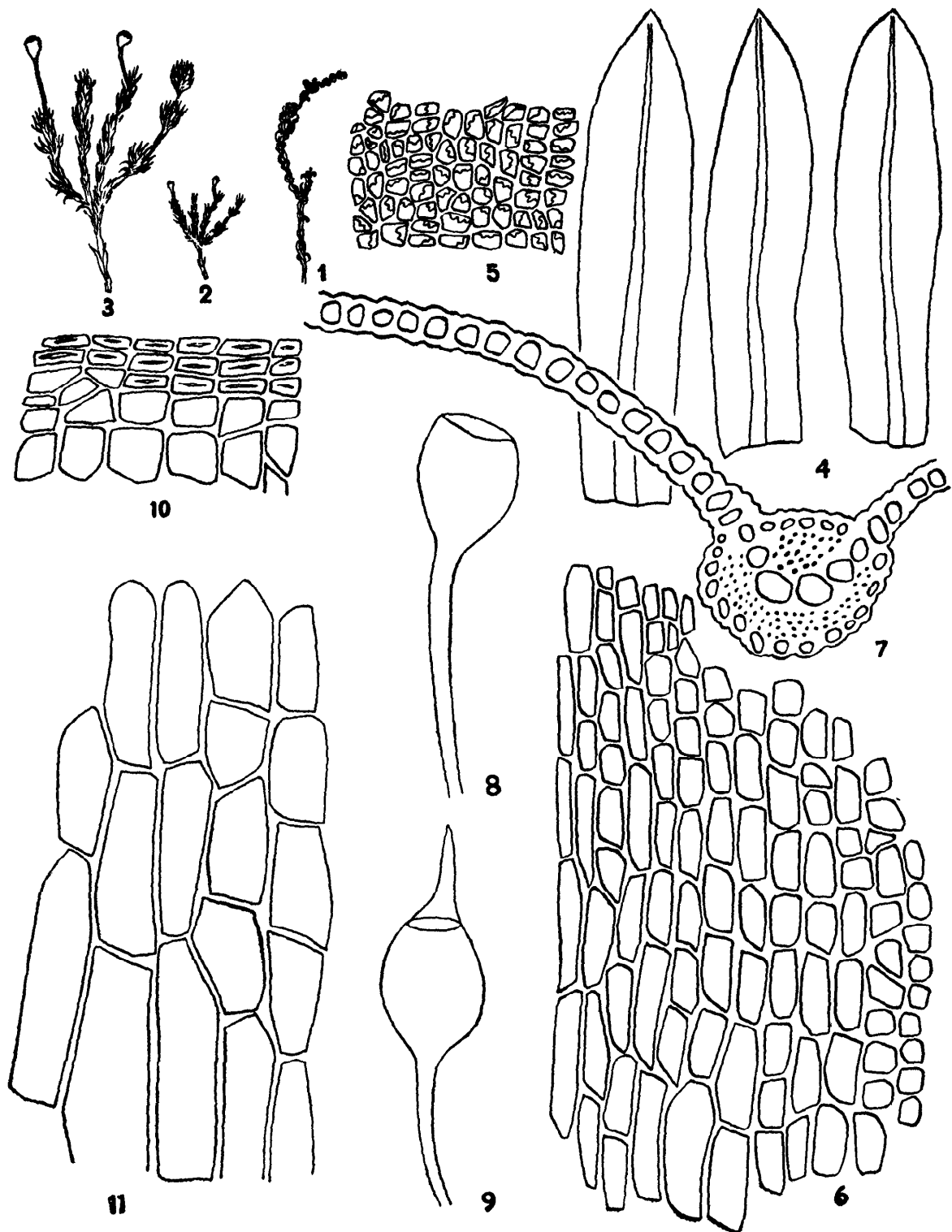
In this paper a description and drawing of this long forgotten and confused species is presented in detail.

***Hymenostylium xanthocarpum* (Hook.)**
Brid. Bryol. Univ. 2 : 82 Suppl. 3. 1827.

Plants robust, in dense tufts, yellow. Stems erect to semi-erect, brown, tomentose

throughout, 1.5-2 cm tall, branched profusely, sympodial, fastigiate, upto 1 cm high, with leaves upto 2 mm wide, rounded in T. S., central strand present. Leaves strongly curled at apex, flexuose to crisped, rarely homomallous from middle to lower portion, sometimes the apex of the leaves are hooked and incurved when dry, erectopatent to erect-spreading when moist, 0.9-1.7 mm long, 0.2-0.3 mm wide in the middle, broadly lanceolate to \pm spatulate, apex shortly or obtusely acute, margin smooth, *ca* plane, entire, sometimes narrowly recurved in the basal portion; cells quadrate to irregularly quadrate, 5.5-11 μ wide, incrassate, papillose. papillae grossly thick, one papilla per cell; basal cells elongate quadrate to rectangular, 16-32 \times 8-11 μ , incrassate, smooth, pellucid to hyaline, near margin smaller, quadrate, upto 11 \times 8 μ ; costa precurrent or ends just below apex, strong in the basal region (67.5 μ wide at base), gradually narrowing upwards (27 μ wide just below apex), yellowish green to golden in color above, yellowish brown below; cells of the adaxial surface smooth, those of abaxial surface smooth to papillose. Deuter median, both stereidal bands present.

Dioicous. Perichaetial leaves not differentiated. Seta erect, yellowish green to yellowish brown above, brown below, 0.5-0.7 cm tall, sinistrorse above, dextrorse in the middle. Capsules when mature subglobose, 0.7 \times 0.6 mm, yellowish brown to moderately brown to dark castaneous in color; columella short, runs rarely upto middle; hymenium absent; operculum conicostriate, of the same length or slightly shorter than capsule; exothecial cells incrassate, elongated rectangular to elongated hexagonal, 33-55 \times 16-18 μ yellowish brown in the middle; near mouth dark brown, 13.5-18.6 \times 13.5 μ , hexagonal or quadrate; annulus of 3 rows of horizontal elongated cells, incrassate,



Hymenostylium xanthocarpum (Hook.) Brid.

1. Plant dry $\times 2$; 2. Plant wet $\times 1$; 3. Plant wet $\times 2$; 4. Leaves $\times 28$; 5. Laminar cells $\times 350$; 6. Basal cells $\times 350$; 7. T. S. of leaf $\times 350$; 8 & 9. Capsules $\times 17$; 10. Annulus at the mouth of the urn with exothelial cells immediately below it $\times 350$; 11. Exathecial cells in the middle of the capsule $\times 350$.

yellowish brown, $13.5 \times 8\mu$. Spores rounded, deep brown, granulate, upto 12

Specimen examined : NORTH WESTERN HIMALAYA : below Mussoorie, 1200-2000 m, 12.9.1895. *Duthie* s.n. (CAL).

ACKNOWLEDGEMENT

The authors are highly thankful to the Director, Botanical Survey of India, Calcutta, for providing necessary facilities and encouragement.

MOHD. NEHAL AZIZ

Botanical Survey of India, Howrah

AND

J. N. VOHRA

Botanical Survey of India, Dehra Dun

REFERENCES

- CHEN, P. C. Studien über die Ostasiatischen Arten der Pottiaceae. I. Hedwigia. 80 : 59. 1941.
DIXON, H. N. *Hymenostylium xanthocarpum* (Hook.) Brid. Bryologist. 30.(6) : 106-109, 1927.
GANGULEE, H. C. Mosses of Eastern India and Adjacent Regions, Fasc. 3 : 646-648. 1972.
HOOKER, W. J. Musci Exotici. Vol. II. 1820.

A NEW SPECIES OF *ANOECTANGIUM* SCHWAEGR. (MUSCI) FROM INDIA

While working on the family Pottiaceae of India, the authors came across two herbarium specimens : *Kurz* 2095 from Sikkim named as *Anoectangium thomsonii* Mitt. and *R. S. Rao* 13958 from Nepal named as *Gymnostomum aeruginosum* Sm. The former has been reported as such by Gangulee (1972). A closer examination revealed that these two specimens represented a distinct taxon altogether different from hitherto described species of *Anoectangium* Schwaegr. It is close to *A. thomsonii* Mitt. (Type : SIKKIM, Lachen, 3000 m, *Hooker* 2011, CAL) but differs in longer, slender, laxly foliate stems. Leaves on drying curled and hooked at tips and not crispate from a broader semi-sheathing base suddenly contracted into a lanceolate to linear-lanceolate lamina and margin at base crenulate.

In this note this species is described and illustrated.

***Anoectangium sikkimense* Aziz & Vohra sp. nov.**

A. thomsonii Mitt. proxima, sed differt caulibus longioribus gracilibus laxe foliatus, foliis in sicco crispatis apicibus uncinatisque,

a basibus latioribus. Semivaginatibus abrupte contractis in laminis lanceolatis ad lineari-lanceolatis, ad marginem in basaliter crenulatis.

Holotypus lectus a kurz sub numero 2095 ad locum Sikkim Himalaya Sinchul, et positus in CAL.

***Anoectangium sikkimense* Aziz & Vohra sp. nov.**

Plants robust, in dense tufts, pale green to green above, brownish green below. Stems erect, radiculose at base, 2.5-4 cm tall, 3 mm wide with leaves, reddish brown, simple or branched, branches monopodial, sometimes fastigiate, 0.5-2.5 cm long, Rounded-triangular in T.S., Central strand present, hyalodermis undifferentiated. Leaves when dry curled below, flexuose to crisped above, when moist erect-spreading, 1-1.75 mm long, 0.17-0.2 mm wide in the middle, upto 0.38 mm wide at base, canaliculate, from a wide, concave, semi-sheathing base abruptly contracted into a lanceolate to linear-lanceolate lamina, apex sharply pointed, margin entire above, at base crenulate, \pm striate at base on both sides of the nerve. Cells ca quadrate,