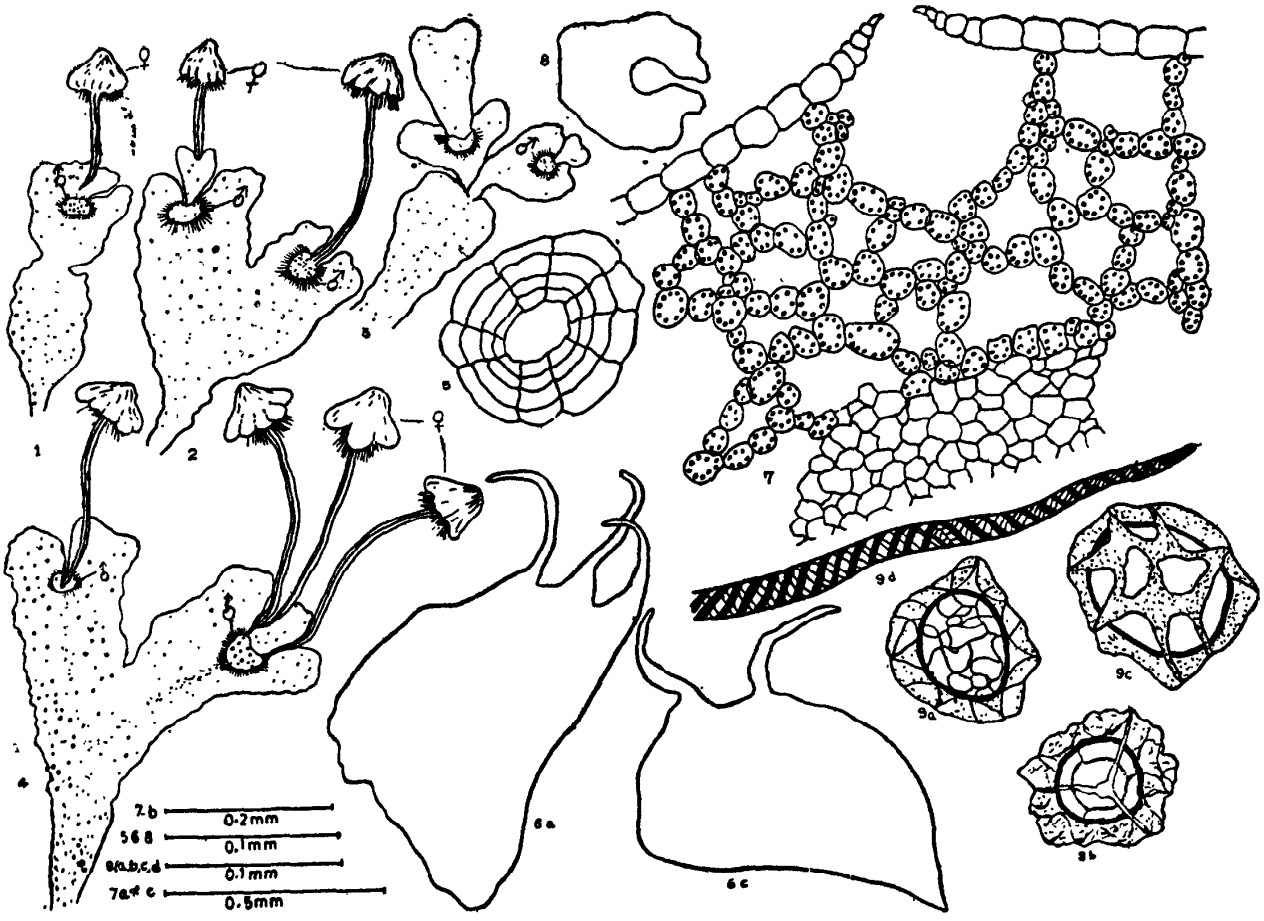
OCCURRENCE OF *REBOULIA HEMISPHERICA* (L.) RADDI AT MOUNT ABU

Reboulia, a well known genus of Marchantiales is represented by a single cosmopolitan species, namely *R. hemispherica* (L.) Raddi. In India, this species has been reported from Western Himalayas, South India, Madhya Pradesh, Khasi hills, Darjeeling and Kurseong (Bapna, 1958 ; Bapna and Vyas, 1962). Now it is being reported for the first time from Mount Abu.

The liverwort was found to grow in large patches on moist soil, at an altitude of about 1,000 metre in the month of March, 1978.

A brief description of plants collected from Mount Abu is as under:

Thalli dark green, found in dense tufts in moist shady places; 2-4 cm long and upto 0.8 cm broad; 2-3 times dichotomously branched; margin crenulate, undulate, dark purplish or reddish purple below; midrib broadly convex; wings may be upturned; lobes oblong, notched at apex; often main apices associated with apical ventral shoots (Fig. 3); sometimes lateral cordate ventral shoots also present. Ventral scales (Fig. 6) purple, lunate to broadly ovate or lanceolate, closely imbricated with one-three entire linear lanceolate appendages. Rhizoids smooth-walled and tuberculate. Dorsal surface with prominent raised



Reboulia hemispherica (L.) Raddi

Figs. 1-9. 1. A lobe bearing male and female receptacle ×4. 2. A plant with male receptacle and female receptacle on the adventitious ventral shoot ×7. 3. A plant with adventitious ventral shoots and male receptacles. ×5. 4. A plant with male and female receptacle and adventitious shoot ×9. 5. A pore on the thallus. 6. Ventral scales. 7. V. S. of thallus. 8. T. S. of stalk. 9. (a-c) Spores and (d) elater.

pores. Pores simple (Fig. 5) with 2-4 concentric rings of 7-9 cells each; cell walls lack thickening. Air chambers in 4-5 rows (Fig. 7) in the midrib region, polygonal to oblong towards the wing, empty (without chlorophyllous filaments), separaed by unistratose partitions; cells of the partition bulbous and green. Midrib region 10-18 cells thick in the middle and 3-4 cells on the margin; central region purple, of thick-walled cells. Monoecious or dioecious. Male receptacle (Fig. 4) sessile, oval to semicircular, arising subapically, becoming dorsal by innovations or by continued growth, surrounded by short, purplish scales, ostioles protruding, air-pores simple. Female receptacles apical, stalked; stalk 2-3 cm long, purplish with one rhizoidal furrow, brown linear scales at apex and base of the stalk; disc convex, 2-3 mm in diameter, 4-5-lobed each with a single sporophyte which is black at maturity. Involucre 2-lipped; capsule ovoid with distinct lid; seta very short. Spores (Fig. 9) tetrahedral, yellowish-brown to brown, 52-75 μ in diameter with wings up to 16.5 μ wide, crumpled, outer face areolate, 2-3 areoles, 16-20 μ across, surface finely punctate; elaters (Fig. 9d) yellowish-brown, 228-295 μ long and 5-8 μ wide with three spirals (Figs. 1-9).

Recently Kachroo, Bapna and Dhar (1977) considered *Reboulia hemispherica* (L.) Raddi var. *pangiensis* Kachroo (1954) not different from *R. hemispherica* (L.) Raddi and reduced to its synonym.

The material is deposited in the Department of Botany, University of Udaipur, Udaipur and Herbarium of the Botanical Survey of India, Calcutta.

ACKNOWLEDGEMENT

The authors are thankful to the University Grants Commission for financial assistance and to Prof. Y. D. Tiagi for helpful suggestions.

K. R. BAPNA
AND
RISHI PAL SINGH
University of Udaipur, Udaipur

REFERENCES

BAPNA, K. R. A note on Hepatic Flora of Mt. Abu. *Curr. Sci.* 27 : 259-260. 1958.

—— AND G. G. VYAS. Studies in the liverworts of Mt. Abu (India). A preliminary account. *Journ. Hattori Bot. Lab.* 25 : 81-90. 1962.

KACHROO, P. Studies in Assam Hepaticae III, On *Reboulia hemispherica* var. *bangiensis* Kash. *Journ. Univ. Gauhati* 5 : 121-124. 1954.

——, K. R. BAPNA AND G. L. DHAR. Hepaticae of India, A. Taxonomic Survey and Census. *Journ. Indian bot. Soc.* V. 56 : 62-85. 1977.

ON ABNORMAL FRONDS OF *ASPLENIUM NIDUS* L. (ASPLENIACEAE) FROM MANIPUR, EASTERN INDIA

Bird's nest fern group includes three species, *viz.*, *Asplenium nidus* L., *A. grevillei* Wall. ex Hook. et Grev. and *A. simosianum* Moore. These are simple-leaved ferns. Of these *A. nidus* is the most common and of greater ornamental value.

While making collections from Manipur State, Eastern India, in February-March 1978, a slight forking in the frond of *Asplenium nidus* L. was noticed. The plant was brought to Indian Botanic Garden, Howrah and was kept in green house in a pot for further observations. As many as six fronds were obtained with variable forkings. The term 'pinnae' is being used for the forkings in the present paper. The