

5-7 nerves, lateral veins anastomosing; petioles 1.5-2.5 cm long, alate with stipular phalanges, subcanaliculate (Fig. 1).

#### ACKNOWLEDGEMENT

The authors are grateful to Rev. Fr. Dr. H. Santapau, Director, Botanical Survey of India, for his helpful suggestions and criticisms.

K. S. SRINIVASAN AND G. SEN GUPTA  
Botanical Survey of India, Calcutta

#### LITERATURE CITED

- HARA, H. *The Flora of Eastern Himalaya*. University of Tokyo, Japan : i-x+1-744, 1966.
- SMITH, A. C. A taxonomic review of *Trochodendron* and *Tetracentron*. *J. Arn. Arbor.* 26 : 124-142, 1945.
- SRINIVASAN, K. S. Report on a Botanical tour to Bomdi-La, N.E.F.A. (May, 1955). *Rec. bot. Surv. India* 17 (2) : 1-38, 1959.

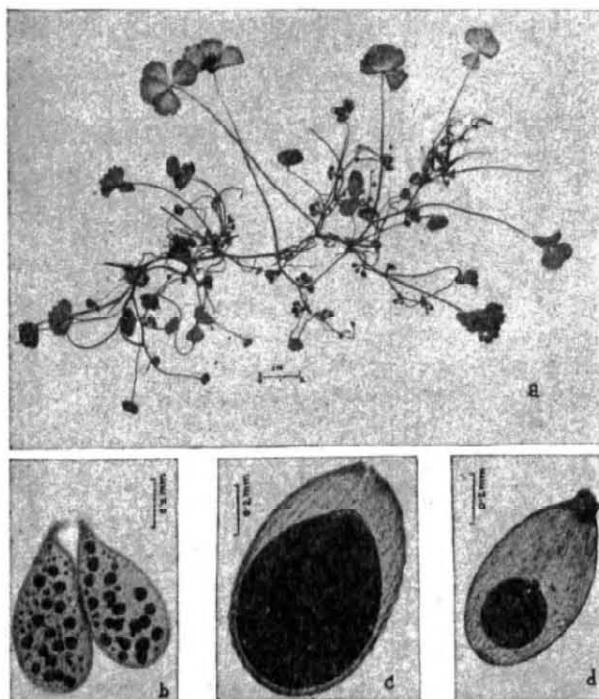
### MARSILEA MINUTA LINN. VAR. INDICA GUPTA—A NEW RECORD FOR WEST BENGAL

While studying the ecology of low-lying areas in the outskirts of Calcutta a species of *Marsilea* was collected. The material was sent to Dr. K. M. Gupta for determination and he confirmed it as *Marsilea minuta* Linn. var. *indica* Gupta. The 'abnormal variety' of *Marsilea minuta* is reported by Gupta only from Rajasthan so far. Further, he writes "Just as *M. minuta* normal exhibits polymorphic variation in its population in different places, the abnormal variety *indica* will also show some variation in its sporocarp organisation just as we have seen and you will see in your material" (personal communication). With this remark in view, an amplified description of the plant with an illustration is presented here.

***Marsilea minuta* Linn. var. *indica* Gupta, Bot. Monogr. n. 2, CSIR, New Delhi : 25-26, fig. 8 & 8a, 1962.**

Annuals; rhizomes upto 50 cm long, dorsiventral, elongate, branched, stolon-like, trailing, tubers absent; roots upto 13 cm long, adventitious, unbranched, more than 4 in a group at each node, sometimes along internodes. Petioles upto 11 cm long, erect, thick, flexible, dorsal; pinna usually of 4 leaflets, margins entire, crenulate or crenate. Pedicels upto 4 cm long, 2-4 in a group, attached at the base; sporocarps 2-4 (Fig. a), each  $\pm 4$  mm long,  $\pm 3$  mm broad and  $\pm 2$  mm thick, bean-shaped to oval in outline, hard, brown, nut-like, ribbed, green and densely silvery-white pubescent when young, sparsely pubescent when mature, bivalved, each valve containing 6-7 sori. Fertile megaspores very rare, if present, 1 in each sporocarp (Fig. c); aborted megaspores less frequent, if present, 2-5 in each sporocarp (Fig. d). Microsporangia 10-12 per sorus, obovoid; microspores 16-21 per microsporangium, each  $43.70 \mu \times 39.14 \mu$ , regular and irregular; pseudospores many (Fig. b).

This variety was found growing in patches, along the margins of temporary shallow pools. The



*Marsilea minuta* Linn. var. *indica* Gupta  
Figs. a-d : a. Plant. b. Microsporangium with microspores and pseudospores. c. Megaspore with a fertile megaspore. d. An aborted megaspore.

plants exhibit leaf dimorphism. During the aquatic phase the leaves are long-petioled with entire margins, in terrestrial phase the leaves are short-petioled with crenulate margins. Sometimes in the latter condition the leaflets show deep incisions upto the base apparently exhibiting an increase in the number of leaflets from 4 to 6 or even more. However, the sporocarps were noticed on plants of the terrestrial habit.

*Specimens examined:* M. K. Ghosh 2656, 19.12.64, Polba village near Bandel; 2660, 28.12.64 near Kamarkundu Rly. Station; 2667, 28.12.64, Mayapur village on the way to Arambagh; Ecology Herbarium, Botanical Survey of India, Calcutta.

## ACKNOWLEDGEMENT

I wish to thank Dr. K. M. Gupta, Professor of Botany, Government College, Ajmer, Rajasthan for kindly examining and confirming the specimen.

M. K. GHOSH

Botanical Survey of India, Calcutta

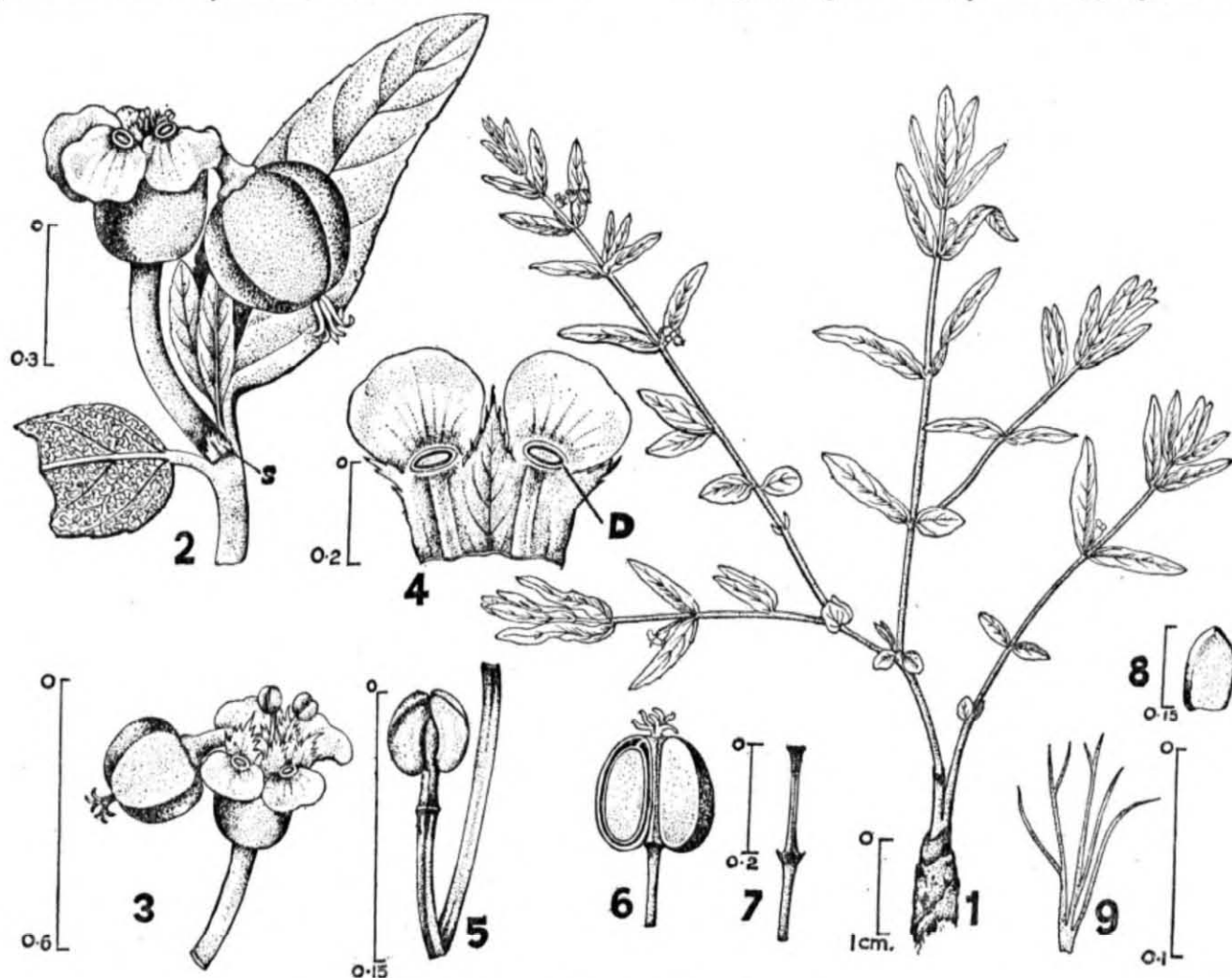
**EUPHORBIA LINEARIFOLIA ROTH VAR. NALLAMALAYANA ELLIS—A NEW VARIETY FROM ANDHRA PRADESH, SOUTH INDIA**

**Euphorbia linearifolia** Roth var. **nallamalayana** Ellis

Varietati *linearifoliae* affinis, sed differt foliis latoribus et acutis, glandularum limbo brevioribus.

Herba decumbens, glabra, 5-30 cm longa, nodis tumescentibus, internodiis brevibus longisve. Folia sat crassa, glabra, areolato-reticulata, opposita, ad apices ramorum proxima, lineari-lanceolata vel

ovato-lanceolata, acuta vel obtusa, inconspicue serrulata, apiculata, breviter et inaequaliter cordata ad basin, breviter petiolata, nervo medio eminenti, ad 5 × 1.2 cm. Stipulae interpetiolares, ovatae, interdum usque ad medium fissae, ciliatae ad margines. Involucra terminalia subterminalia vel axillaria, subcorymbosa subapicibus ramorum vel solitaria, glabra, pedicellata, pedicellis ± 0.5 cm longis.



*Euphorbia linearifolia* Roth var. *nallamalayana* Ellis

Figs. 1-9: 1. Habit. 2. A nodal regional with section of a leaf showing venation. S—stipule. 3. Cyathium. 4. Involucral lobes, and glands with limbs. D—gland. 5. Male flower with bracteole. 6. Ovary with a carpel removed, and L.S. of a carpel. 7. Columella. 8. Seed. 9. Peripheral bracteole. (measurements in centimetres)