

# OIL-BODIES AND EXTENSION OF DISTRIBUTIONAL RANGE OF *NOTOSCYPHUS* MITT. IN INDIA

The oil-bodies of two paroecious species of *Notoscyphus*: *N. pandei* Udar & Kumar and *N. paroicus* Schiffn. are being described. The genus has been recorded for the first time from Kerala.

The Oil-bodies which are found only in majority of the liverworts, are made up of different ethereal oils. In India considerable work has been done on oil-bodies (Udar & Nath, 1971, 1976, 1977, 1979; Udar, Srivastava & Kumar, 1970; Udar, Srivastava & Singh, 1978; Udar & Shaheen, 1983) which often help in identification of plants. A collection trip to various localities in Western Ghats made it possible to investigate the oil-bodies in the two paroecious species of the genus *Notoscyphus*: *N. pandei* Udar & Kumar and *N. paroicus* Schiffn. The observations revealed that these two taxa are clearly distinguishable from each other in this character also apart from the others (Udar & Kumar, 1981). The details of oil-bodies on *N. pandei* have been earlier described for the east Indian plants (Udar & Kumar, 1981) but here a comparative account of the oil-bodies of both the species has been given. The genus shows luxuriant growth in Indian sub-continent.

*Notoscyphus pandei* Udar & Kumar, 1981

Pl. 1, figs. 1, 2

The oil-bodies are 2-4 in marginal, 3-7 in middle and 4-9 in basal cells of the leaf filling more or less the entire cell lumen. These are mostly spherical, 7-16  $\mu\text{m}$  in diameter, or oval to elliptical, 12-21  $\times$  5-11  $\mu\text{m}$  and segmented with prominent globules.

*Specimens examined*—LWU 4516/81, 4534/81, 4539/81, Kerala. Loc.: Lakkidi in Wynad, alt. ca 712 m. LWU 4572/81, 4573/A/81, 4580/81, Karnataka. Loc.: Abbi fall in Mercara, alt. ca 700 m. Log.: D. Kumar, A. Kumar and U.S. Awasthi. Det.: A. Kumar.

The characteristic larger number of oil-bodies occurring in the east Himalayan popu-

lations are also seen in South Indian plants ((Pl. 1, figs. 1, 2) where the number ranges from 2-9 per cell of leaf (in east Indian plants (1-) 2-7 per cell of leaf.). The size of the oil-bodies are also slightly larger in south Indian plants with the spherical oil-bodies 7-16  $\mu\text{m}$  in diameter (4-6.5  $\mu\text{m}$  in east Indian plants) and oval-elliptical oil-bodies 12-21  $\times$  5-11  $\mu\text{m}$  (6.5-19  $\times$  4-7.5  $\mu\text{m}$  in east Indian plants).

*Notoscyphus paroicus* Schiffn., Udar & Kumar, 1981

Pl. 1, figs. 3, 4

The oil-bodies are 1-2 in marginal and 2-3 rarely 4 in middle and basal cells of the leaf. These are spherical (oval), 7-13  $\mu\text{m}$  in diameter, elliptical to sometimes vermiculate, 13-26  $\times$  7-16  $\mu\text{m}$  and segmented with prominent globules.

*Specimens examined*—LWU 4500/81, 4523/81, Kerala. Loc.: Lakkidi in Wynad, alt. ca 712 m; LWU 4572 B/81, 4573 B/81, 4585/81, Karnataka. Loc.: Abbi fall in Mercara, alt. ca 700 m; LWU 4737/81. Loc.: Agumbe, alt. ca 791 m; Leg.: D. Kumar, A. Kumar and U. S. Awasthi. Det.: A. Kumar.

The number of oil-bodies per cell of leaf convincingly supports the distinction in both the paroecious species of the genus. In *N. paroicus* the oil-bodies are 1-3 (-4) per cell of leaf (Figs. 3,4) whereas in *N. pandei* these are (1-) 2-9 (Figs. 1,2).

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2. Median cells of the leaf with oil-bodies,  $\times 670$ .  
(microphotographs from LWU 4572A/81).
- 3-4. *Notoscyphus paroicus* Schiffn.
3. Marginal cells of the leaf with oil-bodies,  $\times 645$ .
4. Median cells of the leaf with oil-bodies,  $\times 690$ .  
(microphotographs from LWU 4572 B/81).

## Explanation of Plate

### Plate 1

1-2. *Notoscyphus pandei* Udar & Kumar

1. Marginal cells of the leaf with oil-bodies,  $\times 630$ .

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