

TWELVE NOTEWORTHY LICHENS FROM INDIA

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ABSTRACT

This paper deals with twelve noteworthy lichens, nine of which are reported for the first time from the main land of India, two are new record for the Indian subcontinent and the remaining one has been previously reported only from Manipur. Two of these belong to the family Pyrenulaceae, two to Opegraphaceae, one to Graphidaceae, four to Lecideaceae and the rest three belong to Lecanoraceae.

A study of the lichens of Eastern Himalayas, Indian Botanic Garden, Howrah (Sibpur) and 24-Parganas was undertaken since 1967 and several interesting taxa were discovered. Some of these have been reported previously only from Andaman and Ceylon about 100 years ago. Others are new for Indian subcontinent. The present paper deals with twelve of such noteworthy lichens. The specimens cited are deposited in the Herbarium of Cryptogamic Unit of Botanical Survey of India, Calcutta and Cryptogamic Division, Vermont University, Burlington, U.S.A.

PYRENULACEAE

Microthelia conothelena (Nyl.) Zahlbr. Catal. Lich. Univ. 1: 258, 1922.

Verrucaria conothelena Nyl. in Bull. Soc. Linn. Normand. II, 7: 180, 1873.

Thallus pale yellowish, limited in outline. Perithecia 0.3-0.4 mm in diameter, black, almost conical hemispheric or somewhat conical at apex. Spores $8-13 \times 6-8 \mu$, blackish brown, 1-septate, 8 in each ascus. Paraphyses slender, simple.

Matrix: On the bark of trees and *Pandanus*.

Specimen examined: INDIA: WEST BENGAL: Howrah, Sibpur, Indian Botanic Garden, December 15th, 1967, Roychoudhury, 697; INDIA: ASSAM: Shillong, Mawsami, alt. 1524 m, September 21st, 1967, Dharne and Roychoudhury, 1014.

Previously reported only from Andamans.

Pyrenula subnitidella (Nyl.) Muell.-Arg. in Flora 66: 247, 1883. Zahlbr. Catal. Lich. Univ. 1: 454, 1922. *Verrucaria subnitidella* Nyl. in Bull. Soc. Linn. Normand. II, 7: 179, 1873.

Thallus greenish-brown forming a thin, smooth crust upon the bark. Perithecia minute to small 0.3-0.5 mm in diameter, more or less immersed to

adnate. Ostiole minute, often rarely visible. Spores $15-19 \times 6-8 \mu$, 4-locular, light blackish ellipsoid, 8 in each ascus.

Matrix: On the bark of *Pandanus*.

Specimen examined: INDIA: WEST BENGAL: Howrah, Sibpur, Indian Botanic Garden, December 15th, 1967, Roychoudhury, 699.

Previously reported only from Andamans.

OPEGRAPHACEAE

Opegrapha leptoterodes Nyl. in Acta. Soc. Sci. Fenn. 26(10): 18, 1900. Zahlbr. Catal. Lich. Univ. 2: 213, 1923.

Thallus greyish forming a very thin crust upon the bark. Apothecia minute, black, marked by parallel lines. Paraphyses inter woven and branched. Spores measuring $5 \times 4 \mu$, fusiform 1-3-septate.

Matrix: On the bark of *Hibiscus rosa-sinensis* Linn.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Bira, Joypul, December 8th, 1966, Roychoudhury, 323.

Previously reported only from Ceylon.

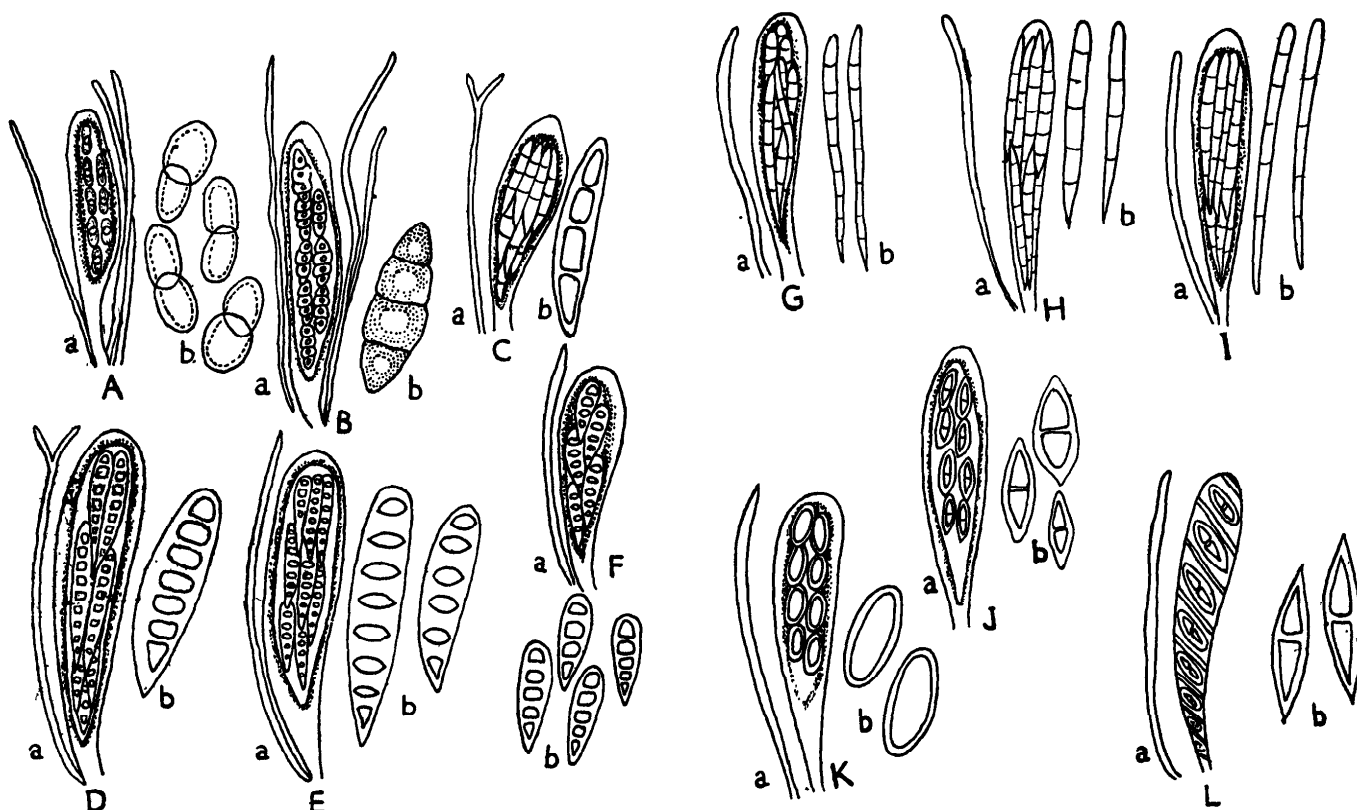
O. stirtonii Zahlbr. Catal. Lich. Univ. 2: 248, 1923. *O. hysterioides* Stirt. in Proc. Phil. Soc. Glasgow 10: 159, 1876.

Thallus ash-grey forming a crust upon the bark. Apothecia linear, fusiform, black, length upto 0.4 mm. Paraphyses interwoven and branched. Spores measuring $35 \times 6 \mu$, 6-8 (generally 7)-septate, colorless, obovate (one apex slightly acute).

Matrix: On the bark of *Hibiscus rosa-sinensis* Linn.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Bira, Joypul, December 12th, 1966, Roychoudhury, 302.

Previously reported only from Ceylon.



- A. *Microthelia conothelena* (Nyl.) Zahlbr.
 B. *Pyrenula subnitidella* (Nyl.) Muell.-Arg.
 C. *Opegrapha leptoteroles* Nyl.
 D. *O. stirtonii* Zahlbr.
 E. *Graphis ceylanica* Zahlbr.
 F. *Bacidia rubellovirens* (Nyl.) Zahlbr.
 G. *B. submedialis* (Nyl.) Zahlbr.
 H. *B. subannexa* (Nyl.) Zahlbr.
 I. *B. convexula* (Muell.-Arg.) Zahlbr.
 J. *Lecania pertinax* (Nyl.) Zahlbr.
 K. *Lecanora achroella* Nyl. var. *infinitula* Nyl.
 L. *Icmadophila coronata* Muell.-Arg.

(a) Ascus with paraphyses $\times 525$
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(b) Spores $\times 525$
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GRAPHIDACEAE

Graphis ceylanica Zahlbr. Catal. Lich. Univ. 2: 297, 1923. *G. irradians* Nyl. in Acta. Soc. Sci. Fenn. 26(10): 21, 1900.

Thallus glaucous-greyish, forming a crust upon the bark. Apothecia black linear, curved and branched. Paraphyses unbranched, distinct. Spores $22-33 \times 6-8 \mu$, 6-8-locular, oblong, cells lenticular.

Matrix: On the bark of *Lanea coromandelica* (Houtt.) Merr.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, September 21st, 1966, Roychoudhury, 392.

Previously reported only from Ceylon.

LECIDEACEAE

Bacidia rubellovirens (Nyl.) Zahlbr. Catal. Lich. Univ. 4: 139, 1927. *Lecidea rubellovirens* Nyl.,

Sertum Lich. Tropic. Labuan et Singapore P 21, 1891. Nouvelles Archives Du Museum Ser. 3 Vol. 4: P 139, 1892.

Thallus ash-grey. Apothecia 0.5 mm, in diameter, dirty brown, fleshy brown when young. Spores $25-33 \times 4-8 \mu$, 3-5-septate, colorless, ovoid-oblong, 6-8 spores in each ascus, epithecium colorless. Hypothecium brownish yellow at middle.

Reaction: Iodine turns hymenium sky blue.

Matrix: On the bark of *Tabernaemontana divaricata* (Linn.) R. Br. and *Polyalthia longifolia* (Sonn.) Thw.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, October 10th, 1966; Roychoudhury, 382; Bangaon, December 3rd, 1970, Roychoudhury, 1563.

New record for Indian subcontinent, previously reported from Singapore,

Bacidia submedialis (Nyl.) Zahlbr. Catal. Lich. Univ. 4: 243, 1927. *Lecidea submedialis* Nyl. in Acta. Soc. Sci. Fenn. 26(10): 14, 1900.

Thallus whitish. Apothecia 0.5 mm in diameter, brick red, smooth, somewhat paler along margins. Spores $33-55 \times 2 \mu$, linear fusiform, 7-septate.

Reaction: Iodine turns hymenium reddish wine colour.

Matrix: On the bark of *Tabernaemontana divaricata* (Linn.) R. Br. and *Nerium indicum* Mill.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, September 1966, Roychoudhury, 394; Bongaon, December 1970, Roychoudhury, 1561(a).

Previously reported only from Ceylon.

B. subannexa (Nyl.) Zahlbr. Catal. Lich. Univ. 4: 242, 1927. *Lecidea subannexa* Nyl. in Acta. Soc. Sci. Fenn. 26(10): 15, 1900.

Thallus pale-yellowish, unequal, dark brownish in outline. Apothecia 0.5-0.6 mm in diameter, reddish and dark brownish margined. Spores $17-22 \times 6-8 \mu$ 3-5-septate, linear, fusiform. Paraphyses slender. Hypothecium colorless.

Reaction: Iodine turns hymenium bluish, thereafter brownish violet.

Matrix: On the bark of *Lannea coromandelica* (Houtt.) Merr.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, September 1966, Roychoudhury, 400.

Previously reported only from Ceylon.

B. convexula (Muell.-Arg.) Zahlbr. Catal. Lich. Univ. 4: 185, 1927. *Patillaria convexula* Muell.-Arg. in Jour. Linn. Soc. London. Bot. 29, P. 222, 1892.

Thallus whitish, extremely thin, smooth. Apothecia 0.3-0.6 mm in diameter, flesh coloured. Spores $35-42 \times 1-2 \mu$ fusiform, 4-6-locular.

Matrix: On the bark of *Tabernaemontana divaricata* (Linn.) R. Br. and *Hibiscus mutabilis* Linn.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, September 1966, Roychoudhury, 399; Bongaon, December 1970, Roychoudhury, 1555.

Reported previously only from Manipur.

LECANORACEAE

Lecania pertenera (Nyl.) Zahlbr. Catal. Lich. Univ. 5: 739, 1928. *Lecanora pertenera* Nyl. in Acta. Soc. Sci. Fenn. 26(10): 13, 1900.

Thallus whitish, thin. Apothecia pale, minute, 0.1-0.2 mm in diameter. Spores fusiform, $6-11 \times 4-6 \mu$, 1-septate, paraphyses wanting.

Reaction: Iodine turns thecae reddish yellow brown.

Matrix: On the bark of *Atrocarpus heterophyllus* Lamk.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, November 1966, Roychoudhury, 359.

Previously reported only from Ceylon.

Lecanora achroella Nyl. var. *infinitula* Nyl. in Acta. Soc. Sci. Fenn. 26(10): 11, 1900. Zahlbr. Catal. Lich. Univ. 5: 361, 1928.

Thallus whitish. Apothecia 0.2-0.3 mm in diameter, pale orange-yellow in colour, entire along margins. Spores $8-11 \times 4-6 \mu$.

Reaction: Hymenium turns blue with Iodine.

Matrix: On the bark of *Spondias pinnata* (Linn. f.) Kurz.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, November 1966, Roychoudhury, 355.

Previously reported only from Ceylon.

Icmadophila coronata Muell.-Arg. Nouv. Giorn. Bot. 24, 1892. Zahlbr.-Catal. Lich. Univ. 5: 711, 1928.

Thallus white, granular, thin. Apothecia pale blackish-brown, sessile, beautifully crowned. Spores measuring $11-15 \times 2-4 \mu$.

Matrix: On the bark of *Sisium cumini* (Linn.) Skeels.

Specimen examined: INDIA: WEST BENGAL: 24-Parganas, Birati, Saptagram, August 1966, Roychoudhury, 390.

New record for Indian subcontinent. Previously reported from Japan.

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