

LICHEN GENUS *MARONEA* MASS. IN INDIA

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ABSTRACT

The genus *Maronea* Mass. is represented in India by 3 species, of which *M. melanocarpa* is a new record. Keys and descriptions of all the 3 species are provided to facilitate their identification.

INTRODUCTION

The genus *Maronea* Mass. (1856), a member of the family Acarosporaceae (Zahlbruckner, 1926) distributed in the temperate regions was monographed by Magnusson (1934), who reported 13 species from the world. The genus is characterized by the crustaceous thallus, sessile apothecia with open disc, multispored asci, and colourless 1-2 celled small spores. Till now *Maronea manipurensis* Magn. and *M. constans* (Nyl.) Hepp. have been known from India (Magnusson, 1934; Awasthi & Singh, 1975). Recent collections of lichens from Manipur have resulted in the recollection of *M. manipurensis* and, the discovery of *M. melanocarpa*, a new record for India.

The species are uniformly corticolous to ramulicolous, apothecia brown to brown-black with a thin margin. They are distinguished from each other by the K and I reactions in the epithecium and hymenium respectively, though the distinction is narrow.

Key to the species

1. Whole hymenium I+blue.
2. Apothecia dark brown, epithecium K+redviolet.....*M. manipurensis*.
2. Apothecia jet black, epithecium K+aeruginose..... *M. melanocarpa*.
1. Only asci I+blue, apothecia blackish brown, epithecium K+violet brown *M. constans*.

Maronea constans (Nyl.) Hepp. Flecht. Europ. 771, 1860; Zahlbr. Cat. Lich. Univ. 5: 48. 1928; Magn. Meddel Fran. Göteborgs Bot. Trädgård 9: 51. 1934; *Lecanora constans* Nyl. Mém. Soc. Imper. Sci. Natur. Cherbourg. 3: 199. 1855. Type collection: Fontainebleau, Rockery Canyon (Lectotype: H. Nyl. 25967).

Thallus corticolous, crustaceous, grey to greenish grey, rugulose to verruculose, 60-130 μm thick; corticiform layer colourless, 10-18 μm thick, algal cells green, spherical, 9-15 \times 9-12 μm ; medullary region narrow, composed of colourless hyphae. Apothecia numerous, scattered to aggregated, blackish brown, sessile, constricted below, 0.6-1.5 mm in diam.; margin thin, concolorous with thallus, subentire to subcrenate; disc plane to slightly convex, epruinose. Thalline exciple colourless to yellowish, 45-95 μm thick at margins, 80-152 (180) μm thick below. Epithecium brown, 10-15 μm thick, K+violet brown; hymenium colourless, 60-80 (90) μm high, inspersed with oil drops, I+blue (asci only); hypothecium colourless, 30-76 μm thick; asci multispored, cylindrico-clavate, 38-60 \times 9-15 μm thick, 80-110 spores present in each ascus, ascoplasm I+blue then vinose;

spores colourless, transversely 1-septate, oblongo-ellipsoid, $3-6 (8) \times 2.5-3 \mu\text{m}$; paraphyses simple, $2.5 \mu\text{m}$ thick.

Thallus K+yellowish, C—, KC—, P—.

The species is distributed in Europe, subtropical America and Africa. It resembles *M. manipurensis*, which is distinguished by thicker hymenium not interspersed with oil globules and epithecium K+red violet. The cited Indian specimen is similar to the lectotype, which has been examined.

Specimen examined—Palni Hills, Shembaganur, Singh 70.867 (LWU). Exotic specimens examined—Fontainebleau, Rockery canyon (H. Nyl. 25967), same locality, on *Juniperus* (H. Nyl. 25971 and 25972).

Maronea manipurensis H. Magn. Meddel. Fran. Göteborg Bot. Trädgård. 9:50, 1934; Type collection. India, Assam, Manipur. G. Watt. Type: BM (not seen); Zahlbr. Cat. Lich. Univ. 10 : 423. 1940.—*Lecania (Maronea) melanocarpa* sensu Müll. Arg. Jour. Linn. Soc. Bot. 29 : 220. 1892. non Müll. Arg. Rev. Mycol. 9 : 79, 1887.

Thallus ramulicolous, crustaceous, greenish grey, 1-2.5 cm across, smooth to rugulose, $50-80 \mu\text{m}$ thick, surrounded by inconspicuous black hypothalline line, corticiform layer indistinct, algal cells green, evenly distributed in medulla, $7-10 \mu\text{m}$ in size. Apothecia rounded, dark brown, scattered, sessile, constricted below, up to 0.6 mm in diam.; margin thin, concolorous with thallus, entire; disc plane, epruinose. Thalline exciple colourless, cellular outside, $50-60 \mu\text{m}$ thick at margins, $60-90 \mu\text{m}$ thick below. Epithecium brown, $15-18 \mu\text{m}$ thick, K+red violet, hymenium colourless, $80-100 \mu\text{m}$ thick, not interspersed with oil drops, I+blue; hymenium colourless, $20-35 \mu\text{m}$ thick, asci cylindrical, $60-90 \times 10-14 \mu\text{m}$ in size, $50-80$ spores present in each ascus, ascoplasm I+blue then vinose red; spores colourless, transversely 2-celled, cylindrico-ellipsoid, $4-6 \times 3 \mu\text{m}$; paraphyses furcated above, septate, $3 \mu\text{m}$ thick. [Thallus K—, C—, KC—, P—.]

The species is so far known from type locality. It resembles *M. melanocarpa* (Müll. Arg.) Zahlbr., which is distinguished by thicker hymenium and epithecium K+ aeruginose.

Specimen examined—Manipur-Ukhrul, Siroi hill, Singh 54830 (CAL).

Maronea melanocarpa (Müll. Arg.) Zahlbr., Cat. Lich. Univ. 5:49. 1928. Magn. Medd. Fran. Göteborgs Bot. Trädgård 9:47. 1934. *Lecania melanocarpa* Müll. Arg. Rev. Mycol. 9:79.1887. Type not seen and not traceable sensu Magn. (1934).

Thallus ramulicolous, crustaceous, epiphloeodal, thin, grey, occurring in small circular patches, 0.5-1.2 mm across, uneven to rugulose, $80-100 \mu\text{m}$ thick, surrounded by black hypothalline line; corticiform layer $12-18 \mu\text{m}$ thick; algal cells spherical, $6-8 \mu\text{m}$ in size; medullary hyphae colourless $3 \mu\text{m}$ thick. Apothecia rounded, black, sparse to compact, sessile, constricted below, 0.3-0.6 mm in diam.; margin thin, concolorous to the thallus, entire, persistent; disc plane, epruinose. Thalline exciple colourless, outer side ± cellular, $45-75 \mu\text{m}$ thick at margins, $60-90 \mu\text{m}$ thick below. Epithecium blackish, $15-18 \mu\text{m}$ thick, K+ aeruginose, hymenium colourless, $100-120 \mu\text{m}$ high, not interspersed with oil drops, I+blue then vinose red; hypothecium colourless $20-30 \mu\text{m}$ thick, asci elongated cylindrical, $75-100 \times 12-18 \mu\text{m}$, ascoplasm I+blue then vinose red, $80-150$ spores present in each ascus; spores colourless, transversely 1-septate, small, ellipsoid, $3-5 \times 2.5 \mu\text{m}$; paraphyses branched above with swollen tips, $3 \mu\text{m}$ thick.

Thallus K—, C—, KC—, P—.

The taxon is known from New Caledonia. Our specimen conforms to the description of the taxon, but since the type of *M. melanocarpa* is not traceable (sensu MAGNUSSON, 1934), a comparison is not possible. Müll. Arg. has not given the K reaction in the epithecium

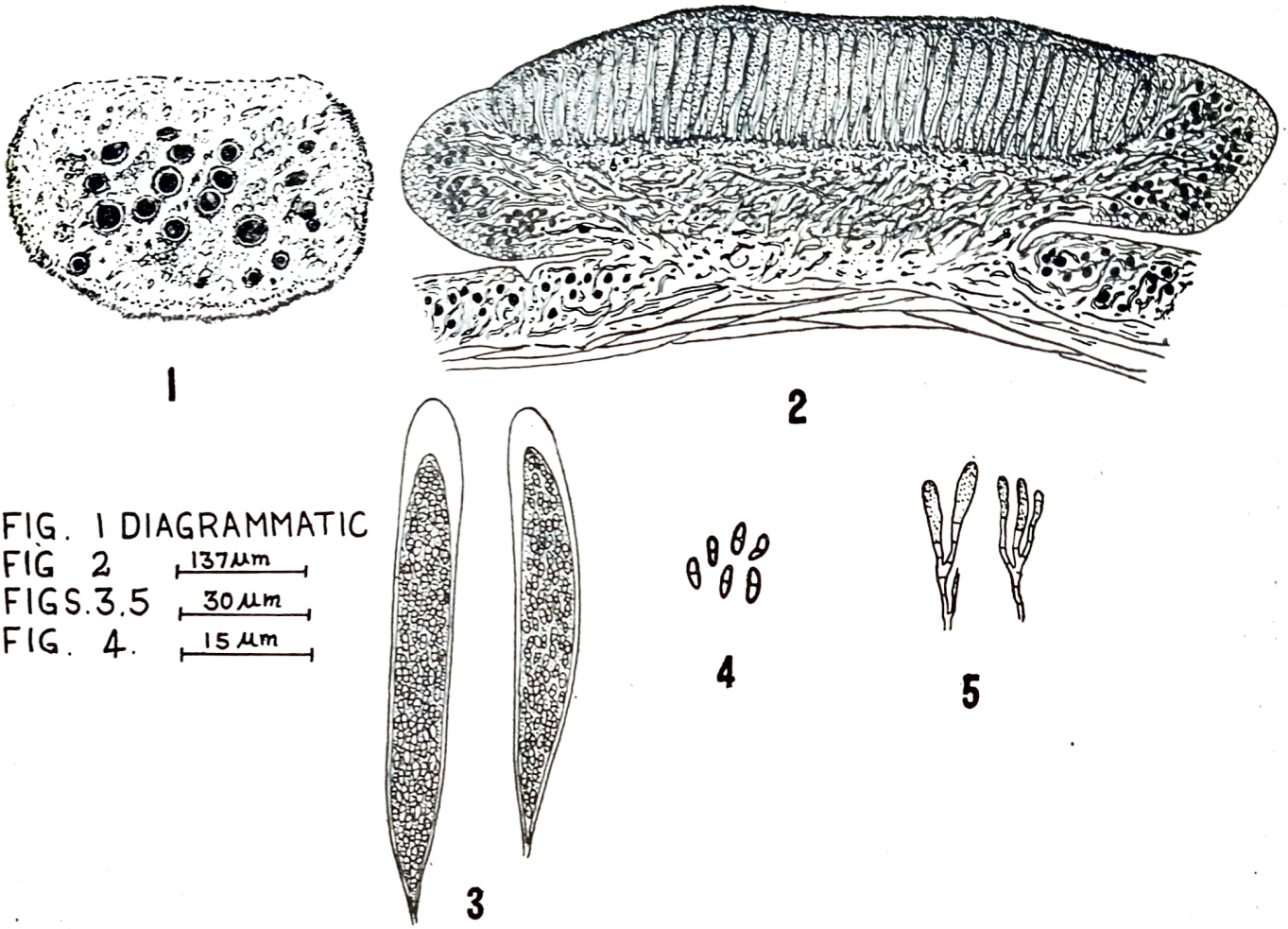


FIG. 1 DIAGRAMMATIC
 FIG. 2 $137\mu\text{m}$
 FIGS. 3, 5 $30\mu\text{m}$
 FIG. 4. $15\mu\text{m}$

Text-figures 1-5. *Maronea melanocarpa*, Fig. 1. Diagrammatic external appearance of thallus with apothecia, Fig. 2. V. S. through apothecium, Fig. 3. Asci with spores, Fig. 4. Transversely septate spores, Fig. 5. Thick tips of paraphyses.

while in our specimen the epithecium gives $K+$ aeruginose colour reaction. In other characters, e.g. the black apothecia, the height of hymenium, the apically *Buellia* like branched and thickened paraphyses exhibit a similarity, though the spores in our specimen are slightly smaller than type ($5-7 \times 3.5 \mu\text{m}$). Therefore, I have considered the Indian specimen as *M. melanocarpa*, and thus it is a new record for India.

Specimen examined—Manipur-Ukhrul, on way to Tolloi, Singh 54726 (CAL).

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