

TWO NEW SPECIES OF LICHEN GENUS *BUELLIA* FROM INDIA

Lichen genus *Buellia* De Not. (Buelliaceae, ZAHLBRÜCKNER, 1926) has been studied in detail by SINGH (1979), who recorded 46 species from India. During the course of studies on lichens of Manipur, two new species of this genus have been found, that are described below :

Buellia morehensis Singh *et* Singh sp. nov.

Pl. 1, Fig. 1 ; Text-figs. 2-3

Thallus corticola, crustaceus, cinereus, verruculosus, K+rubescens crystallata formata, P+leviter lutescens, Apothecia nigra, adnata vel sessilia, 0.5-1.2 mm lata. Excipulum fusconigrum rubescens ; hymenium 70-90 μm altum, haud oleosum. Asci octospori ; sporae fuscae, diblastae, 18-27 \times 6-9 μm ; supernae verruculosae. Atranorin, acidum norsticticum, acidum salacinicum et terpinene pertinent.

Thallus corticolous, crustaceus, grey, verruculose, verrucae prominent, often lax internally ; hypothallus indistinct but blackish at its junction with other thallus. Apothecia black, adnate to sessile 0.5-1.2 mm wide ; margin prominent ; disc plane to rarely slightly convex, epruinose. Exciple dark brown on outer margin, pallid in the middle and dark brown on inner side, 70-115 μm thick ; K+red crystals. Epithecium brown, 7-11 μm thick, K— ; hymenium hyaline, 70-90 μm high, not interspersed with oil globules, I+blue ; internal stipe dark brown. Asci clavate, 8-spori ; spores brown, 2-celled, ellipsoid, straight, \pm uniformly thick-walled, 18-27 \times 6-9 μm ; surface ornamented.

Chemistry—Thallus K+red crystals, C—, KC—, P+yellow ; atranorin, norstictic acid, salacinic acid and unidentified terpinene present.

Holotype—Manipur, Tegnoupal, Moreh, on bark of tree, alt. ca 1050 m, June 18 1979, K. P. Singh, 550855 (CAL).

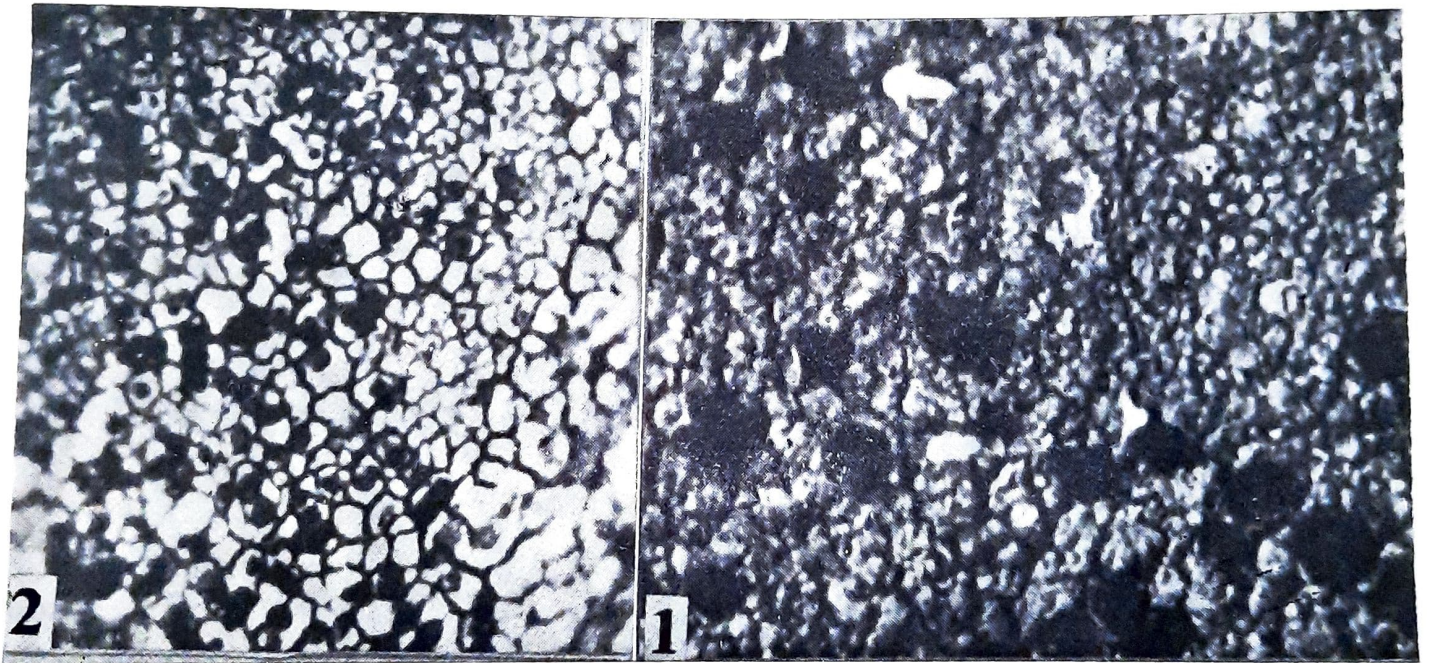
Buellia morehensis resembles *B. granularis* Müll. Arg., *B. inornata* (Stirt.) Zahlbr. and *B. stillingiana* Stein. in external morphology. It differs from the first two taxa in spore morphology and from *B. stillingiana* in the colour of exciple, and chemistry.

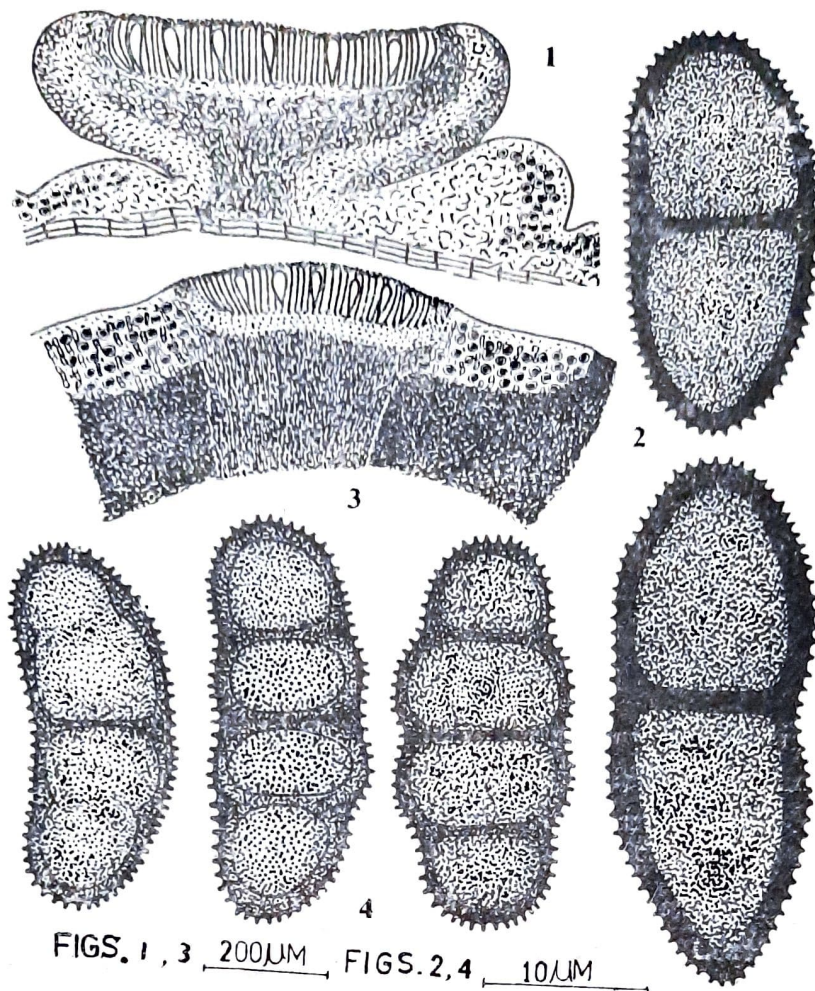
Buellia manipurensis Singh *et* Singh sp. nov.

Pl. 1, Fig. 2 ; Text-figs. 3-4

Thallus saxicola, crustaceus, cinereo-fuscescens, crassus, diffracto areolatus, K+flavescens vel rubescens crystallata formata, P+leviter lutescens ; medulla I— hypothallus fuscescens, crassus. Apothecia immersa. Epithecium fuscum ; hymenium 60-85 μm altum, haud oleosum. Asci octospori ; sporae fuscae, di vel tetrablastae, superne verruculosae, 18-27 (36) \times 7-11 μm . Atranorin et acidum norsticticum pertinent.

Thallus saxicolous, crustaceus, greyish brown, cracked-areolate ; hypothallus thick, dark brown. Apothecia immersa or sunken up to the level of thallus, 0.3—1.6 mm wide ; margin indistinct ; disc dark brown, plane, epruinose ; exciple rudimentary, hyaline, 15-25 μm thick, K—, HNO₃—. Epithecium brown, 7-11 μm thick, K— ; hymenium hyaline, 60-85 μm high, I+blue, not interspersed with oil globules ; internal stipe reddish brown. Asci clavate, 8-spori ; spores brown, 2-4-celled, straight to curved, constricted at septa, 18-27 (36) \times 7-11 μm , surface ornamented.





Text-figs. 1-2. Anatomical details of *Buellia morehensis* : 1. Vertical section of thallus through apothecium, 2. Two-celled ornamented spores.

Text-figs. 3-4. Anatomical details of *Buellia manipurensis* : 3. Vertical section of thallus through apothecium, 4. Two-four celled ornamented spores.

Chemistry—Thallus K+ yellow-reddish brown crystals, C—, KC—, P+deep yellow ; atranorin and norstictic acid present.

Holotype—Manipur, Korong, Mao, on the way to Rubinimiah, on rocks, alt. ca 1960 m, June 5, 1979, K. P. Singh, 550372 (CAL).

This species resembles *B. nubila* (Norm.) Zahlbr. in the nature of thallus reactions but the latter has smaller spores ($10-12 \times 4-5 \mu\text{m}$, *sensu* SZATALA 1956, p. 277).

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EXPLANATION OF PLATE 1

Fig. 1. A part of the thallus of holotype of *Buellia morehensis*, $\times 450$, Fig. 2. A part of thallus of holotype of *Buellia manipurensis*, $\times 400$

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