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Short Communication

Metamelanea umbonata new to the British Isles

During a visit to the Natural History Museum London I examined material of the genus *Porocyphus* from the British Isles. A collection labelled *Porocyphus coccodes* [Scotland, Forfar, Caenlochan, on damp, E-facing rock (± basic), 1700 ft, 10 viii 1968, *P. James* (BM)] turned out to be a well-developed specimen of *Metamelanea umbonata* Henssen. Another two specimens from Scotland sent to me for identification belong here as well: Mid-Perth, Breadalbana, Creag Mhòr, S-facing cliffs, 700–800 m, 27/39.35, 6 vii 1979, *B. Coppins* 4573 (E, hb M. Schultz); Angus, Caenlochan Glen (N side), Glasallt Burn, W-facing cliffs, on vertical flushed granite cliff face, 800 m, 37/17, 7 viii 1989, *B. Coppins* 13383 & *O. Gilbert* (E, hb M. Schultz).

The genus *Metamelanea* (*Lichinaceae*) was erected by Henssen (1989) for two species, *M. umbonata* and *M. melambola* (Tuck.) Henssen. Shortly after, a third species, *Metamelanea caesiella* (Th. Fr.) Henssen was added (Henssen & Jorgensen 1990). *Metamelanea* species are fairly conspicuous crustose cyanobacterial lichens. The thallus is rimose to cracked areolate and usually rather thick (see Henssen 1989; Schultz & Büdel 2002: fig. 4J & K). The areoles are angulate, plane and obtusely wedge-shaped. The areoles usually die from the base which is best observed by staining thin sections with lacto phenol cotton-blue. Apical thallus parts will stain blue whereas the staining gets gradually weaker towards the base of the thallus. The thallus anatomy is paraplectenchymatous with a densely reticulate hyphal pattern. The photobiont is a single-celled cyanobacterium with a yellowish brown to reddish brown gelatinous sheath. The photobiont cells are arranged in densely aggregated and vertically orientated packets or colonies so that vertical fissures are often observed in thin cross sections of the areoles. The shape of the apothecia is rather characteristic in *Metamelanea*, being roundish, immersed to semi-sessile with open, umbonate to gyrose or rough, flat to somewhat depressed discs. The discs are conspicuously blackish in *Metamelanea umbonata*, dark brown in *M. melambola* or reddish brown in *M. caesiella*. In *M. umbonata* and *M. melambola* the apothecial discs are best seen when the thallus is moistened. As in many members of the *Lichinaceae* the asci are thin walled, lack amyloid apical structures and contain eight, simple, hyaline, ellipsoid ascospores.

Metamelanea umbonata is a blackish to very dark brownish areolate-crustose lichen with distinctly umbonate to gyrose apothecial discs (Fig. 1A & B). *Metamelanea melambola* is quite similar. It differs, however, in the immersed apothecia with conspicuously multiple divided, dark brown discs. *Metamelanea caesiella* differs in the greyish thallus colour and subfurfuraceous thallus texture. The apothecia are semi-immersed with brownish, eventually somewhat umbonate discs. *Metamelanea caesiella* is found on calcareous or calciferous rock whereas *M. umbonata* and *M. melambola* grow on (basic) siliceous rock. From initial studies on mostly European species of *Psorotichia* it cannot be excluded that some of the species might be better placed in *Metamelanea*. The British material of *Metamelanea umbonata* was previously identified as *Porocyphus coccodes* (Flot.) Körb. However, the two species are unlikely to be confused because of the conspicuously umbonate, black apothecial

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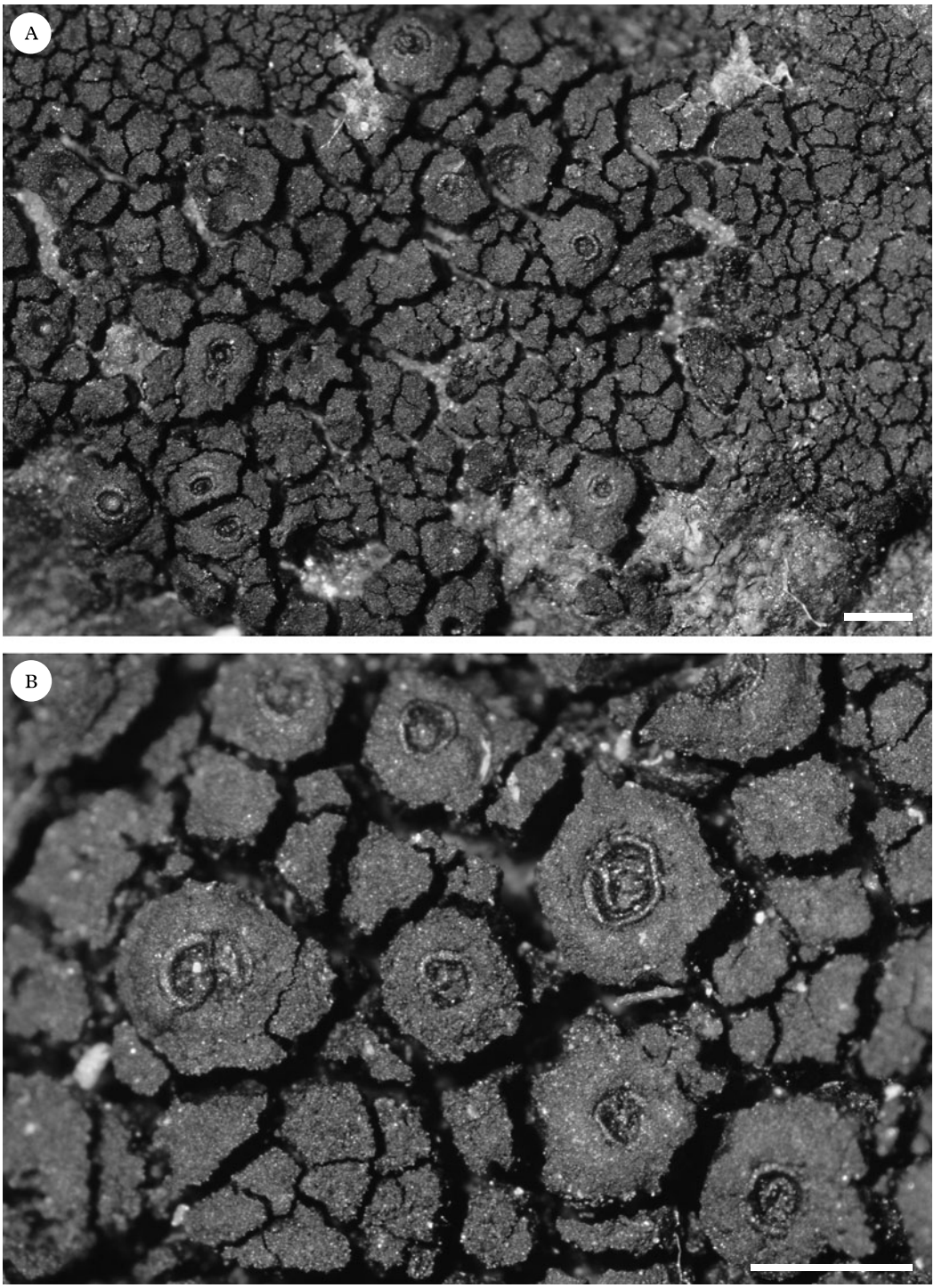


FIG. 1. *Metamelanea umbonata* (10 viii 1968, *P. James*, BM). A, crustose-areolate thallus with plane, angulate areoles and numerous apothecia; B, apothecia with umbonate to gyrose discs. Scales: A & B=1 mm.

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TABLE 1. *Characters differentiating* Metamelanea *and* Porocyphus

Character	*Metamelanea*	*Porocyphus*
Thallus shape	Crustose, rimose to cracked areolate, areoles usually thick, plane and obtusely wedge-shaped	Crustose to dwarf-fruticose, in some species effigurate or placodioid, areoles granulose, warty or becoming dissolved into vertical proliferations or thallus composed of vertical branchings
Thallus anatomy	Mycobiont forming dense network of short, usually angulate cells in vertically orientated packets of photobiont colonies; therefore areoles often vertically fissured (best seen in thin cross sections)	Mycobiont either with no special orientation or fan-shaped to fountain-like, no vertical packets of photobiont colonies visible in cross sections of areoles; therefore anatomy of areoles or branchings compact lacking vertical fissures
Photobiont	Coccoid cyanobacterium with yellowish brown to reddish brown gelatinous sheaths	Filamentous cyanobacterium (*Rivulariaceae*), chains tapered and with basal heterocysts, but chains often much split and contorted and then photobiont appearing single-celled
Apothecia	Immersed in thallus areole to slightly elevated	Usually soon elevated and sessile, stipitate when formed on vertical proliferations or branchings, often appearing globose
Apothecial disc	Black, dark brown to dark reddish brown, umbonate, gyrose or multiply divided causing rough appearance in surface view	Pale to dark or reddish brown, usually not blackish, not umbonate, usually smooth in surface view

discs of *Metamelanea umbonata*. Table 1 summarizes some characters differentiating *Metamelanea* and *Porocyphus*.

Metamelanea umbonata was described from the Swiss Alps and later reported from the southern Black Forest in south-western Germany (Wirth 1992; Wirth 1995: 576). In both localities the lichen was found on basic siliceous rock in inclined seepage tracks. The substratum and description of the locality of the Scottish material match exactly that of the two continental localities.

REFERENCES

Henssen, A. (1989) *Metamelanea* and *Stromatella*, new genera of *Lichinaceae*. *Lichenologist* **21:** 101–118.

Henssen, A. & P. M. Jorgensen (1990) New combinations and synonyms in the *Lichinaceae*. *Lichenologist* **22:** 137–147.

Schultz, M. & Büdel, B. (2002) Key to the genera of the *Lichinaceae*. *Lichenologist* **34:** 39–62.

Wirth, V. (1992) Neufunde von Flechten und flechtenbewohnenden Pilzen in Südwest-Deutschland und benachbarten Regionen. *Jahreshefte der Gesellschaft für Naturkunde in Württemberg* **147:** 213–227.

Wirth, V. (1995) *Die Flechten Baden-Württembergs*. 2nd ed. Stuttgart: Ulmer.

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