

CHAPTER 13

FAMILY PILOCARPACEAE

Characteristics of the Family Pilocarpaceae

Thallus: saxicolous, pale dull green to dark grey-green, smooth to verrucose, areolate; epruina; Soralia and Isidia absent; Prothallus not visible; Photobiont chlorococcoid; **Apothecia**: scattered and entire to verruculose, sessile; disc convex, black and brown to black at margin; epruina; with biatorine (proper exciple poorly developed), Parathecium: indistinct; Epihymenium: brown to black; Hymenium: grey-blue; Subhymenium: indistinct; Hypothecium dark; Paraphyses: branched and anastomosing, apical not conspicuously swollen; Asci: clavate, *Micarea* -type; **Ascospores**: 8 per ascus, hyaline, ovoid-oblong, 3-septate, $(12.8)12.9-16.5-21.5(21.7) \times (4.2)4.3-4.7-5.1(5.3) \mu\text{m}$; **Pycnidia** and **Conidia** not observed.

Description of the Genus *Micarea*

Micarea Fr., Syst. orb.: 256 (1825) (Fryday & Coppins, 2007, p. 246).

Thallus: saxicolous, pale dull green to dark grey-green, smooth to verrucose, areolate, 110.4-165.5 mm thick; epruina; Soralia and Isidia absent;

Prothallus not visible; Photobiont chlorococcoid; **Apothecia**: scattered and entire to verruculose, sessile; disc convex, black and brown to black at margin; epruina, 0.1-0.4 mm diam.; with biatorine (proper exciple poorly developed), Parathecium: indistinct; Epihymenium: brown to black, 15.0-20.5 µm thick; Hymenium: grey-blue, 30.0-60.0 µm high; Subhymenium: indistinct; Hypothecium dark, 70.0-150.0 µm high; Paraphyses: branched and anastomosing, apical not conspicuously swollen, 29.9-34.7 µm high; Asci: clavate, *Micarea* -type, 12.0-15.0 µm high; **Ascospores**: 8 per ascus, hyaline, ovoid-oblong, 3-septate, (12.8)12.9-16.5-21.5(21.7) × (4.2)4.3-4.7-5.1(5.3) µm; **Pycnidia** and **Conidia** not observed.

Chemistry: gyrophoric acid.

Habitat: on rocks.

Distribution: North-west Europe, and Thailand.

Description of the Species

Micarea melaena (Nyl.) Hedl., in *Bih. K. svenska Vetensk Akad.*

Handl. III, 18(3): 82, 96(1862) (Coppins, 1983, pp. 150-151).

Lecidea melaena Nyl. in *Bot. Notiser* 1853: 182 (1853).

Lecidea vernalis var. *melaena* (Nyl.) Nyl. in *Mém. Soc. Imp. Sci. nat. Cherbourg*.3:182 (1855).

Bacidia melaena (Nyl.) Zahlbr. in *Annls mycol.* 7: 474 (1909).

(see Figure 54)

Thallus: saxicolous, pale dull green to dark grey-green, smooth to verrucose, areolate, 110.4-165.5 mm thick; epruina; Soralia and Isidia absent; Prothallus not visible; Photobiont chlorococcoid; **Apothecia**: scattered and entire to verruculose, sessile; disc convex, black and brown to black at margin; epruina, 0.1-0.4 mm diam.; with biatorine (proper exciple poorly developed), Parathecium: indistinct; Epihymenium: brown to black, 15.0-20.5 μm thick; Hymenium: grey-blue, 30.0-60.0 μm high; Subhymenium: indistinct; Hypothecium dark, 70.0-150.0 μm high; Paraphyses: branched and anastomosing, apical not conspicuously swollen, 29.9-34.7 μm high; Asci: clavate, *Micarea*-type, 12.0-15.0 μm high; **Ascospores**: 8 per ascus, hyaline, ovoid-oblong, 3-septate, (12.8)12.9-16.5-21.5(21.7) $\times$ (4.2)4.3-4.7-5.1(5.3) μm ; **Pycnidia** and **Conidia** not observed.

Chemistry: Thallus P-, K-, C-, KC-; No lichen substance.

Habitats: On rocks in lower montane scrub at 1,494 meter from sea level.

Distribution: Northern Europe, Great Britain, the boreal regions of Fennoscandia, Germany, Thailand, and Austria.

Specimens examined: Phu Luang Wildlife Sanctuary, Loei Province. from Pha Chang Pan to Pha Somdet, on rocks, 24 June 2008, Chutamat Phraphuchamnong—CP381(RAMK).

Observation: *Micarea melaena* is characterized by pale dull green to dark grey-green thallus and 3-septate ascospores.

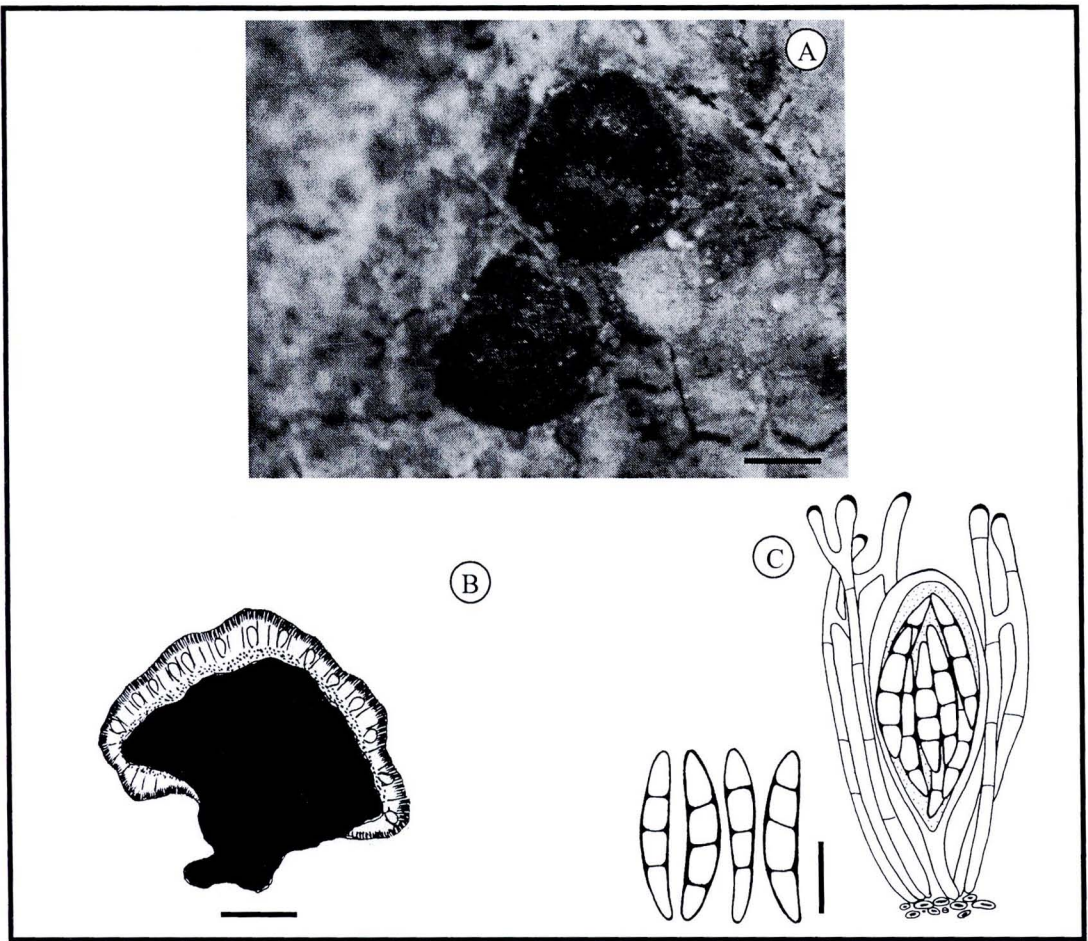


Figure 54 *Micarea melaena* (Nyl.) Hedl.

Note. A = Apothecia biatorine, sessile, back [CP381(RAMK)]

(scale = 0.33 mm)

B = Illustration of vertical section of apothecia [CP381(RAMK)]

(scale = 14.77 μm).

C = Illustration of ascus with paraphyses and ascospores

[CP381(RAMK)] (scale = 4.13 μm).