

## TYPIFICATION OF SOME POORLY-KNOWN CALOPLACA SPECIES (TELOSCHISTACEAE, LICHENES) DESCRIBED BY BOULY DE LESDAIN

STEFANO LOPPI, MAURO G. MARIOTTI & ETTORE PUTORTI

### Abstract

Reference type material has been selected for the following *Caloplaca* species described by Bouly de Lesdain: *C. aetnensis*, *C. bisagnonis* (= *C. bisagnoensis* nom. illeg.), *C. pyracooides*, *C. rubroaurantiaca* and *C. spotornonis* (= *C. spotornensis* nom. illeg.).

### Introduction

The lichen genus *Caloplaca* Th. Fr., nom. cons., is regarded as one of the most difficult taxonomically, both because of the large amount of species included (about 550) and the variation of the characters used for classification (for instance morphology and colour of the thallus and apothecia). Because of the above reasons, many taxa are not yet clearly defined. Among these there are several *Caloplaca* species described by the French lichenologist M. Bouly de Lesdain, which are often overlooked in most current lichenological floras, owing to their poor knowledge and understanding, and are often known only from the earliest collections. A previous paper (LOPPI & MARIOTTI, 1995) was already devoted to one of these *Caloplaca* species, *C. ligustica*.

The aim of this study is to clarify the taxonomical position of the following *Caloplaca* species described by B. de Lesdain: *C. aetnensis*, *C. bisagnonis* (= *C. bisagnoensis* nom. illeg.), *C. pyracooides*, *C. rubroaurantiaca* and *C. spotornonis* (= *C. spotornensis* nom. illeg.) by the examination of type material.

*Caloplaca bisagnonis*, *C. pyracooides* and *C. spotornonis* are not mentioned by OZENDA & CLAUZADE (1970) and included among the very poorly-known taxa by NIMIS (1992, 1993). *C. aetnensis* is not mentioned by CLAUZADE & ROUX (1985) neither by OZENDA & CLAUZADE (1970) and according to NIMIS (1993), differs from the closely related *C. erythrocarpa* by general habitus and ecology but the distinction is rather unclear. *C. rubroaurantiaca* belongs to the still very insufficiently known complex of *C. arenaria* s. lat., differing from *C. arenaria* s. str. in the smaller spores with thinner septum and other characters (CLAUZADE & ROUX, 1985; NIMIS, 1993).

### Historical data and original material

All the species were described by BOULY DE LESDAIN (1935, 1950, 1951, 1953) on samples collected by Camillo Sbarbaro except *C. pyracooides* which was collected by Gresino (BOULY DE LESDAIN, 1932).

Since Bouly de Lesdain's herbarium was lost along with the holotypes of many taxa describe by the French lichenologist (DES ABBAYES, 1966; STAFLEU & COWAN, 1976), a typification procedure was needed in order to have reference material. The search for the original material was performed directly or by mail in the following herbaria (abbreviations are according to HOLMGREN & al., 1990): BPI, DBN, E, FM, GDOR, GE, GL, H, LD, M, O, PC, S, SOM, UPS, US, W, Gresino's collection in the herbarium of the Institute "Don Bosco di Lombriasco" (Turin). The difficulties in typifying the taxonomic units described by Bouly de Lesdain have already been reported by LOPPI & MARIOTTI (1995), and consist mainly in the fact that Sbarbaro was used to divide the material collected, keeping a part for himself and sending the rest to Bouly de Lesdain.

Of the examined samples, only for *C. aetnensis* it was possible to find one specimen with autograph indications by Bouly de Lesdain. For the other samples, several of them were collected by Camillo Sbarbaro in the *locus classicus*, but have a collecting date subsequent to the one reported on the protologue.

### Type designation

On the bases of what said above, we have chosen a lectotype for *C. aetnensis* and neotypes for the other species. All types were carefully selected according to their features and agreement with most of the characters reported in the protologue. However, since identification of lichens needs careful microscopical observations, the separation of samples ascribable homogeneously to the same taxon from a single collection is not always easy and sure.

***Caloplaca aetnensis*** B. de Lesd., *Bull. Soc. Bot., Fr.*, 82: 317 (1935).

"*Caloplaca aetnensis* B. de Lesd. / pars tyi / Italia. Etna: Nicolosi / ad saxa liquefacta / Sbarbaro (1934" [manu Bouly de Lesdain] Herb. Univ. Upsaliensis (L-23154) 62456 (ex Herb. Magnusson ex Herb. Bouly de Lesdain) [UPS: lectotypus!]

Thallus whitish, rugulose-crenulate, K-. Apothecia lecanorine, sessile, sometimes confluent, irregularly rounded, (0.5)1-1.5 mm across, K+ violet-red. Proper margin orange, paler than the disc. Thalline margin prominent in young apothecia, crenulate. Disc rust-red, almost plane at first, later to very convex. Epithecium yellowish-brownish, granular interspersed, 10-45  $\mu\text{m}$  thick, K+ purple. Hymenium hyaline, 74-135  $\mu\text{m}$  high, l+ blue. Hypothecium colourless, 55-95  $\mu\text{m}$  thick. Hypothecium and lower part of the hymenium with some oil droplets. Paraphyses articulate, simple or sometimes branched, broader at tip. Ascospores polaribilocular, 16-18 x 7.5-10  $\mu\text{m}$ , septum 5  $\mu\text{m}$ .

**Caloplaca bisagnonis** B. de Lesd., *Bull. Soc. Bot. Fr.*, 88: 137 (1951)

"Lichenes italici / *Caloplaca bisagnoensis* B. de Lesd / n. sp. 1951 (adhuc in litt.) / Genova, Val Bisagno: Prato / 21.IV.1951 C. Sbarbaro / *Cotypus*" [manu C. Sbarbaro] Herb. Univ. Upsaliensis (L-23155) 62457 (ex Herb. Magnusson) [UPS: neotypus!]

Thallus indistinct or scarcely visible, whitish, K-. Apothecia lecanorine, sessile, more or less regularly rounded, 0.2-0.5 mm across, K+ violet-red. Proper margin yellow orange, paler than the disc. Thalline margin slightly evident, mostly restricted to the base of apothecia. Disc rust-red, from plane to slightly convex. Epithecium yellowish-brownish, granular inspersed, 15  $\mu\text{m}$  thick, K+ purple. Hymenium hyaline, 55-75  $\mu\text{m}$  high. Hypothecium colourless, 35-45  $\mu\text{m}$  thick. Paraphyses articulate, simple or branched, broader at tip. Ascospores polaribilocular, 14-15.5 x 7-8  $\mu\text{m}$ , septum 3  $\mu\text{m}$ .

**Caloplaca pyraceoides** B. de Lesd., *Bull. Soc. Bot. Fr.*, 79: 686 (1932)

"*Caloplaca pyraceoides* B. de Lesd. / Siliceous rock ad ruinas Castri / Liguria occid: Savona. Giusvalla / 1930 Don Gresino" [manu Magnusson] Herb. Univ. Upsaliensis (L-23159) 62461 (ex Herb. Magnusson) [UPS: neotypus!]

Thallus occurring only around apothecia as small lobes, yellow-orange, K+ red. Apothecia more or less regularly rounded, 0.2-0.6 mm across, K+ red. Proper margin not always well evident, yellow orange, paler than the disc. Disc almost plane, orange. Epithecium yellowish-brownish, granular inspersed, 20  $\mu\text{m}$  thick, K+ red. Hymenium hyaline, 40  $\mu\text{m}$  high. Hypothecium colourless, 40  $\mu\text{m}$  thick. Paraphyses articulate, simple, broader at tip. Ascospores polaribilocular, 10-12 x 4-5  $\mu\text{m}$ , septum 3  $\mu\text{m}$ .

**Caloplaca rubroaurantiaca** B. de Lesd., *Bull. Soc. Bot. Fr.*, 97: 169 (1950)

"*Caloplaca rubroaurantiaca* / B. de Lesd. / Alassio / 16.VIII.49 C. Sbarbaro / *cotypus*" [manu C. Sbarbaro] [LD: neotypus!]

Thallus scarcely visible, whitish-grey, K-. Apothecia lecanorine, sessile, irregularly rounded, 0.2-0.6 mm across, K+ violet-red. Proper margin orange, paler than the disc. Thalline margin restricted to the base of apothecia. Disc orange-red, from plane to slightly convex. Epithecium yellowish-brownish, granular inspersed, 10-15  $\mu\text{m}$  thick, K+ purple. Hymenium hyaline, 55-85  $\mu\text{m}$  high, l+ blue. Hypothecium colourless, 25-50  $\mu\text{m}$  thick. Hypothecium and sometimes also lower part of the hymenium with some oil droplets. Paraphyses articulate, simple. Ascospores polaribilocular, 10-13 x 3-4(6)  $\mu\text{m}$ , septum 1-2  $\mu\text{m}$ .

**Caloplaca spotornonis** B. de Lesd., *Bull. Soc. Bot. Fr.*, 100: 177 (1953)

"Lichenes ligustici / *Caloplaca spotornensis* B. de Lesd. / n. sp. in litt. 13.V.1952 / Liguria occid. Iis: Spotorno, Monte / 18.IV.1952 C. Sbarbaro / *specim. orig.*" [manu

C. Sbarbaro] Herb. Univ. Upsaliensis (L-23161) 62463 (ex Herb. Magnusson) [UPS: neotypus!]

Thallus indistinct. Apothecia lecanorine, sessile, irregularly rounded, 0.3-0.7 mm across, K+ violet-red. Proper margin orange-red, paler than the disc. Thalline margin restricted to the base of apothecia. Disc orange-red, from almost plane to slightly convex. Epithecium yellowish-brownish, granular inspersed, 20 µm thick, K+ purple. Hymenium colourless, 55-60 µm thick. Paraphyses articulate, simple or sometimes branched, broader at tip. Ascospores polaribilocular, 14-15 x 5-6 µm, septum 2.5-3 µm.

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#### Addresses of the authors:

Dr. S. Loppi & Dr. E. Putorti, Dipartimento di Biologia Ambientale, Università di Siena, Via P. A. Mattioli 4, 53100 Siena, Italy; Dr. M. G. Mariotti, Dipartimento di Fisiologia delle Piante Coltivate e Chimica Agraria, Università di Milano, Via Celoria 2, 20133 Milano, Italy.