TWO NEW SPECIES OF PARMELIACEAE (LICHENIZED ASCOMYCOTINA) FROM SOUTH AMERICA

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ABSTRACT: The species Parmotrema wrightii Ferraro & Elix and Rimeliella cristobalii Ferraro & Elix are described as new. Parmotrema wrightii is known only from Mato Grosso do Sul State, Brazil, while R. cristobalii is quite widely distributed in northern Argentina and Bolivia.

South America appears to be a major centre of speciation of a number of parmeliod genera, in particular Hypotrachyna, Parmotrema and Rimeliella. As a result of further studies of the regional species of Parmeliaceae (Ferraro 1979), we are describing two new species in the latter two genera. Chemical constituents were identified by thin layer chromatography (Culberson 1972; Culberson & Amman, 1979; Culberson, Culberson & Johnson 1981; Culberson & Johnson 1982; Elix, Johnston & Parker 1989; Elix & Ernst-Russell 1993) and high performance liquid chromatography (Elix & Venables 1993) and by comparison with authentic samples.

Parmotrema wrightii Ferraro & Elix sp. nov.

Thallus laxe adnatus, coriaceus, corticola, cinereo-glaucescens. Lobi 4-6 mm lati, ad apices rotundatos, margines eciliati; superne emanculati, isidiis sorediisque destitutis; medulla alba; subtxts nigri. Apothecia
subpedicellata, 2-5 mm diametro, eperforata; sporae 20-22 x 12-14 μm. Pycnidia laminalia, conidiis sublageniformibus, 6-7 x 1 μm. Thallus atranorinum, chloroatranorinum, acidum norsticticum, acidum echinocarpicum et acidum connorsticticum (minimo) continens.

Type. Brazil. Mato Grosso do Sul State. On rocks, 7 km west of Ribas do Rio Pardo, A. Krapovickas & C. L. Cristóbal 34389; CTES-holotype.

Thallus corticulous, adnate, grey but becoming brown in the herbarium, coriaceous, forming rosettes 7-15 cm in diam. Lobes irregular, 4-6 mm wide, laciniae and cilia lacking. Upper surface continuous, shiny, lacking soredia and isidia. Lower surface black, sparsely rhizinate, rhizines robust, concolorous with the lower surface, mainly simple, with a broad, brown, bare marginal zone. Apothecia common, substipitate, disc dark brown, imperforate, 2-5 mm diam., spores (8), hyaline, ellipsoid, 20-22 x 12-14 μm. Pycnidia frequent, laminal; conidia sublageniform, 6-7 x 1 μm.

Chemistry. Cortex K+ yellow, medulla K+ yellow turning dark red, P+ orange; containing atranorin, chloroatranorin, norstictic acid (major), echinocarpic acid (major) and connorstictic acid (minor).

The thallus of Parmotrema wrightii closely resembles that of the Australian species P. queenslandense Elix, but the thallus of the former is even thicker and more coriaceous. These species also exhibit different substrate preferences (P. queenslandense is primarily saxicolous) and chemistry (P. queenslandense contains medullary fumarprotocetraric acid and succinprotocetraric acid).

At present this new species is known only from the type collection. This species is named in honour of Dr. Jorge Wright, professor of mycology at the Universidad de Buenos Aires.

Rimeliella cristobalii Ferraro & Elix sp. nov.

Species cum thallo ut in Rimeliella subaspera sed ab hac specie lobi laciniatiibus et norlobaridonom et loxodinum continentet differt.


Thallus corticulous, loosely adnate, coriaceous, mineral grey, 4-20 cm diam. Lobes rotund, 3-10 (-20) mm wide, margins broadly crenate, ciliate, cilia abundant, 0.5-2.5 mm long, rarely sparsely branched, lobes often becoming laciniate dissected, laciniae 1.0-2.0 mm wide, 0.5-8.0 mm long, ± radiating. Upper surface plane, shiny, strongly effigurate white-maculate, becoming cracked with age, lacking soredia and isidia. Lower surface brown at the margins, black or brown-black at the centre; rhizines dimorphous, short rhizinate or papillate to the margins, short rhizines
Figures. New species of Parmeliaceae. 1 Parmotrema wrightii (holotype in CTES); 2 Rimeliella cristobalii (holotype in CTES). Scale = 10 mm.
simple, dense, to 0.3 mm long, long rhizines coarse, sparse, formed in
groups, more than 1.0-2.0 mm long. Apothecia common, stipitate, 4-10
mm diam., disc perforate, thalline exciple rugose, strongly white-
maculate; spores 13-16 x 7-10 μm. Pycnidia common, conidia filiform,
10-14 x 1 μm.

Chemistry. Cortex K+ yellow; medulla K+ yellow turning red, C-, P+
orange; containing atranorin, chloroatranorin, salazinic acid (major),
norlobaridone (major), consalazinic acid (minor/trace), loxodin
(minor/trace).

The following characters, present in this species, are characteristic of
the genus Rimeliella Kurokawa: broad lobes with rotund apices,
effigurate-maculae upper surface, dimorphous rhizines, sparsely
branched cilia and filiform conidia (Kurokawa 1991). Morphologically
this species resembles Rimeliella subcaperata (Krempelh.) Kurok. and
Rimeliella recipienda (Nyl.) Kurok. but is clearly distinguished from
those species by the laciniate margins of the lobes. These three species
also differ chemically as R. subcaperata contains medullary salazinic
acid, R. recipienda loxodin and norlobaridone, while R. cristobalii
contains significant quantities of both salazinic acid and norlobaridone.
This new species is named in honour of Dr. Carmen Lelia Cristóbal of
the Instituto de Botánica del Nordeste, Corrientes.

Specimens Examined
ARGENTINA. Corrientes Province. Depto. Saladas, in woodland
edging the road, route 12, 33.5 km S of the turn-off to Empeadoro, L.
Ferraro 2862, 27.xii.1983 (CTES). Depto. San Cosme, on Prosopsis sp. in
forest, Paso de La Patria, old road to Paso de La Patria, L. Ferraro 1232,
bark of Schinopsis balansae in a deforested area near the UNITAN
tannery, Pampa del Indio, Barreto, ix.1991 (CTES). Depto. Primero de
Mayo, Colonia Benitez, INTA Reserve, L. Ferraro et al. 1796, 16.v.1979
(BG, CTES); on wooden veranda of bridge, road to Colonia Benitez, Río
Tragadero, L. Ferraro et al. 1810, 16.v.1979 (CTES).
BOLIVIA. Depto. Tarija, Gran Chaco, Villa Montes, A. Kropovickas et

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LITERATURE CITED


