

CONTRIBUTION TO THE STUDY OF ARGENTINE PARMELIACEAE. THE GENUS
PUNCTELIA KROG AND FLAVOPUNCTELIA (KROG) HALE

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Abstract

In this paper 11 species of *Punctelia* Krog and 2 of *Flavopunctelia* (Krog) Hale are described and illustrated, all from N Argentina. It includes keys for the identification of the taxa, differentiating characters and data on distribution.

Introduction

The genus *Punctelia* is widely distributed in temperate regions of Asia and tropical regions of Africa, Australia and America, comprising 20 species.

In Argentina occurs 11 species distributed in the N, also little collections from La Pampa province, and *P. borreri* (Sm.) Krog was known for one locality in Islas Malvinas, (Grassi, 1950).

Key to genera

1- Thallus with narrow lobes, 0,5-4(5) mm.

2- Margins of lobes ciliate.

3- Cilia marginal bulbate, coronate apothecia.

4- Without cortical pigments.

Bulbothrix Hale

4- With cortical pigments (usnic acid abundant).

Relicina (Hale & Kurok.) Hale

3- Cilia marginal simple, sometimes inconspicuous, ecoronate apothecia.

Parmelina Hale

2- Margins of lobes without cilia.

5- Upper surface smooth, without pseudocyphellae.

6- Rhizines simple.

7- Upper surface mineral gray, thallus corticolous.

Pseudoparmelia Hale

7- Upper surface yellowish or greenish yellow, thallus saxicolous with usnic acid.

Xanthoparmelia (Vain.) Hale

- 6- Rhizines richly branched, numerous, upper surface mineral gray, with atranorin, lower surface black.

Hypotrachyna (Vain.) Hale

- 5- Upper surface with pseudocyphellae.
8- Pseudocyphellae effigurate, inconspicuous, sometimes absent, conidia bifusiform.
9- Upper surface mineral gray, lobes often apically truncate, with atranorin, lower surface uniformly rhizinate, rhizine dichotomously branched and projected beyond the margins.

Parmelia s. str.

- 9- Upper surface yellowish, lobes apically rounded, with usnic acid, lower surface with rhizines simple not projected beyond the margins.

Flavopunctelia (Krog) Hale

- 8- Pseudocyphellae orbicular, punctiform or conspicuous; conidia unciform, filiform or cylindric with the ends swollen.

Punctelia Krog

- 1- Thallus with broad lobes, 5-20 mm.

Parmotrema Mass.

Flavopunctelia (Krog) Hale

Hale M., 1984. Mycotaxon 20(2): 681-682.

Punctelia subgen. *Flavopunctelia* Krog, 1982. Nordic Journal of Botany 2: 290-291.

Thallus foliose, loosely attached, lobes broad, rotund, 12 mm wide. Upper surface yellowish to turtle green, with usnic and lecanoric acid; pseudocyphellate, pseudocyphellae effigurate.

Lower surface black or dark brown, sparsely rhizinate, with naked and pale zone along the margins.

Apothecia disc imperforate, spores globose. Conidio cylindric with two ends swollen.

Flavopunctelia flaventior (Stirton) Hale

Plate 1, A.

Hale M., 1984. Mycotaxon 20(2): 682.

Parmelia flaventior Stirton, Scot. Nat. 4: 254. 1877-78. Hale

M., 1959. The Bryologist 62: 126 "Canadá, USA, Colombia,

Brasil, Perú, Bolivia". Culberson W. L., 1962. Nov. Hedwi-

gia 4: 573 "USA". Krog & Swinscow, 1977. Norw. J. Bot. 24:

170 "E de Africa". Hale M., 1980. Journ. Hattori Bot. Lab.

47: 76-78 "USA, Mexico". Krog H., 1982. Nord. J. Bot. 2(3):

291.

Thallus corticolous, laxe adnatus, 6,5-12 cm in diameter, yellowish-green or yellow-gray.

Upper side striate or wrinkle at the center, lobes rotund, 3-12 mm wide, canaliculatus, margins erect and sorediate, soralia linear, marginal, white, 0,5 mm wide, often laminal are mostly punctiform, conspicuous.

Lower side black, shiny, sparsely rhizinate and cooper coloured zone along the margins.

Apothecia disc imperforate, epithecio brown-reddish, amphithecium sorediate, margin complete. Spores globose or oblong, uncoloured, 10-14,20 μm x 6-7 μm . Conidio cylindric with two ends swollen.

Chemistry: medulla K-, C+, P-, with usnic acid in the cortex, K+ yellow and lecanoric acid in the medulla.

Exsicc. selecta: Argentina: Jujuy, Ferraro 471 (CTES, MVM, COLO, LG), 480 (CTES, US), 500 (CTES, COLO, MVM), 503 (CTES, COLO, O); Córdoba, Cabido 2, 4 (CTES).

Flavopunctelia soledica (Nyl.) Hale

Hale M., 1984. Mycotaxon 20(2): 682.

Parmelia soledica Nyl., Flora 68: 605. 1885. Hale M., 1980.

Journ. Hattori Bot. Lab. 47: 83.

Punctelia soledica (Nyl.) Krog (1982)

Thallus small, 2,5-4 cm in diameter, corticolous, coriaceous, green-yellowish.

Upper surface rugulose at the center, lobes short and rotund, 5-15 mm wide with erects and sorediate margins, soralia white, 0,5-1 mm wide, cap shaped involute on the margin; pseudocyphellae

inconspicuous or absent. Lower side brown, black maculate, sparsely rhizinate.

Chemistry: with usnic acid in the cortex, medulla white, C+ red.

Exsicc. selecta: Argentina: Mendoza, on *Bougainvillea spinosa*, Redón 101 (CTES, MERL).

Observations

Flavopunctelia praesignis (Nyl.) Hale was known only from Perú in South America (Hale, 1980), but now was found in Chile: Provincia de Coquimbo, Parque Nacional de Fray Jorge, Altos de Talinay, 30° 30' S, Ferraro & Redón 2092 (CTES, VALPL), 2100, 2101 (CTES, VALPL, US).

The Chile locality represents the most austral record of this species.

F. praesignis is recognized by the yellowish-green thallus, esorediate, sparsely pseudocyphellatae, pseudocyphellae effigurate, medulla C-, KC- and conidio cylindric with two swollen ends.

Punctelia Krog

Krog H., 1982. Nord. J. Bot. 2: 287-292. Serusiaux E., 1983.

Nord. J. Bot. 3: 517-520.

Thallus foliose, adnatus, lobes 0,5-1,5 cm wide, short usually canaliculate.

Upper surface gray-greenish, green-yellowish upto brown, margins sometimes with a thin brown shiny rim; pseudocyphellate, pseudocyphellae elipticas or orbiculare, with or without margins.

Lower side white, brown upto black, rhizinate, rhizines, concolorous or black.

Apothecia laminal, not always present, disc black, epithecio light, brown-reddish; spores 8, simple. Conidia unciform, filiform or cylindric with one or two ends swollen.

Medulla white.

Key to *Punctelia* in Argentina

- 1- Medulla C+ deep red or rose, with lecanoric or gyroforic acid respectively.
- 2- Medulla C+ deep red with lecanoric acid. Lower side light or black.
- 3- Lower side light.
- 4- Upper side lacking isidio or soredio.
- 5- Pseudocyphellae conspicuous, orbiculars, marginate, conidio 5-6 um, unciform.
- Punctelia lorentzii*
- 5- Pseudocyphellae small, inconspicuous, punctiforms, conidio 10-16 um, filiforms.
- Punctelia hypoleucites*
- 4- Upper side isidiate, sorediate or with phyllidia.
- 6- Pseudocyphellae small, punctiform or elliptic.
- 7- Upper side isidiate, conidia filiform.
- Punctelia rudecta*
- 7- Upper side sorediate, conidia cylindric with one end swollen.
- Punctelia subrudecta*
- 6- Pseudocyphellae wide, marginate, upper side with phyllidia, conidio unciform.
- Punctelia punctilla*
- 3- Lower side black, upper side sorediate, soralia orbicular, laminal.
- Punctelia borreri*
- 2- Medulla C+ rose, gyroforic acid, lower side dark.
- 8- Upper side lacking isidia or soredia.
- 9- Spores globose, 13-14 um x 7-10 um.
- Punctelia subpraesignis*
- 9- Spores ovoid or oblong, wide 21-23 um x 14-21 um.
- Punctelia riograndensis*
- 8- Upper side with numerous phyllidia.
- Punctelia constantimontium*
- 1- Medulla C-, with fatty acids. Conidio filiform.
- 10- Lower side light, lobes canaliculate, conidio 10 um long..
- Punctelia canaliculata*
- 10- Lower side dark, lobes plane, large, conidio 14-16 um long..
- Punctelia microsticta*

Punctelia lorentzii (Kremp.) Krog

Plate 1, B

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia lorentzii Krempelhuber, Flora 61: 477. 1878. Räsänen V., 1941. Ann. Soc. Cient. Arg. 3(131): 98 "Argentina: Mendoza". Grassi M., 1950. Lilloa 24: 369 "Argentina: Tucumán". Krog & Swinscow, 1977. Norw. J. Bot. 24: 171.

Thallus corticolous or saxicolous, mineral-gray to brown, coriaceous, fragile, 5-10 cm in diameter.

Upper side striated, lobes rotund, 2-7 mm wide, with the margin crenated, brown, shiny and pycnidiate. Pseudocyphellae white, conspicuous, margined.

Lower side light, whitish-albescens and more tan in a zone along the margins. Rhizines concolorous, numerous, simple.

Apothecia abundant, disc imperforate, epithecio brownish, brown-reddish to brown-black, 5-22 mm in diameter, exciple with pseudocyphellae; spores globose or oblonges, 10-13 μm x 7-9 μm . Conidio 5-6 μm long., unciform.

Chemistry: P-, K-, C+ red, KC-.

Exsicc.selecta: Argentina: San Luis, on Prosopis, Passera s/n (CTES, MERL); Mendoza, Ruiz Leal s/n (CTES, MERL), Redón 51, 100, 47 (CTES, MERL); La Rioja, on Mimoziganthus corinatus, Ruiz Leal s/n (CTES, MERL).

Punctelia hypoleucites (Nyl.) Krog

Plate 1, C

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia hypoleucites Nyl., Flora 41: 379. 1858. Hale M., 1965 Svensk Botanisk Tidskrift 59(1): 44-45 "USA, Mexico". Krog & Swinscow, 1977. Norw. J. Bot. 24: 171 "E de Africa". Osorio H., 1980. The Bryol. 83(2): 219 "Argentina: Buenos Aires". Idem, 1981. The Bryol. 84(1): 80 "Brasil: Rio Grande Do Sul". Idem, 1981. Com. Bot. Mus. Montevideo 63(4): 5 "Argentina: Misiones".

Thallus corticolous, loosely adnate, 5-15 cm in diameter, brown-yellowish, shiny in the young parts.

Upper side striate or scrobiculate, without isidia or soredia.

Pseudocyphellae white, punctiform, marginals, the majority along the striat. Lobes erects, 1,5-3 mm wide, sublinears, with the rim brown in the margin.

Lower side brown or whitish, rhizines numerous, concolorous. Apothecia numerous, 5-8 mm in diameter, epithecio brown-black, disc imperforate, exciple pseudocyphellate. Spores subglobose or widely ellipsoid, 10-15 μm x 9-14 μm . Pycnidia black, numerous in the margin of the lobes, conidio filiform.

Chemistry: P-, K-, C+, KC-; atranorin and lecanoric acid.

Exsicc. selecta: **Argentina**: Corrientes, on bark of *Prosopis*, Ferraro 1108 (CTES, US); La Pampa, Ferraro 1966 (CTES, US, O, COLO, BG, LG, VALPL, C); Jujuy, Ferraro 572 (CTES, US). **Paraguay**: Cordillera, Schinini 21588 (CTES).

Punctelia rudecta (Ach.) Krog

Plate 1, D

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia rudecta Ach., Syn. Meth. Lich.: 197. 1814. Müller Arg., 1888. Rev. Mycol. 10(38): 56 "Paraguay". Grassi M., 1950. Lilloa 24: 371 "Argentina: Tucumán". Culberson W. L., 1962. Nova Hedwigia 4: 567-568 "China, Mexico, Argentina: Salta". Hale M., 1965. Svensk. Botanisk. Tidskrift 39(1): 45-46 "USA". Osorio H., 1981. Com. Bot. Mus. Montevideo 63(4): 6 "Argentina: Misiones".

Thallus mineral-gray to brown, corticolous, adnate, 12 cm in diameter, lobes rotund, 2-4 mm wide, with the brown rim in the margin. Upper side densely isidiate, striate, stria numerous extended towards the margins. Isidia thick laminals, simple or coralloids, usually developed on plane squamules (Phyllidia?). Pseudocyphellae punctiform, white, emarginate.

Lower side light, whitish to brown, densely rhizinate, rhizines concolorous, sometimes projected around the lobe margins.

Apothecia 5-11 mm in diameter, disc brown-reddish, exciple pseudocyphellate, generally split when adult. Spores oblong or widely ellipsoid, 10-16 μm x 8-10 μm , episporium 1 μm . Conidio 10 μm long., filiform.

Chemistry: C+ red, with atranorin and lecanoric acid.

Exsicc. selecta: **Argentina**: Corrientes, Ferraro 2040 (CTES, US, COLO, BG), 2673 (CTES, US, BG, O, C, TSB, COLO), Schinini 14697, 19636 (CTES), Krapovickas 32959 (CTES, COLO, VALPL); Misio

nes, Quarín 3533 (CTES), Ferraro 2273 (CTES, BG, COLO); Chaco, Ferraro 1805 (CTES, US, BG, VALPL, KASSEL), 1812 (CTES, LG, US, COLO, VALPL, BG); Salta, Schinini 14542 (CTES); Santiago del Estero, Kravovickas 37483 (CTES); Santa Fé, Ferraro 2648 (CTES); Tucumán, Meyer s/n (CTES, LIL); Jujuy, on *Podocarpus* forest, Ferraro 454, 559 (CTES, COLO), 646 (CTES, US). Brasil: Rio Grande Do Sul, M. Fleig 1627 (CTES, ICM).

Punctelia subrudecta (Nyl.) Krog

Plate 1, E

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia subrudecta Nyl., Flora 69: 320. 1886. Hale M., 1965.

Svensk. Botanisk Tidskrift, 59(1): 42-43 "Europa, USA, S de Africa, Australia". Krog & Swinscow, 1977. Norw. J. Bot. 24: 175-176 "Africa".

Thallus corticolous, saxicolous or muscicolous, 7 cm in diameter, lobes rotund, 2-3 mm wide, imbricate, margins entire or crenate. Upper side ash-grey, yellow-grayish or brown, wrinkled, sorediate, soralia marginal or laminal.

Lower side light-brown, with simple concolorous rhizines. Conidio cylindric with one end swollen. Apothecia not seen in the Argentina material.

Chemistry: C+ red, with lecanoric acid.

Exsicc. selecta: Argentina: Corrientes, on forest, Ferraro 3110 (CTES, O, COLO, H, LG); Córdoba, on *Polilepis*, Cabido 8 (CTES); Salta, on bark of *Acacia aroma*, Chalukian 1966 (CTES).

Punctelia punctilla (Hale) Krog

Plate 1, F

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia punctilla Hale in Krog & Swinscow, Norw. J. Bot. 24: 172-173. 1977.

Thallus always saxicolous, 5-10 cm in diameter, adnate. Upper side brown-yellowish, coriaceous, shiny, with darker rim in the margin. Pseudocyphellae wide, marginate, orbiculars to elliptica, 0,1-0,3 mm wide. Isidia and phyllidia present, numerous at the center. Lobes linears, 2-3 mm wide, crenate margins, sometimes imbricate.

Lower side light and rhizinate, rhizines simple, concolorous. Apothecia disc imperforate, 2-6 mm in diameter, dark brown, exciple pseudocyphellate. Spores (8)9-12 μm x (4)8-10 μm , simple, episporium thick. Conidio unciform.

Chemistry: C+ red, with lecanoric acid.

Exsicc. selecta: **Argentina**: Mendoza, on rock, 1500-1800 msm, Ruiz Leal s/n (CTES, MERL).

***Punctelia subpraesignis* (Nyl.) Krog**

Plate 2, G

Krog H., 1982. Nord. J. Bot. 2(3): 291.

***Parmelia subpraesignis* Nyl.**, Lich. Env. París: 36. 1896. Grassi M., 1950. Lilloa 24: 195 "Argentina, lignicola". Culberson W., 1962. Nov. Hedwigia 4: 568-569 "USA, Mexico, Argentina".

Thallus corticolous or lignicolous, adnate, 14 cm in diameter, lobes 4 mm wide, rotund, imbricate, erects in the central parts.

Upper side light-brown to yellowish-gray, wrinkled, lacking isidia or soredia. Pseudocyphellae orbiculare, white, 0,5 mm wide.

Lower side dark, shiny, rhizinate and brown and naked in a narrow zone at the margins. Rhizines black, branched, with the ends whitish.

Apothecia numerous, 7-11 mm in diameter, epithecium light-brown or pale yellow-brown, exciple pseudocyphellate; spores globoses, 13-14 μm x 7-10 μm . Conidio 4-5 μm long., unciform.

Chemistry: C+ rose or red or C-, with atranorin and gyroforic acid.

Exsicc. selecta: **Argentina**: Santiago del Estero, on bark of *Prosopis*, Renolfi 362/2 (CTES, LG). **Brasil**: Rio Grande Do Sul, Krapovickas 37619 (CTES, LG).

***Punctelia borreri* (Sm.) Krog**

Plate 2, H

Krog H., 1982. Nord. J. Bot. 2: 291.

***Lichen borreri* Sm.**, Engl. Bot. 25: Tab. 1780. 1807.

***Parmelia borreri* (Sm.) Turn.**, Trans. Linn. Soc. 9: 148. 1808.

Grassi M., 1950. Lilloa 24: 177 "Argentina: Jujuy, Córdoba, Islas Malvinas"; idem, pag. 181 "Argentina: Tucumán".

Thallus corticolous, fragile, loosely adnate, mineral-gray to yellowish to brown, 5-7 cm in diameter.

Upper side sorediate, soralia orbicular, laminal, pseudocyphellae small, punctiform. Lobes rotund with shiny, brown rim in the margins.

Lower side densely rhizinate, lighter to white and naked zone towards the margins.

Apothecia disc imperforate, epithecium brown-reddish, 5-10 mm in diameter, exciple sorediate and striate.

Chemistry: medulla K-, C+ red, P-, with atranorin and lecanoric acid.

Exsicc. selecta: Argentina: Jujuy, Krapovickas 36684 (CTES, O).

Punctelia riograndensis (Lyngé) Krog

Plate 2, I

Krog H., 1982. Nord. J. Bot. 2(3): 291. Serusiaux E., 1983.

Nord. J. Bot. 3(4): 520 "Africa".

Parmelia riograndensis Lyngé, Ark. Bot. 13(13): 26. 1914. Krog

H. & Swinscow, 1977. Norw. J. Bot. 24: 175.

Parmelia microsticta var. *riograndensis* (Lyngé) Lyngé. Osorio

H., 1973. Rev. Fac. Ciencias (Lisboa) 17(2): 449 "Brasil".

Idem, 1981. Com. Bot. Mus. Montevideo 63(4): 5 "Argentina: Misiones".

Thallus corticolous, 6-12 cm in diameter, mineral-gray to gray-greenish, membranaceous; lobes wide and rotund, 2-5 mm wide, imbricate, rare erects.

Upper side wrinkled or scrobiculate, pseudocyphellate, pseudocyphellae abundant, orbicular, white, emarginate; without isidia and soredia.

Lower side brown, rhizinate, rhizine short, simple; naked and light brown in a narrow zone along the margins.

Apothecia numerous, 6-12 cm in diameter, disc imperforate, urceolate, pedicellate, when young, epithecium brown, exciple rugose, pseudocyphellate, spores ovals, 21-23 μ m x 14-21 μ m, episporium thick. Pycnidia black, numerous, marginals or laminals. Conidio 5-7 μ m long, unciform.

Chemistry: medulla C+ rose, with gyroforic acid.

Exsicc. selecta: Argentina: Corrientes, in forest, Ferraro 2912 (CTES, US, O, C, COLO, TSB, H), Schinini 16290 (CTES, US); Jujuy, on Podocarpus forest, Ferraro 526 (CTES, COLO), Krapovickas 36683

(CTES); Salta, Krapovickas 36674 (CTES); Santa Fé, Ferraro 2634 (CTES, G, COLO, TSB).

Punctelia constantimontium Sérusiaux

Plate 2, J

Sérusiaux E., 1983. Nord. J. Bot. 3(4): 517-520 "Africa, Brasil, Uruguay, Argentina: Buenos Aires, Entre Rios". Osorio & Fleig, 1984. Int. J. Myc. Lich. 1(3): 278 "Brasil".

Parmelia subpraesignis sensu W. Culberson non Nyl., Nov. Hedwigia 4: 563-577. 1962.

Parmelia squamuligera R. Sant. nom. nud. pp. in Osorio 1968, 1970a, 1970b, 1972 and Osorio & Fleig, 1982 "Argentina: Buenos Aires, Uruguay".

Thallus corticolous, loosely adnate, 5-10 cm in diameter, whitish-gray to brown-yellowish.

Upper side reticulate or scrobiculate, lobulate, lobes 2-6 mm wide, rotund; pseudocyphellate, pseudocyphellae white, small, emarginate.

Lower side dark and more or less shiny on the margins, rhizines numerous.

Apothecia urceolate, 4 mm in diameter, exciple pseudocyphellate; spores 13-16 μm x 8-11 μm . Conidio unciform.

Chemistry: C+ rose, with gyroforic acid.

Exsicc. selecta: Argentina: Corrientes, Schinini 19760 (CTES, O, LG), Ferraro 1474 (CTES, US), 2832 (CTES, O, LG, TSB); Jujuy, on rock, Ferraro 617 (CTES, MVM, LG).

Punctelia canaliculata (Lynge) Krog

Plate 2, K

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia canaliculata Lynge, Ark. Bot. 13(13): 28. 1914. Grassi M., 1950. Lilloa 24: 177 "Argentina: Córdoba, Jujuy, Salta".

Osorio H., 1978. Rev. Fac. Hum. y Cienc. 1(4): 53 "Uruguay".

Thallus corticolous, loosely adnate, grayish or yellowish, 5-14 cm in diameter.

Upper side striate or scrobiculate, soredia and isidia lacking, pseudocyphellate, pseudocyphellae wide, conspicuous, orbiculars, emarginate, lobes canaliculate, 1-1,5 cm long. and 3-5 mm wide, li

nears with the round margins.

Lower side white-yellow or whitish-brown, rhizinate, rhizines concolorous.

Apothecia disc imperforate, 3-15 mm in diameter, exciple pseudo-cyphellate. Conidio 10 um long., filiform.

Chemistry: C-

Exsicc. selecta: **Argentina**: Corrientes, Schinini 16316 (CTES, COLO, BG), 19704 (CTES, VALPL, LG, US, COLO, C), Ferraro 1499 (CTES, US, LG, COLO, BG, VALPL), 1508 (CTES, COLO, KASSEL), 1521 (CTES, VALPL, US, BG), Krapovickas s/n (CTES, MVM), on *Sebastiania* sp. 29166 (CTES, US, BG), Herbst s/n (CTES); Misiones, Krapovickas 34144 (CTES, COLO); Jujuy, Ferraro 513 (CTES, AAR).

Punctelia microsticta (Müll. Arg.) Krog

Plate 2, L

Krog H., 1982. Nord. J. Bot. 2(3): 291.

Parmelia microsticta Müll. Arg., Flora 62: 164. 1879. Arechavaleta, 1888. Rev. Mycol. 10(37): 1 "Uruguay: Montevideo". Grassi M., 1950. Lilloa 24: 187 "Argentina: Buenos Aires, Jujuy, Salta, Córdoba". Idem, 1950. Lilloa 24: 370 "Argentina: Tucumán". Osorio H., 1970. The bryol. 73(13): 393 "Argentina: Chaco, Misiones". Idem, 1976. The Bryol. 79(3): 358 "Argentina: Buenos Aires". Idem, 1978. The Bryol. 81(3): 453 "Brasil". Idem, 1981. Com. Bot. Mus. Montevideo 63(4): 5 "Argentina: Misiones". Idem, 1982. Com. Bot. Mus. Montevideo 64(4): 4 "Argentina: Misiones".

Thallus 8-16 cm in diameter, corticolous, coriaceous, grayish to brown-yellowish, lobes 3-4 mm wide, rare imbricate, margins entire to crenate or sinuate.

Upper side rugose, pseudocyphellate, pseudocyphellae 0,2-0,5 mm wide, numerous, orbiculars, emarginate, lacking soredia and isidia.

Lower side brown and rhizinate at the center, rare white maculate, naked in a zone along the margins.

Apothecia brown-reddish, disc imperforate, more or less 17 mm in diameter, pedicelate, exciple pseudocyphellate, entire margins; spores globose, 16-23 um x 13-17 um, episprium tick. Picnidio black, marginal. Conidio 14-17 um long., filiform.

Chemistry: medulla white, C-, with fatty acid.

Exsicc. selecta: **Argentina**: Corrientes, Ferraro 309 (CTES, MVM), 1298 (CTES, US, COLO), 102a (CTES, AAR, COLO, MVM), 2827 (CTES, C), 2742 (CTES, KASSEL), 2891 (CTES, O), on bark of *Scutia* 938 (CTES),

(CTES), on bark of *Bignoniaceae* 231 (CTES), Schinini 8515 (CTES, AAR, COLO, G), 7838 (CTES, MVM), 19729a (CTES, COLO), on *Schinus longifolia* 14719 (CTES), on *Sebastiania brasiliensis* 14679 (CTES), Krapovickas 28062 (CTES, VALPL, US, MVM, COLO, LG, MSK, G, TSB), on *Castela tweedii* 16202 (CTES, COLO); Chaco, Ferraro 3062 (CTES, LG, COLO, H, US); Jujuy, Ferraro 475 (CTES); Santa Fé, Ferraro 2659 (CTES, G), Quarín s/n (CTES, MVM); La Pampa, Krapovickas s/n (CTES, MVM); Mendoza, Ruiz Leal s/n, on rock (CTES, MERL); Salta, Schinini 14546, 19691 (CTES); Santiago del Estero, Krapovickas 37485 (CTES). Uruguay: San José, Krapovickas 16347 (CTES). Bolivia: Tarija, Krapovickas 33917 (CTES).

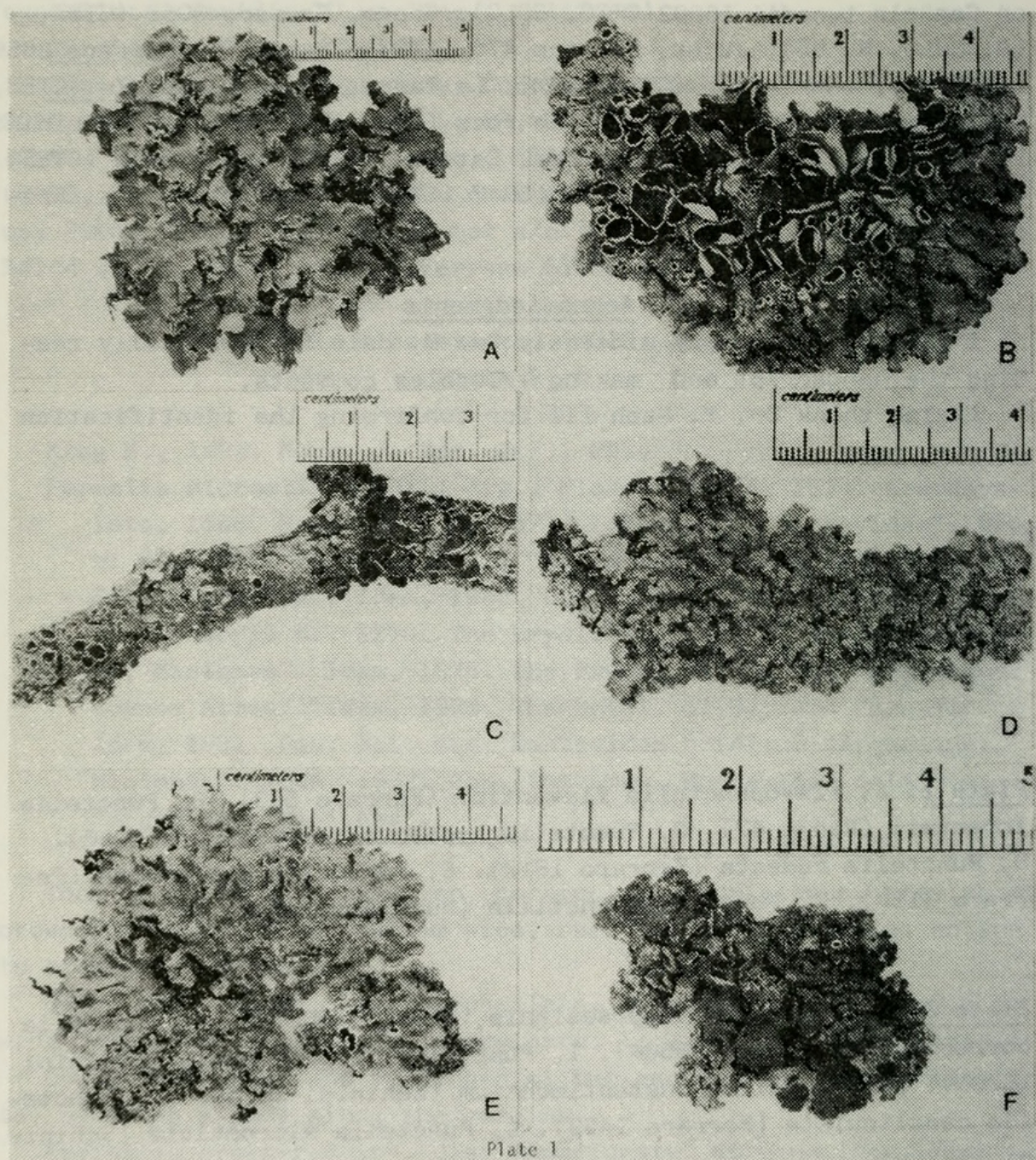
Acknowledgments

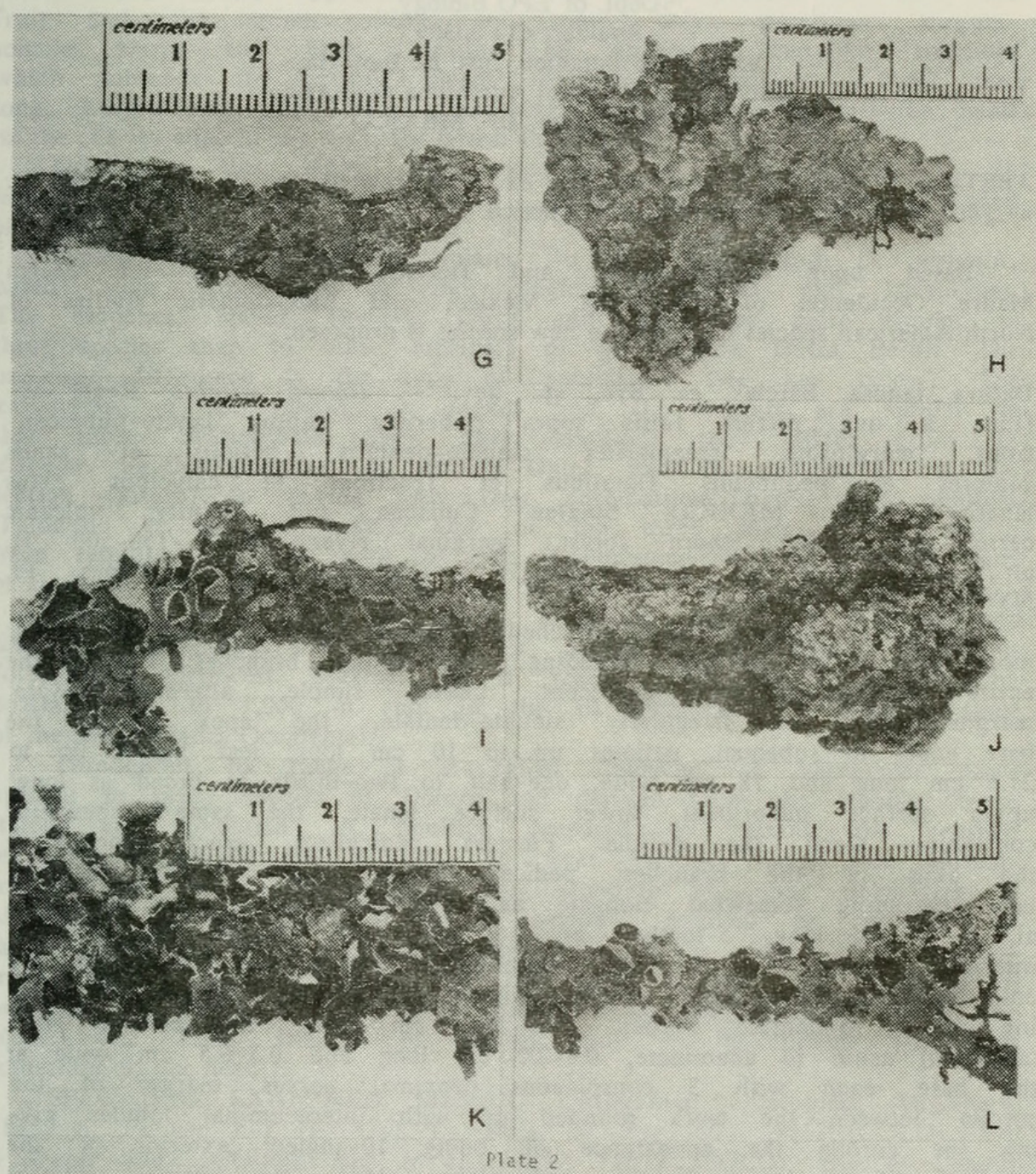
I want to thank very sincerely Dr. M. Hale for critically reading the manuscript and making valuable comments.

I also thank Dr. T. Nash III for confirming the identification of some taxa.

Plate 1: A, *Flavopunctelia flaventior* (Ferraro 503). B, *Punctelia lorentzii* (Redón 47). C, *Punctelia hypoleucites* (Ferraro 1966). D, *Punctelia rudecta* (Ferraro 1812). E, *Punctelia subrudecta* (Ferraro 3110). F, *Punctelia punctilla* (Ruiz Leal s/n).

Plate 2: G, *Punctelia supraesignis* (Renolfi 362/2). H, *Punctelia borreri* (Krapovickas 36684). I, *Punctelia riograndensis* (Schinini 16290). J, *Punctelia constantimontium* (Schinini 19760). K, *Punctelia canaliculata* (Ferraro 1499). L, *Punctelia microsticta* (Schinini 19729a).







Ferraro, Lidia Itati. 1986. "CONTRIBUTION TO THE STUDY OF ARGENTINE PARMELIACEAE THE GENERA PUNCTELIA KROG AND FLAVOPUNCTELIA KROG HALE." *Phytologia* 61, 189–203.

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