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CONTRIBUTION TO THE LICHEN FLORA OF URUGUAY. VIII. ADDITIONS AND CORRECTIONS.*

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After the issue of the Catalogue of the lichen flora of Uruguay (OSORIO 1972) the author had the opportunity to revise some already described collections and he found necessary the introduction of some taxonomical corrections.

The study of various collections deposited in public herbaria has been also the source of important additions to the known lichen flora. The herbaria consulted were: MVFA: Cátedra de Botánica, Facultad de Agronomía, Montevideo; MVFHC: Departamento de Botánica, Facultad de Humanidades y Ciencias, Montevideo; MVM: Departamento de Botánica, Museo Nacional de Historia Natural, Montevideo, Uruguay.

Unless otherwise stated the specimens collected by the author are deposited in his private herbarium.

The author thanks the following specialists for their help in the identification of some critical specimens: Dr. M. E. HALE, Jr., Dra. A. HENSSEN, Dr. S. KUROKAWA, Dr. J. W. THOMPSON, Dra. K. VERSEGHY and Dr. W. WEBER. Thanks are also given to the curators of BP, H, S, TUR for the loan of specimens cited in the text.

Acarospora lorentzii (MÜLL. ARG.) HUE.

Reported from South East Uruguay by MAGNUSSON (1950). Later collections made by the author show that this taxon is widely distributed in our country.

Additional specimens examined:

DURAZNO: El Cordobés - Estancia Las Pitangas, on granitic outcrop, OSORIO 2859 (confirm. W. WEBER).

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FLORES: Highway 3: km 241, OSORIO 3437, 3460 (det. W. WEBER).

FLORIDA: Arroyo Casupá, on granitic outcrop, DEL PUERTO 11.II.1972 (MVM).

LAVALLEJA: Highway 8: km 209 - Estancia Madeiros, OSORIO 3744, det. W. WEBER.

MALDONADO: Sierra de las Animas, 50 m. s. m., OSORIO 4522, 4523, 5116, 6257; western slope of a hill, 100 m. s. m., OSORIO 2295 (confirm. W. WEBER).

MONTEVIDEO: Carraseo - Cañada de las Canteras, OSORIO 2647.

SALTO: Salto - Piedra Alta, stones on riverside of the río Uruguay, OSORIO 6647; Salto Grande - Arroyo Gallero, stones in a meadow, OSORIO 6699.

TREINTA Y TRES: Quebrada de los Cuervos, OSORIO 5963.

Anaptychia hypochracea VAIN.

Actually the only non asiatic collections of this species are those reported from Uruguay by KUROKAWA (1962), which were qualified as "quite unusual records". This species, however, seems to be not uncommon in East Uruguay according with the material examined by the author.

Additional specimens examined:

DURAZNO: Rio Negro - Paso de las Piedras, on shrubs, small ravine 2 km S from Paso de las Piedras, OSORIO 6951.

MALDONADO: Aiguá - Gruta de Salamanea, on shrubs, LAGE DE XIMÉNEZ 26.VIII.1967 (MVM).

ROCHA: Castillos - Cerro de los Rocha, on *Daphnopsis racemosa* OSORIO 4378 (confirm. S. KUROKAWA), on *Blepharocalyx*, OSORIO 5651; Highway 9 and Arroyo Chafalote, on *Schinus longifolius*, OSORIO 4379 (confirm. S. KUROKAWA); Highway 16 - Cerro Aspero, on *Celtis tala*, OSORIO 5770; Laguna Negra, on *Scutia buxifolia*, OSORIO 5672; Fortaleza de Santa Teresa, on mossy stones, N. GARCÍA ZORRÓN 3278 (confirm. S. KUROKAWA) (MVM, MVFHC).

TREINTA Y TRES: Quebrada de los Cuervos, on *Eucalyptus*, OSORIO 6004.

Calicium americanum R. SANT.

COLONIA: Nueva Palmira - Picada Albertano, on wooden fence post at roadside, OSORIO 4782.

New to Uruguay. Formerly known from Paraguay and Northern Argentina (SANTESSON 1943). We have not compared our collec-

tion with type material but it matches well with the description and the drawing given by SANTESSON (op. cit.). The present record represents a significative extension southward of the geographic distribution of this species.

Caloplaca xanthostigmoidea (RÄS.) ZAHLBR.

The collected material identified by RÄSÄNEN (1942) as *Caloplaca xanthostigmoidea* (RÄS.) ZAHLBR. (URUGUAY: Montevideo, Colón, HERTER s. n., H, vidi) is quite different from the type specimen (CANADA: New Brunswick, Dalhousie, T. REIJONEN s. n., H, vidi). It should be referred as *Caloplaca scabrida* MAGN. (URUGUAY: Montevideo, Buceo, OSORIO 1631, isotypus, herb. Osorio). Therefore *Caloplaca xanthostigmoidea* must be deleted from the lichen flora of Uruguay.

Additional specimens of *C. scabrida* examined:

COLONIA: Nueva Palmira - Picada Albertano, on *Salix humboldtiana*, OSORIO 4771, 4786.

FLORES: Arroyo Sarandí - Paso de los Ahogados (3 km N from Trinidad), on *Salix*, OSORIO 6378, on *Populus nigra*, OSORIO 6368, Highway 3: km 164, on *Casuarina* at roadside, OSORIO 6335.

FLORIDA: Highway 41 and Arroyo Sauce de Mansavillagra, on *Salix*, OSORIO 7047.

LAVALLEJA: Minas - Colonia de la U.T.E., on wooden fence post, OSORIO 4929.

MONTEVIDEO: Parque Rodó - Campo de Golf, on *Phytolacca dioica*, OSORIO 6818.

SAN JOSE: San José de Mayo - Parque Rodó, on *Casuarina*, A. LAGUARDIA 19.I.1975 (MVFHC).

Candelaria substellata (NYL.) RÄS. var. *subfibrosa* RÄS.

The type specimen (URUGUAY: Paysandú, I. M. LAMB 22.II. 1946, H, vidi) is a typical *Candelaria fibrosa* FR. O. ALMBORN who examined this collection in 1946 made also a similar annotation in an enclosed label. Therefore this variety must be considered as synonym of *Candelaria fibrosa* Fr.

Cladonia miniata MEY. var. *sorediella* VAIN.

ROCHA: Castillos, on palm's trunk, P. R. SAN MARTIN 4. V. 1962 (MVM). New to Uruguay. This taxon is scarcely reported in the literature at our disposal: two collections in Brazil: Minas Geraes and Bahia states (VAINIO 1887) and one in Venezuela (VARESCHI 1973).

The comparison with the type collection: Brazil: Minas Geraes, Sitio, VAINIO s. n., (T), dont show significative differences.

Coccocarpia parmelioides (HOOK). TREV.

TREINTA Y TRES: Quebrada de los Cuervos, on *Eucalyptus*, very scarce, OSORIO 6029.

No species of this genus has been previously reported from Uruguay.

Ephebe brasiliensis (VAIN.) HENSS.

MALDONADO: Cerro Pan de Azúcar, perpendicular stones, S faced slope, 250 m. s. m., OSORIO 4651, det. A. HENSSEN.

First report of this genus for Uruguay, According with A. HENSSEN (1963) this species has been collected only in the brazilian states of Minas Geraes and Sao Paulo.

Lecanora subatra Räs.

The comparison made by the author of *Lecanora homalea* MAGN. (URUGUAY: Maldonado — El Portezuelo, 1948, OSORIO 1580, isotypus, herb. OSORIO) and *Lecanora subatra* Räs. (URUGUAY: Montevideo - Cerro, HERTER V.1933, H, typus, vidi) proved that they are identical.

Additional specimens of *L.subatra* examined:

CERRO LARGO: Arroyo La Tigra (near Cerro de las Cuentas), on stones, MARCHESI & DEL PUERTO 2.III.1972 (MVM).

DURAZNO: El Cordobés — Estancia Las Pitangas, on stones, OSORIO 2964; Road La Paloma — Estación km 319 (18 km N from La Paloma), on sandstone at roadside, OSORIO 7026.

FLORIDA: Highway 41 and Arroyo Sauce de Mansavillagra, on granitic stones, OSORIO 7038.

Leptotrema wightii (TAYL.) MÜLL. ARG.

TACUAREMBO: Gruta de los Helechos, on bark, N. GARCIA ZORRON 2067 (MVFHC, MVM).

First report of this genus for Uruguay.

Lopadium fuscum MÜLL. ARG.

DURAZNO: Río Negro — Paso de las Piedras, on leaves of *Daphnopsis racemosa*, small ravine 5 km S from Paso de las Piedras, OSORIO 6987.

New to Uruguay.

Parmelia austrosinensis ZAHLBR.

HALE (1965) indentified this species as coming from Parque Rivera, Montevideo. According with the below listed collections it seems to not uncommon in South Uruguay.

Additional specimens examined:

COLONIA: Río Rosario and Río de la Plata, on bark, A. GORTARI 28. V. 1972 (MVM).

FLORES: Arroyo Sauce and Río San José (near Pintos village), on bark, O. CAMACHO 5. III. 1949 (Herb. Osorio).

MALDONADO: Las Delicias, on Pinus, S. LAGUARDIA 18. I. 1975 (MVFHC, MVM); Highway 9 and Arroyo Pan de Azúcar, on wooden fence post, OSORIO 1597.

MONTEVIDEO: Parque Rivera, on Pinus, O. DE MATA 833 (Herb. OSORIO).

Parmelia crozalsiana B. DE LESD.

Known from one locality in North Uruguay (OSORIO 1970. a.). However it is widely distributed in the country as shown in the collections examined by the author.

Additional specimens examined:

CANELONES: Parque Nacional "F. D. Roosevelt", on Eucalyptus, OSORIO 6228.

COLONIA: Nueva Palmira — Arroyo Sauce, on *Rapanea laetevirens*, OSORIO 4840.

LAVALLEJA: Highway 8: km 209 — Estancia Madeiros, on mossy bark, OSORIO 3667.

MALDONADO: Sierra de las Animas, on *Scutia buxifolia*, OSORIO 4705, 4879.

TREINTA Y TRES: Quebrada de los Cuervos, on stones, OSORIO 5934, on *Eucalyptus*, OSORIO 6048; Cuchilla de Dionisio — Estancia La Teja, on *Scutia buxifolia*, OSORIO 6120.

Parmelia dactylifera VAIN.

TREINTA Y TRES: Quebrada de los Cuervos, on stones, OSORIO 5925 (confirm. M. HALE).

New to Uruguay. It is a scarcely collected species, known from the type locality in Minas Geraes, Brazil (VAINIO 1890) and Venezuela (VARESCHI 1973).

Parmelia dilatata VAIN.

ARTIGAS: Artigas — Parque Indígena, on bark, OSORIO 1459.
COLONIA: Río Rosario and Río de la Plata, on bark, A. GORTARI 28.V.1972 (MVM).
New to Uruguay.

Parmelia dissecta NYL.

DURAZNO: El Cordobés — Estancia Las Pitangas, on stones, OSORIO 2991.
New to Uruguay.

Parmelia mellisii DODGE.

LAVALLEJA: Abra de Cotto, on wooden fence post, OSORIO 6456 (confirm. M. HALE).
TREINTA Y TRES: Quebrada de los Cuervos, on stones, OSORIO 5924 (confirm. M. HALE).
New to Uruguay. The present finding in Uruguay represents a significant extension southward of its known range; the southernmost locality previously known was Minas Geraes, Brazil (HALE, 1965).

Parmelia Praesorediosa NYL.

ARTIGAS: Arrocería Conti, on trees, marginal forest of the Uruguay river, LAGE DE XIMENES 20. II. 1969 (MVM).
New to Uruguay.

Parmelia ramppodensis NYL.

ROCHA: Cabo Polonio, on bark, A. MONES 19. X. 1972 (MVM).
New to Uruguay.

Parmelia rigida LYNGE.

The identification of this species for the first time in Uruguay was realized by HALE (1965) based on a collection from the North East Uruguay. The below listed items would indicate that this species is restricted to East and North Uruguay.
Additional specimens examined:

LAVALLEJA: Highway 8: km 209 — Estancia Madeiros, on shrubs, OSORIO 3696.
ROCHA: Highway 16 — Cerro Aspero, on *Scutia buxifolia*, OSORIO 5708.

TACUAREMBO: Valle Edén, on trees, OSORIO 1132.

TREINTA Y TRES: Quebrada de los Cuervos, on *Eucaliptus*, OSORIO 6042, on shrubs, OSORIO 5939; Cuchilla de Dionisio — Estancia La Quebrada, on *Scutia buxifolia*, OSORIO 6126.

Parmelia rissoensis LYNGE.

Under this name RÄSÄNEN (1939) identified the material collected in URUGUAY: Rocha — Estancia Siete Cerros, HOSSEUS 111. This specimen was revised by HALE (1965) and renamed *Parmelia delicatula* VAIN. Through the kindness of Dra. K. VERSEGHY, Budapest, we could study other specimen identified as *Parmelia rissoensis* LYNGE: number 76 of the Lichenotheca Parva, edita Sect. Bot. Mus. Hist. Nat. Hung. (probably a duplicate of the above mentioned collection). It matches also well with *Parmelia delicatula*. Therefore it is necessary to delete *Parmelia rissoensis* LYNGE from the lichen flora of Uruguay.

Parmelia subsumpta NYL.

TACUAREMBO: Arroyo Malo (20 km SE from Curtina), on trees, A. MONES 10. XI. 1973 (MVM).
New to Uruguay.

Parmelia subtinctoria ZAHLBR.

MALDONADO: Sierra de las Animas, on *Rapanea laetevirens*, OSORIO 4720.
New to Uruguay.

Parmelia texana TUCK.

Already known from two neighbouring localities in South Uruguay (OSORIO 1971). The below listed localities show that this species is widely distributed in the country.

Additional specimens examined:

ARTIGAS: Arroyo El Catalán and Highway 30, on wooden fence post, OSORIO 1480.

FLORES: Arroyo Sauce and Río San José (near Pintos village), on wooden fence post, O. CAMACHO 5. III. 1949 (Herb. OSORIO).

MALDONADO: Las Delicias, on Pinus, S. LAGUARDIA 18. I. 1975 (MVFHC, MVM).

MONTEVIDEO: Parque Rodó - Campo de Golf, on *Eucalyptus*, OSORIO 6824; Punta Carretas, on *Pinus*, OSORIO 7051.

Parmelia uruguensis KREMP.

Recently reported from North Uruguay (OSORIO 1970.a.),
Additional specimen examined:

COLONIA: Nueva Palmira - Arroyo Sauce, on wooden fence post,
OSORIO 4867.

FLORIDA: Highway 7 and Highway 41, on wooden fence post,
OSORIO 6929.

SAN JOSE: Arazatí - Estancia Voulminot, on *Acacia farnesiana*,
OSORIO 6910.

Peltigera degeni GYELN.

MALDONADO: Aiguá - Gruta de Salamanca, on mossy stones,
LAGE DE XIMÉNEZ, 26.VIII.1967 (MVM), det. J. W. THOMPSON.
New to Uruguay.

Phaeographina caesiopruinosa (FEÉ) MÜLL. ARG.

DURAZNO: Rio Negro - Paso de las Piedras, on isolated tree,
small ravine 5 km S from Paso de las Piedras, OSORIO 6978.

ROCHA: Highway 16 - Cerro Aspero, on *Ficus*, OSORIO 5733.

TREINTA Y TRES: Quebrada de los Cuervos, on *Eucalyptus*,
OSORIO 6016.

Widely distributed in the tropical and subtropical regions, being
this the first record for Uruguay.

Phaeographina caesiopruinosa var. *abbreviata* REDGR.

DURAZNO: El Cordobés - Estancia Las Pitangas, on trees, only
one specimen seen, OSORIO 2993.

New to Uruguay.

Phaeographina lecanographa (NYL.) MÜLL. ARG.

DURAZNO: Rio Negro - Paso de las Piedras, on *Eugenia*, slope
of a ravine 5 km S from Paso de las Piedras, OSORIO 6990.

ROCHA: Castillos - Cerro de los Rocha, on myrtaceous tree, OSO-
RIO 5653.

TREINTA Y TRES: Quebrada de los Cuervos, on *Blepharocalyx*,
OSORIO 5907, on *Opuntia ficus-indica*, in an *Eucalyptus* forest,
OSORIO 5974, on *Ficus carica*, OSORIO 5989, on *Eucalyptus*, OSO-
RIO 6039, 6040.a., 6040.b.

New to Uruguay. According with the literature at our disposal

this species seems to be not uncommon in Rio de Janeiro, Brazil and in the vicinity of Sao Paulo and Minas Geraes. No findings south of Sao Paulo were reported by REDINGER (1935).

Ramalina ecklonii (SPRENG.) NYL. f. *subprolifera* RÄS.

The examination of type material of this species (URUGUAY: Canelones - Carrasco National Park, I. M. LAMB 22.II.1946, H, isotypus, vidi) shows that it is conspecific with *Ramalina ecklonii* (SPRENG.) MEY. & FLOT. var. *lobuligera* MALME (BRAZIL: Rio Grande do Sul, Porto Alegre, MALME 407, S, vidi). Additional specimens examined:

COLONIA: Nueva Palmira - Casa de Narbona, on shrubs, A. GORTARI 12.X.1971 (MVM).

FLORES: Arroyo Sauce and Rio San José (near Pintos village), on trees, O. CAMACHO 30.III.1972 (MVM).

MALDONADO: Aiguá - Gruta de Salamanca, on shrubs, LAGE DE XIMÉNEZ 26.VIII.1967 (MVM).

SAN JOSE: Rincón de Latorre (30 km SE from San José de Mayo), on *Acacia*, S. LAGUARDIA 23.XI.1974 (MVFHC).

Pseudocyphellaria clathrata (DE NOT.) MALME.

ROCHA: Highway 16 - Cerro Aspero, on *Ficus*, OSORIO 5706. New to Uruguay.

Sticta variabilis (BORY) ACH.

Already known from one locality in North East Uruguay (OSORIO 1967).

Additional specimens examined:

DURAZNO: Rio Negro - Paso de las Piedras, on mossy bark, A. XIMÉNEZ 25.X.1969 (MVM), on trees, OSORIO 6933; Rio Negro: 1 km E from Estación Km 329, on mossy trunks, OSORIO 7006; Arroyo El Cordobés - Paso de la Cruz, on *Scutia buxifolia*, OSORIO 2733; El Cordobés - Estancia Las Pitangas, on trunks, OSORIO 2981.a., on stones, 2981.b.

LAVALLEJA. Highway 8: km 209 - Estancia Madeiros, on mossy trunks, OSORIO 3684, 3688.

TACUAREMBO: Rio Tacuarembó - Pueblo del Barro, on bark, A. XIMÉNEZ 9.IV.1974 (MVM).

TREINTA Y TRES: La Charqueada, on bark, DEL PUERTO & MARCHESI 4.III.1972 (MVM).

Strigula elegans (FÉE) MÜLL. ARG.

In a recent paper (OSORIO 1970) the occurrence of this species in Uruguay was confirmed. The list of additional localities below mentioned shows an unexpected wide distribution in Uruguay.
Additional specimens examined:

ARTIGAS: Arroyo del Tigre and Rio Cuareim (near Cerro Sepulturas), on *Scutia*, A. XIMÉNEZ 20.I.1971 (MVM), on *Cupania vernalis*, A. XIMÉNEZ 20.I.1971 (MVM), on myrtaceous tree, A. XIMÉNEZ 20.I.1971 (MVM); Arroyo Tigre and Rio Uruguay (Estancia Silva y Rosas), on *Myrcianthes pungens*, DEL PUERTO & MARCHESI 5955 (MVFA, MVM).

DURAZNO: Rio Negro - Paso de las Piedras, small ravine 5 km S from Paso de las Piedras, on *Styrax leprosum*, OSORIO 6970, 6983, on *Nectandra*, OSORIO 6981, 6984.

PAYSANDU: Rio Queguay, on *Eugenia pungens*, SCHRÖDER XII. 1924 (MVM).

TREINTA Y TRES: Quebrada de los Cuervos, on *Sebastiania klotschiana*, OSORIO 5964, 5968, on *Celtis*, OSORIO 5947, on *Ocotea arechavaletae*, OSORIO 5949; Cuchilla de Dionisio - Estancia La Quebrada, on *Daphnopsis racemosa*, OSORIO 6102.b., 6136; Cuchilla de Dionisio - Estancia La Teja, on *Ilex paraguariensis*, OSORIO 6081.

Strigula nemathora MONT.

TREINTA Y TRES: Quebrada de los Cuervos, on *Daphnopsis racemosa*, OSORIO 5937; Cuchilla de Dionisio - Estancia La Quebrada, on *Daphnopsis racemosa*, OSORIO 6102.a., 6105. New to Uruguay.

Trichothelium horridulum (MÜLL. ARG.) R. SANT.

MALDONADO: Sierra de las Animas, on *Scutia buxifolia*, OSORIO 4693, on *Allophylus edulis*, OSORIO 4723.
Formerly known from Central Uruguay (OSORIO 1965).

Usnea dimorpha (MÜLL. ARG.) MOT.

DURAZNO: Rio Negro - Paso de las Piedras, on shrubs, small ravine 5 km S from Paso de las Piedras, OSORIO 6974.

LAVALLEJA: Highway 8: km 209 - Estancia Madeiros, on *Celtis tala*, OSORIO 3663 (det. J. MOTYKA), on *Acacia farnesiana*, OSORIO 3687, 3689 (det. J. MOTYKA); Highway 8 and Rio Cebollatí, on trees, A. OSORIO 8.IV.1955 (MVM).

New to Uruguay.

Usnea pinnata Räs.

RÄSÄNEN (1939) identified with this name the following collections: ROCHA: Fortaleza de Santa Teresa, HOSSEUS 66 (H); Sierra de la Carbonera, HOSSEUS 70 (H); Estancia Siete Cerros, HOSSEUS 71 (H). Duplicates of this last collection were distributed as *Gyelnik Lichenotheca parva* nr. 87 (MVM). All the above mentioned specimens were revised by the author and are typical *Usnea densirostra* TAYL.

SUMMARY

The genera *Coccocarpia*, *Ephebe*, *Leptotrema* and other 18 taxa are reported by first time for Uruguay. Additional records are given for another 10 species. *Caloplaca xanthostigmoidea*, *Parmelia rissoensis* and *Usnea pinnata* are deleted from the Uruguayan lichen flora because based on misidentifications.

LITERATURE CITED.

- HALE, M. E., JR. — 1965. A monograph of *Parmelia* subgenus *Amphigymania*. Contrib. U. S. Natl. Herb. 36: 192-358.
- HENSSEN, A. — 1963. Eine Revision der Flechtenfamilien *Lichinaceae* una *Ephebaceae*. Symb. Bot. Upsal. 18 (1): 1-123.
- MAGNUSSON, A. H. — 1950. Lichens from Uruguay. Medd. f. Göteborgs Bot. Trädg. 18: 213-237.
- OSORIO, H. S. — 1965. Contribution to the lichen flora of Uruguay. I. Additions. Comunic. Bot. Mus. Hist. Nat. Montevideo 4 (43): 1-7.
- OSORIO, H. S. — 1967. Contribution to the lichen flora of Uruguay. III. Some additional new localities. Comunic. Bot. Mus. Hist. Nat. Montevideo 4 (46): 1-10.
- OSORIO, H. S. — 1970.a. Contribution to the lichen flora of Uruguay. IV. Some lichens from northern Uruguay. Nova Hedwigia 19: 339-344.
- OSORIO, H. S. — 1970.b. Contribution to the lichen flora of Uruguay. V. Lichens from "Paso Yacaré" Salto county. Comunic. Bot. Mus. Hist. Nat. Montevideo 4 (52): 1-2.
- OSORIO, H. S. — 1971. Contribution to the lichen flora of Uruguay. VI. New records. The Bryologist 74: 375.
- OSORIO, H. S. — 1972. Contribution to the lichen flora of Uruguay. VII. A preliminary catalogue. Comunic. Bot. Mus. Hist. Nat. Montevideo 4 (56): 1-46.
- REDINGER, K. — 1936. Die Graphidineen der ersten Regnell'schen Expedition nach Brasilien. II. *Graphina* und *Phaeographina*. Ark. f. Bot. 26 A N:o 1 1-105.
- RÄSÄNEN, V. — 1939. Lichenes uruguayenses a Professore C. C. Hosseus collecti I. Borbasia 1: 124-130.

- RÄSÄNEN, V. — 1942. Beiträge zur Flechtenflora Südamerikas. II. Uruguaysche Flechten gesammelt von Dr. Phil W. G. Herter. Mit Berücksichtigung einiger Funde aus Paraguay. Rev. Sudamer. Bot. 7: 12-16.
- SANTESSON, R. — 1943. South American *Calicia* collected during the first Regnellian Expedition. Ark f. Bot. 30 A. N:o 14 1-12.
- VAINIO, E. — 1887. Monographia Cladoniarum Universalis. Pars I. Act. Soc. Fauna Flora Fennica 4: 1-509.
- VAINIO, E. — 1890. Étude sur la classification naturelle et la morphologie des lichens du Brésil. Act. Soc. Fauna Flora Fennica 7 (Pars I): 1-247.
- VARESCHI, V. — 1973. Resultados liquenológicos de excursiones efectuadas en Venezuela. No. 3. Catálogo de los líquenes de Venezuela. Act. Bot. Venezuela 8: 177-245.

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