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## CONTRIBUTION TO THE LICHEN FLORA OF BRAZIL. XXVII.

Additions and corrections to the Rio Grande do Sul  
lichen flora

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**ABSTRACT:** "*Contribution to the lichen flora of Brazil. XXVII. Additions and corrections to the Rio Grande do Sul lichen flora*". Several additions and corrections to the Rio Grande do Sul lichen flora are listed. *Caloplaca ochraceofulva* is added to the known flora of Brazil and other eight species are incorporated to the State flora.

**RESUMEN:** "*Contribución a la flora líquénica del Brasil. XXVII. Adiciones y correcciones a la flora de líquenes de Rio Grande do Sul*". Se enumeran diversas adiciones y correcciones a la flora líquénica de Rio Grande do Sul. *Caloplaca ochraceofulva* se cita por primera vez para el Brasil y otras ocho especies se incorporan a la flora del Estado.

The majority of the species here listed were gathered by the authors during one of the following projects: Plan de Ciencias del Mar (URU/82/009, PNUD/UNESCO, Uruguay) or the study of the lichen flora of the Rio Grande do Sul Highlands (partially granted by ROSTLAC/UNESCO, Uruguay).

All the species gathered in the localities of Torres and Rio Grande belong to the first project. The taxa here reported from the Municipalities of Cambara do Sul, Esmeralda and Gramado are comprised in the second study which will be carried out in the coming years.

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All the lichens collected during the two projects were divided in two identical series and deposited in the Herbarium of the Departamento de Botanica, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil (ICN) and in the private herbarium of the senior author. These specimens are identified in this paper as OF. In case of other collections made by one of the authors a detailed account of the collector and the herbarium is given.

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*Caloplaca ochraceofulva* (MÜLL. ARG.) JATTA

TORRES: Morro do Farol. 1980, OF.T/61; 1983, OF.2T/34  
Morro das Furnas. 1983, OF.2T/41.  
Morro Torre Sul. 1980, OF.T/65; 1983, OF.2T/2;  
1984, OF.3T/4, 3T/24.

This saxicolous species displays a very interesting distribution: high altitudes in Africa (ALMBORN 1987:410, KÄRNEFELT 1988:450) and NW Argentina (MALME 1926:41, as *C. subnitida*). It was recently incorporated to the flora from Uruguay (OSORIO 1989:2) but in contrast to the former records, in this country it was collected at very low altitudes and also in habitats with strong maritime influence (OSORIO loc. cit.).

According with many field observations of the authors, this species seems to be restricted to the locality of Torres in Rio Grande do Sul State. In this collection site *Caloplaca ochraceofulva* is a very important component of the local flora and grows in habitats situated in aerohalin or hygrophalin zones.

*Cladonia coniocraea* (FLOERKE) SPRENG. f. *expansa* (FLOERKE) SANDST.

LAVRAS DO SUL: Mina Vista Alegre, 1977, WINKLER s. n. (Herb. OSORIO). Already published by OSORIO and HOMRICH (1978: 452). Redetermined as *Cladonia ceratophylla* (SW.) SPRENG. by S. STENROOS 1989.

*Diploschistes actinostomus* (PERS.) ZAHLBR.

PORTO ALEGRE: Morro Santana, 1988, OF.88/5 (OSORIO & FLEIG 1988:2).

TORRES: Morro Itapeva. 1984, OF.3T/11 (OSORIO & FLEIG 1984:2).

Both collections were redetermined as *Diploschistes aeneus* (MÜLL. Arg.) LUMBSCH.

*Hypotrachyna formosana* (ZAHLBR.) HALE

GRAMADO: Parque Knorr, 850 m, on *Cupressus*. 1981, OSORIO 7916 (in herb.).

*Hypotrachyna rockii* (ZAHLBR.) HALE

GRAMADO: Parque Knorr, 850 m, on *Cupressus*. 1981, OSORIO 7929, 7951 (in herb.).

*Lobaria americana* VAIN.

GRAMADO: Lago Negro. 1981, OSORIO 7977.

Parque Knorr. 1981, OSORIO 7946, 7952.

Rua da Ferradura. 1981, OSORIO 7960.

These collection already published (OSORIO 1985:46) were redetermined by Dr. I. YOSHIMURA as *Lobaria pseudolivacea* ZAHLBR.

Additional record: CAMBARA DO SUL, Taimbezinho, 1000 m, on trunk of *Araucaria angustifolia*. 1982, OF.Ta/20, det. I. YOSHIMURA 1987.

*Lobaria tenuis* VAIN.

ESMERALDA: Estacao Ecologica Aracuri, on bark. 1982, FLEIG 1781 (ICN and Herb. OSORIO).

*Parmelina dissecta* (NYL.) HALE

GRAMADO: Parque Knorr, 850 m, on trunk of *Cupressus* 1981, OSORIO 7930 (in herb.).

*Rimelia commensurata* (HALE) HALE & FLETCHER

SAO JERONIMO: 12 km NW from Arroio dos Ratos City, on mossy bark. 1982, OSORIO 8109 (in herb.).

*Rimelia subsidiosa* (MÜLL. ARG.) HALE & FLETCHER

TORRES: Morro do Farol, 0-5 m, on rocks, S. slope, aerohaline zone, only specimen seen. 1983, OF.2T/46.

*Trypethelium tropicum* (ACH.) MÜLL. ARG.

TORRES: Lajeado. 1980, OF.T/45. Already published (OSORIO & FLEIG 1982:350). Redetermined as *Trypethelium nitidiusculum* (NYL.) HARRIS by R. HARRIS 1987.

*Xanthoparmelia hypopsila* (MÜLL. ARG.) HALE

RIO GRANDE: Piers of Barra do Rio Grande, 0-5 m, rocks in a meadow, aerohalin zone. 1985, OF.RG/5, RG/10.

*Xanthoparmelia microspora* (MÜLL. ARG.) HALE

RIO GRANDE: Piers of Barra do Rio Grande, 0-5 m, rocks in a meadow, aerohalin zone. 1985, OF.RG/9.

*Xanthoparmelia plittii* (GYELN.) HALE

TORRES: Morro do Farol, 5 m, siliceous sandstone, S end of the hill, aerohalin zone. 1983, OF.2T/29.

*Xanthoparmelia villamiliana* NASH, ELIX & JOHNSTON.

RIO GRANDE: Piers of Barra do Rio Grande, 0-5 m, on rocks in a meadow, aerohalin zone. 1985, OF.RG/8.

### Conclusions

The results of the study of these samples, at the present state of our knowledge, can be summarized as follows:

- a) *Cladonia coniocraea* f. *expansa*, *Trypethelium tropicum* and *Lobaria americana* must be deleted from Rio Grande do Sul lichen flora because they are based on misidentifications.
- b) *Caloplaca ochraceofulva* is added to the known flora of Brazil.
- c) The following taxa are recorded for Rio Grande do Sul for the first time: *Hypotrachyna formosana*, *H. rockii*, *Lobaria tenuis*, *Rimelia commensurata*, *R. subisidiosa*, *Trypethelium nitidiusculum*, *Xanthoparmelia microspora*, *X. plittii*.
- d) *Hypotrachyna formosana*, *H. rockii*, *Lobaria tenuis* and *Parmelina dissecta* are added to the known flora of Rio Grande do Sul Highlands.
- e) Seven species are incorporated to the maritime lichen flora of Rio Grande do Sul: *Caloplaca ochraceofulva*, *Diploschistes aeneus*, *Rimelia subisidiosa*, *Xanthoparmelia hypopsila*, *X. microspora*, *X. plittii* and *X. villamiliana*.

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