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

LICHENS FROM JULIO DE CASTILHOS,  
RIO GRANDE DO SUL STATE.

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ABSTRACT: *Contribution to the lichen flora of Brazil. XXXI. Lichens from Julio de Castilhos, Rio Grande do Sul State.*- Sixty-three lichens collected in the Municipality of Julio de Castilhos, are listed. Nine species are added to the known flora of the Rio Grande do Sul Highlands. *Leptogium cochleatum* is reported for Brazil for the first time.

RESUMEN: *Contribución a la flora líquénica de Brasil. XXXI. Líquenes de Julio de Castilhos, Estado de Rio Grande do Sul.*- Se enumeran sesenta y tres líquenes colectados en el Municipio de Julio de Castilhos. Nueve especies se incorporan a la flora del Planalto de Rio Grande do Sul. *Leptogium cochleatum* se cita por primera vez para el Brasil.

### Introduction

During October 1989 the authors collected lichens in two localities of the Municipality of Julio de Castilhos. The same is located in the Rio Grande do Sul Highlands at an altitude of nearly 550 m about sea level. The collections sites with reference to the Julio de Castilhos City (29°13'S - 53°40'W) are as follows:

FSL: Fazenda São Lourenzo, a farm situated in the locality named Taquarembo, 20 km S from Julio de Castilhos, along the road Santa Maria-Julio de Castilhos. We collected in some patches of forests and on rocky outcrops in pastures.

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PF : Passo de Felicio, is the name of a ford across the river Soturno, 7 km SE from Julio de Castilhos City. Collections were made in the marginal forest of the river which is almost always practically undisturbed.

With the present paper the authors continue with the long-term planned study of the lichen flora of Highlands from Rio Grande do Sul State.

The lichens gathering 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, RS, Brazil and in the private herbarium of the senior author.

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### List of species

*Antracothecium goniostomum* MÜLL. ARG.

PF: on branches of trees, 89/210a, on bark of a tree, 89:210b.

*Brigantiaea leucoxantha* (SPRENG.) R. SANT. & HAF.

FSL: on trunk of a tree, 89/145.

PF : on branches of shrubs, 89/193.

*Caloplaca crocea* (KREMP.) HAF. & POELT

FSL: on trunk of a tree, 89/159.

*Caloplaca granularis* (MÜLL. ARG.) C. SAMBO

FSL: on wooden fence post, 89/172.

*Catinaria versicolor* (FÉE) SIPMAN

FSL: on trunk of a tree, 89/149.

PF : on branches of shrubs, 89/192.

*Cladonia ceratophylla* (SW.) SPRENG.

FSL: on branches of a tree, 89/135, confirm. T. AHTI 1991.

*Cladonia peziziformis* (WITH.) LAUNDON

FSL: on soil at roadside, 89/175, det. T. AHTI 1991.

*Cladonia polycarpoides* NYL.

FSL: among rocks in a meadow, 89/174, det. T. AHTI 1991.

*Coccocarpia erythroxyli* (SPRENG.) SWINSC. & KROG

FSL: on trunk of a tree, 89/169, confirm. L. ARVIDSSON 1990.

*Coenogonium disjunctum* NYL.

FSL: on mossy bark, 89/143.

*Cryptothecia rubrocincta* (EHRENB.) THOR

FSL: on branches of a tree, 89/136.

PF : on trunk of a tree, 89/190.

*Cryptothelium octosporum* (VAIN.) ZAHLBR.FSL: on trunk of "canela" tree (*Ocotea* or *Nectandra* sp.) 89/171.

PF : on trunk of Rubiaceae, 89/197.

*Dimerella pyrophthalma* (MONT.) VEZDA

FSL: on rocks, inner part of the forest, 89/167.

*Glyphis cicatricosa* (ACH.) VAIN. f. *confluens* (ZENK.) ZAHLBR.

PF : on branches of shrubs, edge of the forest, 89/200 pr.p.

*Heterodermia diademata* (TAYL.) AWASTHI

FSL: on rocks, edge of the forest, 89/128.

*Heterodermia hypochraea* (VAIN.) SWINSC. & KROG

PF : on branches of shrubs, 89/182.

*Heterodermia japonica* (SATO) SWINSC. & KROG

FSL : on rocks, edge of the forest, 89/126.

*Heterodermia leucomelos* (L.) POELT subsp. *leucomelos*

FSL: on fallen trunk of a tree, 89/165.

*Heterodermia vulgaris* (VAIN.) FOLLM. & REDÓN

FSL: on branches of shrubs, 89/170.

PF : on branches, edge of the forest, 89/206.

*Hypotrachyna livida* (TAYL.) HALE

FSL: on shrubs, 89/152.

*Hypotrachyna minarum* (VAIN.) KROG & SWINSC.

FSL: on branches of trees, 89/153. Two reports of *Parmelina dissecta* from Gramado (OSORIO 1990:3) and Santa Maria (OSORIO & FLEIG 1989:3) were redetermined following KROG & SWINSCOW (1979) as *Hypotrachyna minarum*.

*Leptogium cochleatum* (DICKS.) P. M. JØRG. & P. JAMES

FSL: on mossy trunk of a tree, 89/148.

PF : on *Podocarpus*, 89/212. Some recent reports of *Leptogium azureum* from the Rio Grande do Sul Highlands: Gramado (OSORIO 1985:46) and São Francisco de Paula (OSORIO & FLEIG 1988:4) were redetermined by the authors as *Leptogium cochleatum*. To differentiate these two related species the authors followed: SWINSCOW & KROG (1988:128-142) and JØRGENSEN & JAMES (1983).

*Leptogium cyanescens* (ACH.) KOERB.

PF : on bark of a tree, 89/176.

- Letrouitita domingensis* (PERS.) HAF. & BELLEM.  
PF : on trunk of a tree, 89/189.
- Lobaria conformis* VAIN.  
FSL: on branches of shrubs, 89/155.
- Lobaria cuprea* (MÜLL. ARG.) ZAHLBR.  
FSL: on trunk of a tree, 89/144.  
PF : on trunk of a tree, 89/202.
- Lobaria pseudoglaberrima* ZAHLBR.  
FSL: on trunk of a tree, 89/150.  
PF : on branches, 89/191, on trunk of a tree, 89/195.
- Megalospora tuberculosa* (FÉE) SIPMAN  
FSL: on trunk of a tree, 89/141.
- Parmelina consors* (NYL.) HALE  
FSL: on trunk of a tree, 89/163.
- Parmelina muelleri* (VAIN.) HALE  
FSL: on trunk of a tree, 89/162.
- Parmelina pilosa* (STIZB.) HALE  
PF : on branches of a tree, 89/208.
- Parmotrema melanothrix* (MONT.) HALE  
PF : on branches of shrubs, edge of the forest, 89/184.
- Parmotrema rigidum* (LYNGE) HALE  
FSL: on branches of *Schinus*, edge of the forest, 89/134.  
PF : on branches of shrubs, edge of the forest, 89/183.
- Parmotrema sancti-angelii* (LYNGE) HALE  
FSL: on branches, edge of the forest, 89/137, 89/138.  
PF : on branches of shrubs, edge of the forest, 89/185.
- Parmotrema tinctorum* (NYL.) HALE  
FSL: on trunk of a tree, inner part of the forest, 89/142.
- Pertusaria pulchella* MALME  
PF : on branches of trees, 89/187.
- Phaeographina caesiopruinosa* (FÉE) MÜLL. ARG.  
PF : on branches of shrubs, edge of the forest, 89/200 pr.p.
- Phlyctis pulveracea* M. LAMB  
FSL: on branches of shrubs, 89/161.
- Phyllopsora confusa* SWINSC. & KROG  
PF : on trunk of a tree, inner part of the forest, 89/104 pr.p., 89/203 pr.p.  
det. L. BRAKO 1990.
- Phyllopsora furfuracea* (PERS.) ZAHLBR.  
FSL: 89/139. Already published by L. BRAKO (1991:47).
- Phyllopsora parvifolia* (PERS.) MÜLL. ARG. var. *parvifolia*

- PF : 89/194 pr.p., 89/203 pr.p. Already published by L. BRAKO (1991:55).
- Porina mastoidea* (ACH.) MÜLL. ARG.  
FSL: on trunk of a tree, 89/140.  
PF : on trunk of a tree, 89/204.
- Porina septemseptata* (KREMP.) ZAHLBR.  
PF : on *Podocarpus*, 89/211.
- Pseudocyphellaria aurata* (ACH.) VAIN.  
FSL: on mossy trunk of a tree, 89/147.  
PF : on branches of trees, 89/207.
- Pseudocyphellaria clathrata* (DE NOT.) MALME  
FSL: on trunk of a tree, 89/146.
- Pseudoparmelia caroliniana* (NYL.) HALE  
FSL: on branches of a tree, 89/151.
- Pseudoparmelia papillosa* (LYNGE EX GYELN.) HALE  
FSL: on rocks, edge of the forest, 89/124.
- Pseudoparmelia texana* (TUCK.) HALE  
FSL: on rocks, edge of the forest, 89/130.
- Punctelia microsticta* (MÜLL. ARG.) HALE  
FSL: on rocks, edge of the forest, 89/127.
- Ramalina celastri* (SPRENG.) KROG & SWINSC.  
FSL: on branches of *Schinus*, 89/132.  
PF : on shrubs, edge of the forest, 89/180.
- Ramalina peruviana* ACH.  
PF : on shrubs, edge of the forest, 89/199.
- Ramalina sprengelii* KROG & SWINSC.  
PF : on branches, edge of the forest, 89/179.
- Rimelia homotoma* (NYL.) HALE & FLETCHER  
FSL: on branches of trees, edge of the forest, 89/160.
- Rimeliella subtinctoria* (ZAHLBR.) KUROK.  
FSL: on rocks, edge of the forest, 89/129.
- Sticta variabilis* (BORY) ACH.  
PF : on trunk of a tree, inner part of the forest, 89/201.
- Sticta weigelii* (ACH.) VAIN.  
PF : on trunk of a tree, inner part of the forest, 89/198.
- Teloschistes exilis* (MICHX.) VAIN.  
FSL: on branches of shrubs, 89/131, on rocks, edge of the forest, 89/156.  
PF : on branches of shrubs, edge of the forest, 89/177.
- Trypethelium ochroleucum* (ESCHW.) NYL.  
PF : on branches of shrubs, edge of the forest, 89/200 pr.p.
- Usnea poliotrix* KREMP.

- FSL: on branches of *Schinus*, 89/133.  
*Usnea sulcata* MOT. var. *neutra* MOT.  
 PF : on branches, edge of the forest, 89/181.  
*Usnea sulcata* MOT. var. *sulcata*  
 PF : on branches, edge of the forest, 89/178.  
*Xanthoparmelia hypopsila* (MÜLL. ARG.) HALE  
 FSL: on rocks in a pasture, 89/158.  
*Xanthoparmelia ulcerosa* (Z AHLBR.) HALE  
 FSL: on rocks, edge of the forest, 89/125.

### Results

The Municipality of Julio de Castilhos was unknown from the lichenological point of view. The two species of *Phyllopsora* recently published by BRAKO (1991: 47 & 55) were gathered during the authors' field trip.

The following species are added to the known flora of the Rio Grande do Sul Highlands: *Cladonia peziziformis*, *Cl. polycarpoides*, *Coenogonium disjunctum*, *Heterodermia japonica*, *Leptogium cochleatum*, *Phyllopsora confusa*, *Porina septemseptata*, *Rimelia homotoma*, *Xanthoparmelia ulcerosa*.

Two species: *Leptogium azureum* and *Parmelina dissecta* should be deleted from the Rio Grande do Sul Highlands flora because they are based on misidentifications.

*Leptogium cochleatum* is added to the known flora of Brazil.

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