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CONTRIBUTION TO THE LICHEN FLORA OF BRAZIL XVIII.

Lichens from Itaimbezinho, Rio Grande do Sul State.

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ABSTRACT: "Contribution to the lichen flora of Brazil. XVIII. Lichens from Itaimbezinho, Rio Grande do Sul State". Thirty lichen species collected in Rio Grande do Sul Highlands, Brazil are listed. *Haematomma montevidense* is added to the known flora of Brazil. Another four species are new State records.

RESUMEN: "Contribución a la flora líquénica de Brasil. XVIII. Líquenes de Itaimbezinho, Estado de Rio Grande do Sul". Se enumeran treinta especies de líquenes colectadas en el Planalto de Rio Grande do Sul, Brasil. *Haematomma montevidense* se cita por primera vez para Brasil. Otras cuatro especies son nuevos registros para el Estado.

With the present paper the authors continue with the long term planned study of the lichen flora of the Rio Grande do Sul Highlands (Planalto Riograndense in Portuguese language). They are located in the northern region of this State with the highest elevation, about 1000 m, in the northeastern corner. The area occupied can be estimated in about 150.000 sq km and it is largely covered with *Araucaria angustifolia* forests. Floristic information about the *Araucaria* forests have been already published by LÖTSCHERT (1981) and RAMBO (1956).

In the first papers dealing with the lichen flora of this region (FLEIG 1984, OSORIO 1985, OSORIO and FLEIG 1986) the authors have emphasized about the very poor knowledge which exists on this matter.

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MALME (1897 : 6, 1904 : 106) during the REGNELL Expeditions collected in Cruz Alta and Ijuhy in the westernmost region of the Highlands. ZAHLBRUCKNER (1908) published a small collection from Elsenau, Neu-Württemberg (at present Municipality of Panambi) and OSORIO and ARBELO MARTINS (1980) added three species to the known flora of the region. Finally SCHELL and WINKLER (1981) listed foliicolous lichens from three different localities of the Highlands.

The species below listed were gathered by the authors in the Municipality of Cambara do Sul in the locality named Itaim-bezinho with an elevation almost 1000 m high. This place, also named Taimbezinho on many maps and literature records, is well known from a touristical point of view owing the large canyons system several hundreds meters deep.

Due to the time available, only a morning, the authors gathered lichens in the *Araucaria* forest and in the rocky outcrops which border a small unnamed water stream near the hotel.

The canyons system which spreads along many square kilometers and undoubtedly must lodge an interesting lichen flora could not be visited in this opportunity. In case a species collected by the authors is already reported from the Highlands, this fact is pointed out. For the species which are reported for the first time for this region, information about the distribution in the remaining parts of the State is given.

Two identical series were made with the lichens gathered and deposited in the Herbarium of the Departamento de Botânica, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brasil and in the private herbarium of the senior author.

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Brigantiaea leucoxantha (SPRENG.) R. SANT. & HAF. On trunk of Myrtaceae, Ta/22. Already known from Cruz Alta (MALME 1940 : 25), Gramado (OSORIO 1985 : 44) and Ijuhy (MALME 1940 : 25).

Cetrariastrum cirrhatum (E. FR.) W. CULB. & CH. CULB. On trunk of a tree, Ta/25, on rocks, edge of a small forest, Ta/29, on fence of rocks, banks of a brook, Ta/31. Already reported for this Municipality (FLEIG 1985 : 84). Surprisingly no species of this genus are reported from the large MALME collection (LYNGE 1913/14). It is locally common

and possibly with a large distribution in the Highlands. CULBERSON and CULBERSON (1981 : 285) only quoted one collection from Brazil but this species is undercollected surely.

Cetrariastrum vexans (ZAHLEB.) ex W. CULB. & CH. CULB. On trunk of a tree in the forest, Ta/15. Already reported for this Municipality (FLEIG 1985 : 84).

Chiodecton sanguineum (SW.) VAIN. On trunk of a tree, Ta/26. Formerly known from: Gramado (OSORIO 1985 : 44), Ijuhy (MALME 1940 : 14) and Panambi (ZAHLEBRUCKNER 1908 : 460).

Cladia aggregata (SW.) NYL. On fence of rocks, banks of a brook, vid. T. AHTI, Ta/3, on rotten trunk in a meadow, Ta/38. Already reported from Gramado (OSORIO 1985 : 44).

Cladina confusa (R. SANT.) FOLLM. & AHTI. On soil, among grasses, locally common, vid. T. AHTI, Ta/37a, Ta/40. The occurrence of this species in Rio Grande do Sul State was recently confirmed through collections gathered in this same Municipality (OSORIO and ARBELO MARTINS 1980 : 229).

Cladonia bacillaris NYL. On stump of a tree, det. T. AHTI, Ta/30. Recorded for the State for the first time.

Cladonia crispatula (NYL.) AHTI. On soil, among grasses, det. T. AHTI, Ta/37b, Ta/39. Recorded for the State for the first time.

Cladonia miniata MEY. var. *sorediella* (VAIN.) VAIN. On burnt trunk, vid. T. AHTI, Ta/35. Formerly known through one collection gathered in the SE of the Central Lowlands (OSORIO 1981 : 73).

Coccocarpia erythroxyli (SPRENG.) SWINSC. & KROG. On trunk of a tree, very few specimens, Ta/19. ARVIDSSON (1982 : 62) did not quote this species for Rio Grande do Sul. In a former paper (MALME : 1926) species and varieties of this genus are largely misinterpreted. Therefore it is a very difficult, at present, to give an idea about the State distribution but this genus is surely undercollected.

Cora pavonia (SW.) FR. On soil, along a road, locally common, Ta/1, Ta/14, epiphytic on branch of a tree (1.5 m high from the ground) along a road, associated with bryophytes, Ta/32. Already reported from Gramado (OSORIO 1985 : 45). According with field observations of the authors this species is largely distributed in the Highlands.

- Diploschistes actinostomus* (PERS.) ZAHLBR. On rocks, banks of a brook, Ta/9. Formerly known from the Central Lowlands (MALME 1940 : 15, OSORIO & HOMRICH 1978 : 452) and from the oceanic coast (OSORIO & FLEIG 1984b : 3).
- Haematomma montevidense* (RÄS.) FOLLM. & RUD. On rocks, banks of a brook, Ta/5. Recorded for Brazil for the first time.
- Heterodermia leucomela* (L.) PÖELT subsp. *boryi* (FÉE) SWINSC. & KRÖG. On trunk of a tree, banks of a brook, Ta/33. Already reported from Gramado (OSORIO 1985 : 45).
- Heterodermia obscurata* (NYL.) TREVIS. On trunk of a tree, Ta/28. Already reported from Gramado (OSORIO 1985 : 46).
- Lecanora farinacea* FÉE. On rocks, banks of a brook, Ta/7. IMSHAUG (1966 : 37) quoted two MALME collections out of the Highlands, OSORIO and HOMRICH (1978 : 453) listed another collection from the Central Lowlands. It is also reported from the oceanic coast (OSORIO & FLEIG 1984a : 276, 1984b : 3). Speaking about the ecology of this species IMSHAUG (1966 : 37 and 52) stated that it is corticolous in this southern and northern-most records and saxicolous in the central region of its range. We disagree with this affirmations, at least in the S limit, because the senior author gathered a large number of saxicolous specimens in Uruguay and no one growing on bark. The southernmost recorded of this species in South America: Argentina, Buenos Aires Prov., Sierra de la Ventana (OSORIO, unpublished record) is also collected growing on rock.
- Lecidea oreinodes* (KOERB.) WEB. & HERTEL. On rocks, banks of a brook, Ta/8. All the literature records of this species are based on specimens gathered in the Central Lowlands or on the oceanic coast: MALME 1936 : 11, OSORIO, AGUIAR and HOMRICH 1981 : 80, OSORIO and FLEIG 1984a : 277; 1984b : 7, OSORIO and HOMRICH 1978 : 453.
- Lecidea russula* ACH. On rocks, banks of a brook, Ta/4. This species was collected by several authors in a large number of localities, which are omitted here, but always situated in the Central Lowlands or on the oceanic coast.
- Lobaria pseudoglaberrima* ZAHLBR. On trunk of a tree, inner part of the forest, Ta/11. Already reported from Cruz Alta (MALME 1935 : 7), Dois Irmaos (OSORIO, AGUIAR and

- HOMRICH 1981 : 80), Gramado (OSORIO 1985 : 46), Ijuhy (MALME 1935 : 7) and Panambi (ZAHLEBRUCKNER 1908 : 462).
- Megalospora sulphurata* MEY. var. *sulphurata*. On trunk of Myrtaceae, Ta/23. Formerly known from Gramado (OSORIO 1985 : 46) and Ijuhy (MALME 1924 : 5).
- Parmotrema cetratum* (ACH.) HALE. On trunk of a tree, Ta/21. Formerly known from Gramado (OSORIO 1985 : 47) and Panambi (ZAHLEBRUCKNER 1908 : 464).
- Peltigera austroamericana* ZAHLEBR. On soil, among grasses, Ta/41. Reported for the State for the first time.
- Pseudocyphellaria aurata* (ACH.) VAIN. On trunk of a tree, along the road, Ta/17. Already reported from Gramado (OSORIO 1985 : 47).
- Pseudocyphellaria clathrata* (DENOT.) MALME. On tree, marginal forest of a brook, Ta/10. Already known from: Cruz Alta (MALME 1935 : 9) and Panambi (ZAHLEBRUCKNER 1908 : 462).
- Ramalina usnea* (L.) HOWE. On trunk of *Araucaria angustifolia*, Ta/18, on branches of trees, banks of a brook, Ta/34. This species, as *Lecidea russula*, is largely distributed in the State but all the collections sites known by the authors are located in the Central Lowlands or on the oceanic coast. In the Highlands this species together with *Tillandsia usneoides* and some large filamentous *Usneae* integrate the epiphytic pendulous flora of *Araucaria angustifolia* very well illustrated by LÖSCHERT (1981 : figs. 2 and 5).
- Stereocaulon ramulosum* (SW.) RÄUSCH. On rocks, banks of a brook, locally common, Ta/1. Already reported from Canela (OSORIO and ARBELO MARTINS 1981 : 230).
- Teloschistes flavicans* (SW.) NORM. On trunk of a tree, Ta/16. Already reported from Gramado (OSORIO 1985 : 48) and Panambi (ZAHLEBRUCKNER 1980 : 468).
- Tephromela atra* (HUDS.) HAF. On rocks, banks of a brook, Ta/6. Reported for the State for the first time.
- Trypethelium ochroleucum* NYL. On trunk of a tree, Ta/27. Formerly known from collection sites located in the central Lowlands on in the vicinity of the oceanic coast: MALME 1925 : 28, OSORIO 1981 : 75, OSORIO and FLEIG 1982 : 350.

Usnea densirostra TAYL. On rocks, banks of a brook, locally common, Ta/2. MOTYKA (1936/38 : 316) listed five collections gathered in the Central Lowlands. Three additional records published in a recent date are also located in this region: OSORIO 1981 : 75, OSORIO, AGUIAR and HOMRICH 1981 : 81, OSORIO and HOMRICH 1978 : 453.

COMMENTS

The results obtained from the study of this small collection can be summarized as follows:

Haematomma montevidense is added to the known flora of Brazil.

The following four species are new State records: *Cladonia bacillaris*, *Cl. crispatula*, *Peltigera austroamericana* and *Tephromela atra*.

Moreover, nine other species are recorded for the Highlands for the first time.

The results here mentioned show the poor knowledge existing of this region and the very large possibilities which could be obtained from the study of its lichen flora.

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