
New lichen species and records from Santa Catarina and Rio Grande do Sul, Brazil

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Abstract: Six species of lichens are described as new from Santa Catarina and Rio Grande do Sul (Brazil): *Astrothelium aureoirregulare* Aptroot & Gumboski, *Bogoriella xantholateralis* Aptroot, *Lecanora umbilicatimmersa* Aptroot & Spielmann, *Lepra lichexanthonorstictica* Aptroot, *Megalaria flavosorediata* Aptroot and *Vainionora sorediata* Aptroot. Moreover, 28 further species are reported which are first records for Brazil; and a further 166 are first records for Santa Catarina and 104 for Rio Grande do Sul.

Introduction

Rio Grande do Sul is the state in Brazil in which the lichen flora is best known (Spielmann 2006). Santa Catarina is also relatively well explored in some environments. However, recent work focused on macrolichens; microlichens were only systematically investigated in the earlier days of exploration, reported mainly by Malme and Redinger. In 2019, we made several joint excursions in these two states, where we visited mostly localities that were previously visited by one of us but which were not exhaustively sampled, or areas where Malme collected. One purpose was to collect topotypes for his species. That was in part successful, but will not be discussed here. During these trips, we came across many additional records for these states, and some undescribed species, which are described below.

Material and methods

During three weeks in March, April and July 2019, specimens were collected by the authors, using knife or hammer and chisel, examined by 10× hand lens (Leuchtlupe with UV) and air-dried. Specimens were often selected in the field as representative of a known species or a characteristic morphology; in addition, a selection of species that cannot be recognized in the field was collected. All

specimens are preserved in herbarium CGMS, with some duplicates in ABL (mainly isotypes).

Specimens were observed with an Olympus SZX7 and pictures taken with Nikon Coolpix 995. Hand-made sections of ascomata and thallus were studied in water, 5% KOH (K) and/or Lugol's reagent (1% I₂) after pre-treatment with KOH (IKI). Microscopic photographs were prepared using an Olympus BX50 with Nomarski interference contrast and Nikon Coolpix 995. Chemical spot reactions are abbreviated as K (5% KOH), C (commercial bleach), KC (K followed by C), P (paraphenylenediamine), and UV refers to fluorescence at 366 nm. Thin-layer chromatography (Orange et al. 2001) has been undertaken by A. Aptroot in solvent A.

Results

Somewhat to our surprise, many of the species were first records for the states; we expected to find mostly species that were already recorded by Malme. Among the species are several that were so far only known from the Amazon and/or the Atlantic Rain Forest or Caatinga in north-western Brazil, showing that many recently described species are more widespread than originally known. As many as 28 species seem to be first reports for Brazil (Table 1), and a further 166 are new to Santa Catarina and 104 are first records for Rio Grande do Sul.

New species

Astrothelium aureoirregulare Aptroot & Gumboski, sp. nov.

Fig. 1

MYCOBANK MB 838872

Corticolous *Astrothelium* with thallus olivaceous, subcortical layer UV+ golden yellow, ascomata solitary, ostioles excentric, hamathecium heavily inspersed, and ascospores 4–8/ascus, muriform, 130–151 × 30–37 μm, without thickened middle septum.

TYPE: BRAZIL. SANTA CATARINA: Urubici, near Pedra Furada State Park, alt. 1400 m, 28°04'16"S, 49°30'41"W, on bark, 19 July 2019, A.Aptroot 79696 (holotype: CGMS; isotype: ABL); same details, 79670 & 79692 (paratype: CGMS).

Description. Thallus bullate, often slightly glossy, deep olivaceous green, very variably 2–6 mm thick, not surrounded by a prothallus. Ascomata globose, 1.0–1.7 mm diam., fully immersed in the thallus, not in pseudostromata. Ostioles excentric, single, brown, c. 0.1 mm diam. Hamathecium heavily hyaline inspersed. Ascospores 4–8/ascus, hyaline, muriform, 130–151 × 30–37 μm, without

thickened middle septum, long-ellipsoid, lumina irregularly diamond-shaped, not surrounded by a gelatinous sheath. Pycnidia not observed.

Chemistry. Thallus patchily UV+ golden yellow due to a reflection of the subcortical layer, C–, P–, K–. TLC: lichexanthone.

Etymology. Named for the golden yellow UV-reaction and the similarity to *Astrothelium irregulare* (Müll. Arg.) Aptroot & Lücking.

Ecology and distribution. On tree bark in Atlantic Rain Forest, locally abundant; only known from Brazil.

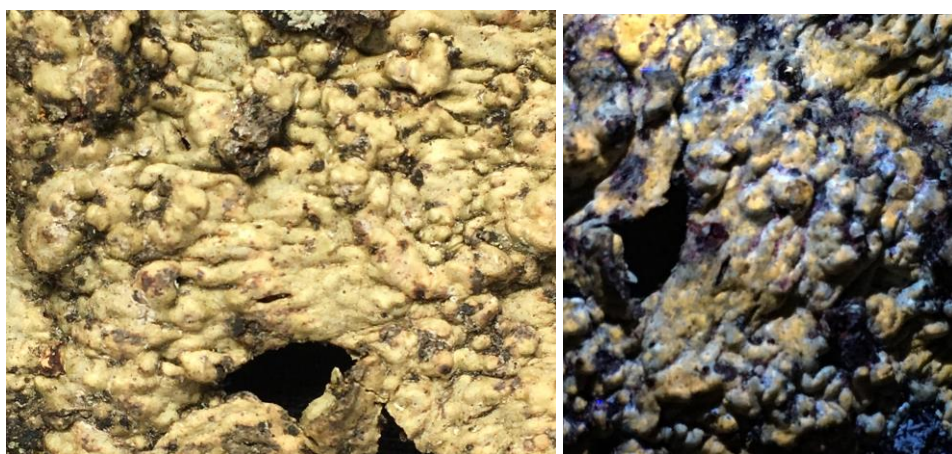


Fig. 1. *Astrothelium aureoirregulare*, isotype, habitus. Left in daylight, right under 365 nm UV light. Width of pictures: left 30 mm, right 19 mm.

Discussion. This species differs from *Astrothelium irregulare* (Müll. Arg.) Aptroot & Lücking, which was described from the same region, mostly in the presence of lichexanthone in a layer below the thallus cortex. It would key out as follows in the world key by Aptroot & Lücking (2016): Group 7, couplet 4. The species is similar to *A. carrascoense* Flakus, Kukwa & Aptroot, but the ascomata are fully immersed in the thalus.

Bogoriella xantholateralis Aptroot, sp. nov.

Fig. 2

MYCOBANK MB 838873

Corticolous *Bogoriella* with thallus whitish, patchily UV+ yellow, ascomata solitary, ostioles lateral, hamathecium not interspersed, and ascospores 1-septate, 27–36 × 8–11 μm.

TYPE: BRAZIL. SANTA CATARINA: São Bento do Sul, APA Rio Vermelho, alt. 900 m, 26°15'10"S, 49°16'19"W, on bark, 1 April 2019, A.Aptroot 78807 (holotype: CGMS; isotype: ABL); same details, E.L.Gumboski 5791 & 5832 (paratypes: JOI).

Description. Thallus dull, whitish, up to 5 cm diam., surrounded by a black, c. 0.4 mm wide prothallus line. Ascomata single, pyriform, 0.3–0.6 mm diam., mostly superficial on the thallus. Ostioles lateral, black. Hamathecium not interspersed, richly anastomosing, filaments c. 1 µm wide. Ascospores 8/ascus, uniseriate, brown, 1-septate, 27–36 × 8–11 µm, long-ellipsoid, roughly ornamented with warts of c. 1 µm diam., not surrounded by a gelatinous sheath. Pycnidia not observed.

Chemistry. Thallus patchily UV+ yellow, C–, P–, K–. TLC: lichexanthone.

Etymology. Named for the yellow UV reaction of the thallus and the lateral ostioles.

Ecology and distribution. On tree bark in Atlantic Rain Forest; only known from Brazil.

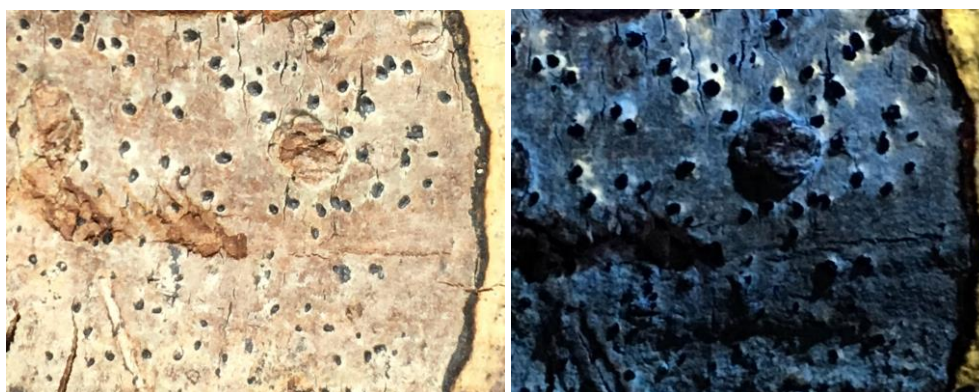


Fig. 2. *Bogoriella xantholateralis*, isotype, habitus. Left in daylight, right under 365 nm UV light. Width of pictures 25 mm.

Discussion. There is currently only one other species of *Bogoriella* Zahlbr., with lateral ostioles, viz. *B. triangularis* Aptroot (only known from the type from Puerto Rico), because *B. lateralis* Sipman has recently been transferred to *Pseudobogoriella* Lücking, R. Miranda & Aptroot, as *P. lateralis* (Sipman) Lücking, R. Miranda & Aptroot (Hongsanan et al. 2020). Neither contain lichexanthone (we double-checked the type specimens). This species would key out as follows in the world key by Aptroot & Lücking (2016): couplet 8: thallus patchily UV+ yellow.

Lecanora umbilicatimmersa Aptroot & Spielmann, sp. nov.

Fig. 3

MYCOBANK MB 838875

Saxicolous *Lecanora* with thallus very pale ochraceous, thick, superficial, almost peltate to umbilicate, apothecia flush with the thallus, dark brown, without discernable margin, ascospores $9.5\text{--}10.5 \times 5.5\text{--}6.5 \mu\text{m}$.

TYPE: BRAZIL. RIO GRANDE DO SUL: Cangaçu, Baixada do Rodeio, Rio Pantanoso, alt. 260 m, $31^{\circ}14'20''\text{S}$, $52^{\circ}43'57''\text{W}$, on siliceous rock along river, 16 July 2019, A.Aptroot 79408 (holotype: CGMS; isotype: ABL); same details, E.L.Gumboski 6122 (paratype: JOI).

Description. Thallus saxicolous, crustose to almost peltate to umbilicate or turbinate, up to 7 mm wide, 0.4–0.7 mm thick, dull, smooth, very pale ochraceous, without prothallus, margins convex, of thallus colour, surface towards the margins rugulose. Apothecia, flush with the thallus, initially round but later fusing into inkspot-like patches, 0.3–1.4 mm diam, disc dark brown, margin not discernable from above, in section similar to epihymenium. Epihymenium brown, without crystals. Ascospores hyaline, $9.5\text{--}10.5 \times 5.5\text{--}6.5 \mu\text{m}$, ellipsoid, wall c. 1 μm thick. Pycnidia not observed.

Chemistry. Thallus UV–, C–, P+ yellow, K+ yellow. TLC: atranorin.

Etymology. Named after the almost umbilicate thallus and the immersed apothecia.

Ecology and Distribution. On exposed siliceous rock along stream in Atlantic rain Forest; only known from Brazil.

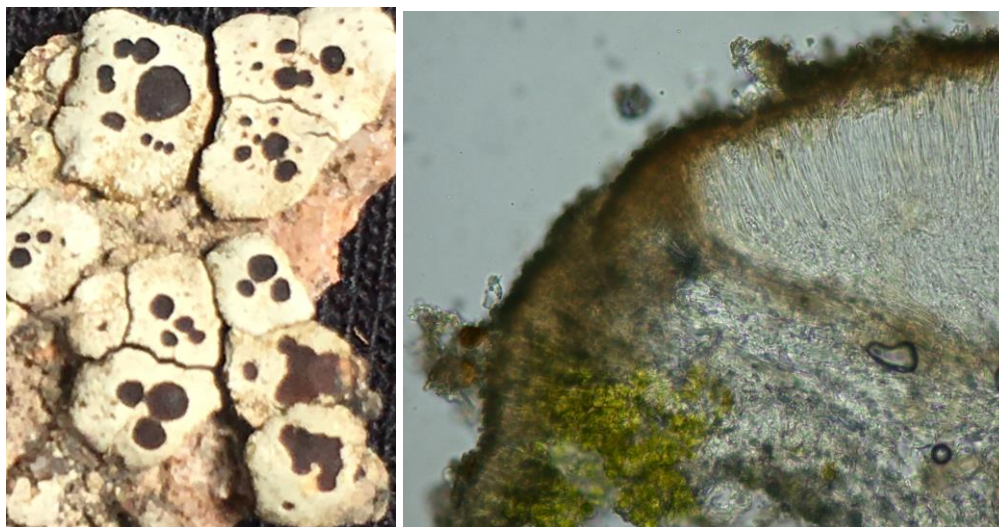


Fig. 3. *Lecanora umblicatimmersa*, isotype. Left: Habitus. Right: Section through margin of an apothecium. Width of pictures: Left 16 mm, right 150 μ m.

Discussion. This belongs to the *Lecanora marginata* (Schaer.) Hertel & Rambold group. Only one described species seems close however, viz. *Lecanora oreinodes* (Körb.) Hertel & Rambold (Rambold 1989), which differs by the thinner, flush areoles and the black apothecia.

Additional specimen examined: BRAZIL. RIO GRANDE DO SUL: Boqueirão do Leão. Linha Sinimbuzinho, Perau da Nega, alt. 700 m, 28°57'38,7"S, 52°38'53,9"W, on siliceous rock, 22 February 2004, A.A. Spielmann, C. Wetzel & D. Krise s.n. (CGMS).

Lepra lichexanthonorstictica Aptroot, sp. nov.

Fig. 4

MYCOBANK MB 838876

Corticolous *Lepra* with thallus with discrete soralia, containing lichexanthere and norstictic acid.

TYPE: BRAZIL. SANTA CATARINA: Garuva, Quiriri, summit area, alt. 1350 m, 26°01'22"S, 48°58'07"W, on *Pinus* bark, 30 March 2019, A.Aptroot 78610 (holotype: CGMS; isotype: ABL).

Description. Thallus crustose, corticolous, smooth and somewhat glossy, whitish to very pale ochraceous, thin, without prothallus. Soralia round, discrete, raised, sessile, originating in apothecium initials, c. 0.5-0.9 mm diam., externally

granular to partly corticate, internally filled with farinose soredia, without hymenia, of thallus colour or usually more pronounced ochraceous. Apothecia and pycnidia not observed.



Fig. 4. *Lepra lichexanthonorstictica*, isotype, habitus. Width of pictures 30 mm.

Chemistry. Thallus UV+ yellow, C–, P–, K+ yellow>red. TLC: lichexanthone and norstictic acid.

Etymology. Named after the chemistry: lichexanthone and norstictic acid.

Ecology and Distribution. On exposed pine tree on mountain top; only known from Brazil.

Discussion. The genus *Lepra* Scop. is now (Hafellner & Türk 2016) accepted for the *Pertusaria*-like species with discrete soralia. This species is characterized by the combination of two chemical substances: lichexanthone and norstictic acid.

Megalaria flavosorediata Aptroot, sp. nov.

Fig. 5

MYCOBANK MB 838877

Corticolous *Megalaria* with thallus mostly sorediate, yellowish green, apothecia with black flat disc and yellow margin, hymenium densely finely inspersed, epihymenium with purplish black non-crystalline granules, ascospores 1-septate, 14–20 × 4–6 μm.

TYPE: BRAZIL. SANTA CATARINA: Rio Negrinho, Rio Preto, Fazenda Velha, alt. 800 m, 26°17'57"S, 49°37'24"W, on *Araucaria* bark, 31 March 2019, A.Aptroot 78757 (holotype: CGMS; isotype: ABL).

Description. Thallus crustose, corticolous, dull, whitish, thin, hyphal, surrounded by a c. 0.5 mm wide black hyphal prothallus line. Soredia covering much of the thallus, farinose, in irregular soralia of c. 0.3 mm thickness, yellowish green. Apothecia, sessile, round, 0.3–1.4 mm diam.; disc flat, black; margin pale yellow, c. 0.1 mm wide. Hymenium densely finely inspersed, 60–75 μm high; filaments irregularly arranged, branched, c. 1.5 μm wide. Epithymenium with purplish black non-crystalline granules. Excipulum and hypothecium bright yellow, with c. 3 μm wide loose hyphae which are densely encrusted with small crystals; outside of the excipulum grey. Subhymenium mottled purple black and pale violet. Ascospores hyaline, symmetrically 1-septate, 14–20 \times 4–6 μm , ellipsoid. Pycnidia not observed.

Chemistry. Thallus UV–, C–, P–, K+ yellow. TLC: atranorin, zeorin and a yellow pigment (probably an emodin derivate).

Etymology. Named after the yellow soredia.



Fig. 5. *Megalaria flavosorediata*, holotype, habitus. Width of picture 20 mm.

Ecology and Distribution. On sheltered tree bark in Atlantic Rain Forest; only known from Brazil.

Discussion. This genus was traditionally restricted to a handful temperate species. The concept of the genus has recently been widened (Fryday & Lendemer 2010) to include also tropical species, that had been put in the genus *Catillochroma* Kalb by Kalb (2007). It differs from all accepted species in either genus by the combination of yellowish soralia and a yellow apothecium margin; as the only other sorediate *Megalaria* species, *M. pulverea* (Borrer) Hafellner & E. Schreiner, has a pale subhymenium and no yellow apothecium margin. The yellow apothecium margin is said to be an inconstant character in *M. endochroma* (Fée) Fryday & Lendemer though (Kalb 2007).

Vainionora soredata Aptroot, sp. nov.

Fig. 6

MYCOBANK MB 838878

Corticolous *Vainionora* with thallus whitish with ochraceous soredia, apothecia sessile, with black disc and sorediate margin, epihymenium pale lilac, dissolving in K, hymenium blue above, hyaline below, in K diluted greenish grey, hypothecium fuscous brown, unchanged in K, ascospores $15\text{--}17.5 \times 7\text{--}8 \mu\text{m}$.

TYPE: BRAZIL. SANTA CATARINA: Garuva, Quiriri, summit area, alt. 1350 m, $26^{\circ}01'22''\text{S}$, $48^{\circ}58'07''\text{W}$, on *Pinus* bark, 30 March 2019, A.Aptroot 78587 (holotype: CGMS; isotype: ABL).

Description. Thallus crustose, whitish to pale ochraceous grey, continuous, somewhat glossy, c. 0.1 mm thick. Prothallus a black c. 0.1 mm wide line. Soredia granular, ochraceous, in diffuse groups obscuring most of the thallus. Photobiont a unicellular green alga, arranged in diffuselayer. Apothecia sparse, sessile, roundish. Disk black, 0.3–1.2 mm in diam., flat, epruinose. Thalline exciple concolorous with the soredia, c. 0.2 mm wide, raised above the level of the disk, almost completely covered by soredia. Proper excipulum thickest at the base, becoming thinner at the edges, hyaline. Exciple with crystals that after treatment with K partly dissolve. Hymenium c. 70–100 μm thick, blue above, hyaline below, in K diluted greenish grey. Subhymenium c. 50–70 μm thick, hyaline. Epihymenium pale lilac, dissolving in K. Paraphyses simple, septate, 2–3 μm wide, with 3–5 μm wide hyaline apical cells, surrounded by lilac pigmented gel. Hypothecium 70–100 μm thick, fuscous brown, unchanged in K. Asci slightly clavate, 70–85 μm tall, 8-spored. Ascospores simple, hyaline, ellipsoid, $15\text{--}17.5 \times 7\text{--}8 \mu\text{m}$. Pycnidia not observed.



Fig. 6. *Vainionora sorediata*, holotype, habitus. Width of pictures 25 mm.

Chemistry. Thallus UV–, C–, P–, K+ yellow. TLC: atranorin and (probably) confluent acid.

Etymology. Named after the soredia.

Ecology and Distribution. On exposed pine tree on mountain top; only known from Brazil.

Discussion. *Vainionora* is a small genus with ten described species, although several species described in the genus *Lecanora* probably belong there too (Lumbsch et al. 1996). This is only the second corticolous species in the genus *Vainionora* with soredia. *Vainionora aemulans* (Vain.) Kalb differs by the thicker thallus, coarser soredia, presence of xanthone and apothecium margins that are not completely covered by soredia.

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Table 1. Lichen species new to Brazil (BR), Santa Catarina (SC) or Rio Grande do Sul (RS), with Aptroot collection, substrate, and locality

Details localities:

Joinville, Nascentes Divinas	SC	29/03/2019	26° 12' 43" S	49° 00' 11" W	225 m
Garuva, Quiriri, slope	SC	30/03/2019	26° 01' S	48° 59' W	1000 m
Garuva, Quiriri, summit	SC	30/03/2019	26° 01' 22" S	48° 58' 07" W	1350 m
Rio Negrinho, Rio Preto	SC	31/03/2019	26° 17' 57" S	49° 37' 24" W	800 m
São Bento do Sul, Rio Vermelho	SC	01/04/2019	26° 15' 23" S	49° 16' 49" W	965 m
São Bento do Sul, Rugendas	SC	01/04/2019	26° 19' 24" S	49° 18' 26" W	640 m
Antônio Prado, along RS122	SC	14/07/2019	28°52'34"S	51°13'15"W	740 m
Santa Cecília, along BR116	SC	14/07/2019	27°04'11"S	50°25'45"W	1025 m
Agudo, Cascata Raddatz	RS	15/07/2019	29°35'12"S	53°10'49"W	250 m
Candelária, Cerro Botucarái	RS	15/07/2019	29°42'42"S	52°50'36"W	290 m
Santa Cruz do Sul, Parque	RS	15/07/2019	29°43'34"S	52°24'55"W	140 m
Canguçu, Baixada do Rodeio	RS	16/07/2019	31°14'20"S	52°43'57"W	260 m
Canguçu, Florida	RS	16/07/2019	31°04'38"S	52°37'28"W	245 m
Piratini, Parque Municipal	RS	16/07/2019	31°27'01"S	53°07'25"W	280 m
Pelotas, Praia do Laranjal	RS	17/07/2019	31°45'15"S	52°13'37"W	5 m
Piratini, Cerro do Sandi	RS	17/07/2019	31°29'01"S	53°11'52"W	450 m
Piratini, Cerro do Ubaldo	RS	17/07/2019	31°30'37"S	53°06'42"W	390 m
Pelotas, Cascata, BR-392, Km 89	RS	18/07/2019	31°36'33"S	52°30'50"W	225 m
Rio Pardo, Baln. S. Vitória	RS	18/07/2019	30°00'28"S	52°23'19"W	20 m
Urubici, near Pedra Furada	SC	19/07/2019	28°04'16"S	49°30'41"W	1400 m

new	name	no	from	locality
BR	<i>Acarospora scabrida</i> Hedl. ex H. Magn.	78626	rock	Garuva, Quiriri, summit
SC	<i>Actinoplaca strigulacea</i> Müll. Arg.	78778z	leaves	São Bento do Sul, Rugendas
SC	<i>Agonimia tenuiloba</i> Aptroot & M. Cáceres	78504	wood	Joinville, Nascentes Divinas
RS	<i>Agonimia tristicula</i> (Nyl.) Zahlbr.	79570	bark	Pelotas, Cascata
SC	<i>Allographa oryzaeformis</i> (Fée) Lücking & Kalb	78811	bark	São Bento do Sul, Rio Vermelho
SC	<i>Allographa phaeospora</i> (Vain.) Lücking & Kalb	78616a	detritus	Garuva, Quiriri, summit
SC	<i>Anisomeridium adnexum</i> (Müll. Arg.) R.C. Harris	78561	bark	Garuva, Quiriri, slope
RS	<i>Anisomeridium anislobum</i> (Müll. Arg.) Aptroot	79582	bark	Pelotas, Cascata
SC	<i>Anisomeridium subnectendum</i> (Nyl.) R.C. Harris	78795	bark	São Bento do Sul, Rugendas
SC	<i>Anthracotheium prasinum</i> (Eschw.) R.C. Harris	78641	bark	Rio Negrinho, Rio Preto
SC	<i>Architrypethelium lauropaluanum</i> Lücking, M.P. Nelsen & Marcelli	78470	bark	Joinville, Nascentes Divinas
RS	<i>Arthonia antillarum</i> (Fée) Nyl.	79391	bark	Canguçu, Baixada do Rodeio
SC	<i>Arthonia meissneri</i> Müll. Arg.	78677	bark	Rio Negrinho, Rio Preto
RS	<i>Aspidothelium cuyabensis</i> (Malme) P.M. McCarthy	79209	bark	Agudo, Cascata Raddatz
SC	<i>Asterothyrium argenteum</i> Müll. Arg.	79094	leaves	Santa Cecília, along BR116
BR	<i>Astrochapsa meridensis</i> (Kalb & Frisch) Parmen, Lücking & Lumbsch	78616	rock	Garuva, Quiriri, summit
SC	<i>Astrothelium confluens</i> (Müll. Arg.) Aptroot & Lücking	78823	bark	São Bento do Sul, Rio Vermelho
SC	<i>Astrothelium crassum</i> (Fée) Aptroot	79086	bark	Santa Cecília, along BR116
SC	<i>Astrothelium endochryseum</i> (Vain.) Aptroot & Lücking	79100	bark	Santa Cecília, along BR116
SC	<i>Astrothelium interjectum</i> R.C. Harris	78660	bark	Rio Negrinho, Rio Preto
SC	<i>Astrothelium laevigatum</i> Müll. Arg.	78559	bark	Garuva, Quiriri, slope

RS	<i>Astrothelium leucosessile</i> Lücking, M.P. Nelsen & Aptroot	79615	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Astrothelium leucothelium</i> Nyl.	78465	bark	Joinville, Nascentes Divinas
SC	<i>Astrothelium macrocarpum</i> (Fée) Aptroot & Lücking	78810	bark	São Bento do Sul, Rio Vermelho
RS	<i>Astrothelium megeustomum</i> Aptroot & Fraga Jr.	79202	bark	Agudo, Cascata Raddatz
SC	<i>Astrothelium megeustomum</i> Aptroot & Fraga Jr.	78779	bark	São Bento do Sul, Rugendas
SC	<i>Astrothelium obscurum</i> Müll. Arg.	78804	bark	São Bento do Sul, Rugendas
SC	<i>Astrothelium puiggarii</i> (Müll. Arg.) Aptroot & Lücking	78665	bark	Rio Negrinho, Rio Preto
SC	<i>Astrothelium rufescens</i> (Müll. Arg.) Aptroot & Lücking	78723	bark	Rio Negrinho, Rio Preto
SC	<i>Astrothelium scoriothelium</i> Aptroot & Lücking	78809	bark	São Bento do Sul, Rio Vermelho
SC	<i>Astrothelium simplex</i> Aptroot & S.M.A. Martins	78803	bark	São Bento do Sul, Rugendas
RS	<i>Astrothelium tetrasporum</i> Aptroot & M. Cáceres	79745	bark	Piratini, Cerro do Sandi
SC	<i>Astrothelium variolosum</i> (Ach.) Müll. Arg.	78662	bark	Rio Negrinho, Rio Preto
RS	<i>Aulaxina microphana</i> (Vain.) R. Sant.	79632b	leaves	Rio Pardo, Baln. S. Vitória
RS	<i>Bacidia arceutina</i> (Müll. Arg.) Zahlbr.	79277	bark	Candelária, Cerro Botucaraf
BR	<i>Bacidia igniarii</i> (Nyl.) Oxner	79319n	bark	Canguçu, Florida
RS	<i>Bacidia polychroa</i> (Th. Fr.) Körb.	79258	bark	Candelária, Cerro Botucaraf
RS	<i>Bacidia russeola</i> (Kremp.) Zahlbr.	79714	rock	Piratini, Cerro do Sandi
RS	<i>Bacidia schweinitzii</i> (Fr. ex Tuck.) A. Schneid.	79208	bark	Agudo, Cascata Raddatz
SC	<i>Bacidina arvidssonii</i> (Sérus.) Lücking	78778s	leaves	São Bento do Sul, Rugendas
SC	<i>Bacidina pseudohyphophorifera</i> (Lücking & Sérus.) Lücking	78416	soil	Joinville, campus Univille
RS	<i>Bapalmuia confusa</i> Kalb & Lücking	79169	bark	Agudo, Cascata Raddatz
SC	<i>Bapalmuia confusa</i> Kalb & Lücking	79099	bark	Santa Cecília, along BR116
SC	<i>Bapalmuia palmularis</i> (Müll. Arg.) Sérus.	78778g	leaves	São Bento do Sul, Rugendas
RS	<i>Botryolepraria neotropica</i> Kukwa & Pérez-Ort.	79239	rock	Agudo, Cascata Raddatz
SC	<i>Botryolepraria neotropica</i> Kukwa & Pérez-Ort.	78785	soil	São Bento do Sul, Rugendas
SC	<i>Buellia aethalea</i> (Ach.) Th. Fr.	79668	rock	Urubici, near Pedra Furada
RS	<i>Buellia dejungens</i> (Nyl.) Vain.	79316	rock	Santa Cruz do Sul, Parque
SC	<i>Buellia halonia</i> (Ach.) Tuck.	78453	rock	Joinville, Nascentes Divinas
RS	<i>Buellia mamillana</i> (Tuck.) W.A. Weber	79491	rock	Piratini, Cerro do Ubaldo
SC	<i>Buellia mamillana</i> (Tuck.) W.A. Weber	78854	rock	São Bento do Sul, Rio Vermelho
RS	<i>Buellia stellulata</i> (Tayl.) Br. & Rostr.	79301	rock	Santa Cruz do Sul, Parque
SC	<i>Buellia stellulata</i> (Tayl.) Br. & Rostr.	78851	rock	São Bento do Sul, Rio Vermelho
SC	<i>Buellia subdisciformis</i> (Leight.) Vain.	78634	rock	Garuva, Quiriri, summit
RS	<i>Bulbothrix scortella</i> (Nyl.) Hale	79521	bark	Pelotas, Praia do Laranjal
RS	<i>Byssoloma chlorinum</i> (Vain.) Zahlbr.	79148l	leaves	Agudo, Cascata Raddatz
SC	<i>Byssoloma chlorinum</i> (Vain.) Zahlbr.	78778f	leaves	São Bento do Sul, Rugendas
SC	<i>Byssoloma subdiscordans</i> (Nyl.) P. James	78419a	leaves	Joinville, campus Univille
SC	<i>Calicium salicinum</i> Pers.	79678	bark	Urubici, near Pedra Furada
RS	<i>Calopadia phyllogena</i> (Müll. Arg.) Vězda	79148q	leaves	Agudo, Cascata Raddatz
RS	<i>Calopadia subcoerulescens</i> (Zahlbr.) Vězda	79148s	leaves	Agudo, Cascata Raddatz
SC	<i>Calopadia subcoerulescens</i> (Zahlbr.) Vězda	78457	bark	Joinville, Nascentes Divinas
SC	<i>Caloplaca cinnabarina</i> (Ach.) Zahlbr.	78606	rock	Garuva, Quiriri, summit
RS	<i>Caloplaca diplacia</i> (Ach.) Riddle	79387	rock	Canguçu, Baixada do Rodeio
SC	<i>Caloplaca granularis</i> (Müll. Arg.) Zahlbr.	78648	wood	Rio Negrinho, Rio Preto
RS	<i>Caloplaca subvitellina</i> (Müll. Arg.) Zahlbr.	79362	rock	Canguçu, Baixada do Rodeio
RS	<i>Caloplaca wrightii</i> (Willey) Fink	79509	bark	Pelotas, Praia do Laranjal
SC	<i>Candelaria concolor</i> (Dicks.) Stein	78644	wood	Rio Negrinho, Rio Preto
SC	<i>Chaenotheca chlorella</i> (Ach.) Müll. Arg.	78793	wood	São Bento do Sul, Rugendas
BR	<i>Chaenotheca furfuracea</i> (L.) Tibell	78570	soil	Garuva, Quiriri, slope
SC	<i>Chaenotheca olivaceorufa</i> (Vain.) Zahlbr.	78489	wood	Joinville, Nascentes Divinas
RS	<i>Chapsa thalotrema</i> Lücking & N. Salazar	79726	rock	Piratini, Cerro do Sandi
SC	<i>Chiodecton complexum</i> Aptroot & M. Cáceres	78677a	bark	Rio Negrinho, Rio Preto

SC	<i>Chrysothrix candelaris</i> (L.) J.R. Laundon	78533	rock	Joinville, Nascentes Divinas
RS	<i>Cladonia farinophylla</i> Ahti	79126	rock	Antônio Prado, along RS122
RS	<i>Cladonia salmonea</i> S. Stenroos	79483	rock	Piratini, Cerro do Ubaldo
SC	<i>Coccocarpia prostrata</i> Lücking, Aptroot & Sipman	78727	bark	Rio Negrinho, Rio Preto
SC	<i>Coenogonium dilucidum</i> (Kremp.) Kalb & Lücking	78778v	leaves	São Bento do Sul, Rugendas
SC	<i>Coenogonium disjunctum</i> Nyl.	78494	bark	Joinville, Nascentes Divinas
RS	<i>Coenogonium strigosum</i> Rivas Plata, Lücking & Chaves	79146	bark	Agudo, Cascata Raddatz
SC	<i>Collema furfuraceum</i> (Arnold) DR.	78766	bark	Rio Negrinho, Rio Preto
SC	<i>Collema tenax</i> (Sw.) Körb.	78413	soil	Joinville, campus Univille
SC	<i>Constrictolumina planorbis</i> (Ach.) Lücking, M.P. Nelsen & Aptroot	78763	bark	Rio Negrinho, Rio Preto
SC	<i>Cratiria aggreiciens</i> (Stirt.) Marbach	78678	bark	Rio Negrinho, Rio Preto
RS	<i>Dibaeis soreliata</i> Kalb & Gierl	79703	soil	Piratini, Cerro do Sandi
SC	<i>Dibaeis soreliata</i> Kalb & Gierl	78800	soil	São Bento do Sul, Rugendas
RS	<i>Dichosporidium nigrocinctum</i> (Ehrenb.) G. Thor	79210	bark	Agudo, Cascata Raddatz
SC	<i>Diorygma confluens</i> (Fée) Kalb, Staiger & Elix	78443	bark	Joinville, Nascentes Divinas
SC	<i>Diorygma hieroglyphicum</i> (Pers.) Staiger & Kalb	78805	bark	São Bento do Sul, Rugendas
SC	<i>Diorygma pauciseptatum</i> Feuerstein, I.P.R. Cunha-Dias, Aptroot & M. Cáceres	78768	bark	Rio Negrinho, Rio Preto
RS	<i>Diorygma poitaei</i> (Fée) Kalb, Staiger & Elix	79235	bark	Agudo, Cascata Raddatz
SC	<i>Diploschistes actinostomus</i> (Pers.) Zahlbr.	78623	rock	Garuva, Quiriri, summit
RS	<i>Diploschistes diacapsis</i> (Ach.) Lumbsch	79721	rock	Piratini, Cerro do Sandi
RS	<i>Diploschistes euganeus</i> (A. Massal.) Zahlbr.	79422	rock	Canguçu, Baixada do Rodeio
SC	<i>Diploschistes hypoleucus</i> (Vain.) Zahlbr.	78444	rock	Joinville, Nascentes Divinas
SC	<i>Dirinaria applanata</i> (Fée) D.D. Awasthi	78658	bark	Rio Negrinho, Rio Preto
RS	<i>Dirinaria purpurascens</i> (Vain.) B.J. Moore	79620	bark	Rio Pardo, Baln. S. Vitória
RS	<i>Echinoplaca epiphylla</i> Fée	79148n	leaves	Agudo, Cascata Raddatz
SC	<i>Echinoplaca epiphylla</i> Fée	78778p	leaves	São Bento do Sul, Rugendas
RS	<i>Echinoplaca leucotrichoides</i> (Vain.) R. Sant.	79148g	leaves	Agudo, Cascata Raddatz
RS	<i>Endocarpon pallidulum</i> (Nyl.) Nyl.	79335	soil	Canguçu, Florida
SC	<i>Enterographa subserialis</i> (Nyl.) Redinger	78725	bark	Rio Negrinho, Rio Preto
RS	<i>Enterographa tropica</i> Sparrius	78725a	bark	Rio Negrinho, Rio Preto
SC	<i>Fellhanera fuscata</i> (Müll. Arg.) Vězda	78778	leaves	São Bento do Sul, Rugendas
RS	<i>Fissurina radiata</i> Mont.	79534	bark	Pelotas, Cascata
SC	<i>Fissurina radiata</i> Mont.	78749	bark	Rio Negrinho, Rio Preto
RS	<i>Flakea papillata</i> O.E. Erikss.	79240	rock	Agudo, Cascata Raddatz
SC	<i>Flavoparmelia caperata</i> (L.) Hale	78765a	bark	Rio Negrinho, Rio Preto
SC	<i>Gomphillus hyalinus</i> (Pat.) Lücking, Kalb & Vězda	79089	moss	Santa Cecília, along BR116
SC	<i>Graphis argentata</i> Lücking & Umana	78513	bark	Joinville, Nascentes Divinas
RS	<i>Graphis bipartita</i> (Müll. Arg.) Lücking	79260	bark	Candelária, Cerro Botucaraf
BR	<i>Graphis componens</i> Nyl.	78743	bark	Rio Negrinho, Rio Preto
RS	<i>Graphis crebra</i> Vain.	79285	bark	Candelária, Cerro Botucaraf
BR	<i>Graphis gloriosensis</i> A.W. Archer & Elix	79186	bark	Agudo, Cascata Raddatz
RS	<i>Graphis pernambucoradians</i> M. Cáceres & Lücking	79540	bark	Pelotas, Cascata
SC	<i>Graphis pernambucoradians</i> M. Cáceres & Lücking	78686	bark	Rio Negrinho, Rio Preto
SC	<i>Gyalidea mexicana</i> (B. De Lesd.) Vězda	78445	rock	Joinville, Nascentes Divinas
BR	<i>Gyalideopsis giganteoides</i> Sérus.	79635	bark	Rio Pardo, Baln. S. Vitória
RS	<i>Gyalideopsis rostrata</i> Kalb & Vězda	79628	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Haematomma flexuosum</i> Hillm.	78565	bark	Garuva, Quiriri, slope
SC	<i>Haematomma persoonii</i> (Fée) A. Massal.	78552	bark	Garuva, Quiriri, slope
SC	<i>Haematomma sulphureum</i> (Müll. Arg.) Kalb & Staiger	78563	bark	Garuva, Quiriri, slope
SC	<i>Hafellia bahiana</i> (Malme) Sheard	79653	bark	Urubici, near Pedra Furada
RS	<i>Herpothallon aurantiocoflavum</i> (B. de Lesd.) Aptroot,	79190	bark	Agudo, Cascata Raddatz

	Lücking & G. Thor			
RS	<i>Herpothallon nigroisidiatum</i> G. Thor	79182	bark	Agudo, Cascata Raddatz
RS	<i>Herpothallon pustulatum</i> G. Thor	79164	bark	Agudo, Cascata Raddatz
BR	<i>Hymenelia ceracea</i> (Arnold) M. Choisy	79378	rock	Canguçu, Baixada do Rodeio
BR	<i>Hymenelia ceracea</i> (Arnold) M. Choisy	78837	rock	São Bento do Sul, Rio Vermelho
SC	<i>Hymenelia lacustris</i> (With.) M. Choisy	78462	rock	Joinville, Nascentes Divinas
SC	<i>Hyperphyscia granulata</i> (Poelt) Moberg	78404	bark	Joinville, campus Univille
RS	<i>Hyperphyscia viridissima</i> (Müll. Arg.) Scutari	79630	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Hypotrachyna alectorialorum</i> Elix, Nash & Sipman	78608	rock	Garuva, Quiriri, summit
SC	<i>Hypotrachyna brueggeri</i> C.H. Ribeiro & Marcelli	78832	bark	São Bento do Sul, Rio Vermelho
RS	<i>Hypotrachyna degelii</i> (Hale) Hale	79658	bark	Urubici, near Pedra Furada
RS	<i>Hypotrachyna eitenii</i> (Hale) Hale	79764	rock	Piratini, Cerro do Ubaldo
SC	<i>Hypotrachyna erythrodes</i> (Zahlbr.) Hale	78607	rock	Garuva, Quiriri, summit
SC	<i>Hypotrachyna flavida</i> (Zahlbr.) Hale	78619	rock	Garuva, Quiriri, summit
SC	<i>Hypotrachyna gracilescens</i> (Vain.) Hale	78621	rock	Garuva, Quiriri, summit
BR	<i>Hypotrachyna lividescens</i> (Kurok.) Hale	79708	bark	Piratini, Cerro do Sandi
BR	<i>Hypotrachyna lividescens</i> (Kurok.) Hale	78703	bark	Rio Negrinho, Rio Preto
SC	<i>Hypotrachyna meridensis</i> Hale & López-Fig.	78446	rock	Joinville, Nascentes Divinas
RS	<i>Hypotrachyna protenta</i> Hale	79717	rock	Piratini, Cerro do Sandi
SC	<i>Hypotrachyna virensica</i> Elix, Nash & Sipman	79103	bark	Santa Cecília, along BR116
SC	<i>Lecanactis epileuca</i> (Nyl.) Tehler	78467	bark	Joinville, Nascentes Divinas
SC	<i>Lecanora albellula</i> (Nyl.) Th. Fr.	79102	bark	Santa Cecília, along BR116
BR	<i>Lecanora alboflavida</i> Taylor	78610a	bark	Garuva, Quiriri, summit
RS	<i>Lecanora cerradoensis</i> Guderley	79479	rock	Piratini, Cerro do Ubaldo
SC	<i>Lecanora coronulans</i> Nyl.	79699d	bark	Urubici, near Pedra Furada
SC	<i>Lecanora expallens</i> Ach.	78572	wood	Garuva, Quiriri, slope
RS	<i>Lecanora fulvastra</i> Kremp.	79319q	bark	Canguçu, Florida
RS	<i>Lecanora helva</i> Stizenb.	79550	bark	Pelotas, Cascata
SC	<i>Lecanora helva</i> Stizenb.	78664a	wood	Rio Negrinho, Rio Preto
SC	<i>Lecanora leprosa</i> Fée	78645	wood	Rio Negrinho, Rio Preto
RS	<i>Lecanora plumosa</i> Müll. Arg.	79712	rock	Piratini, Cerro do Sandi
SC	<i>Lecanora plumosa</i> Müll. Arg.	78630	rock	Garuva, Quiriri, summit
RS	<i>Lecanora subimmersa</i> (Fée) Vain.	79384	rock	Canguçu, Baixada do Rodeio
BR	<i>Lecidea grisella</i> Flörke	79351	rock	Canguçu, Florida
BR	<i>Lecidea nylanderii</i> (Anzi) Th. Fr.	79124	bark	Antônio Prado, along RS122
BR	<i>Lecidea sarcogynoides</i> Körb.	79322	rock	Canguçu, Florida
RS	<i>Lecidella asema</i> (Nyl.) Knoph & Hertel	79709	rock	Piratini, Cerro do Sandi
RS	<i>Lecidella buelliastrum</i> (Müll. Arg.) Knoph & Rambold	79415	rock	Canguçu, Baixada do Rodeio
SC	<i>Lecidella buelliastrum</i> (Müll. Arg.) Knoph & Rambold	78463	rock	Joinville, Nascentes Divinas
RS	<i>Lecidella carpathica</i> Körb.	79449	rock	Piratini, Parque Municipal
RS	<i>Lepra subventosa</i> (Malme) I. Schmitt & Lumbsch	79763	rock	Piratini, Cerro do Ubaldo
SC	<i>Lepra subventosa</i> (Malme) I. Schmitt & Lumbsch	78585	rock	Garuva, Quiriri, summit
RS	<i>Lepra tropica</i> (Vain.) Lendemer & R.C. Harris	79466	bark	Piratini, Cerro do Ubaldo
SC	<i>Lepra tropica</i> (Vain.) Lendemer & R.C. Harris	79677	bark	Urubici, near Pedra Furada
SC	<i>Lepra ventosa</i> (Malme) Lendemer & R.C. Harris	78640	rock	Garuva, Quiriri, summit
RS	<i>Lepraria brasiliensis</i> Elix, A.A. Spielm. & Øvstedal	79480	rock	Piratini, Cerro do Ubaldo
RS	<i>Lepraria sipmaniana</i> (Kümmerl. & Leuckert) Kukwa	79128	rock	Antônio Prado, along RS122
SC	<i>Lepraria sipmaniana</i> (Kümmerl. & Leuckert) Kukwa	79639	rock	Urubici, near Pedra Furada
SC	<i>Leptogium corticola</i> (Taylor) Tuck.	78518	rock	Joinville, Nascentes Divinas
SC	<i>Letrouitia flavidula</i> (Tuck.) Hafellner	78524	bark	Joinville, Nascentes Divinas
BR	<i>Lithogyalideopsis aterrima</i> (Vězda & Poelt) Lücking, Sérus. & Vězda	78574	soil	Garuva, Quiriri, slope
BR	<i>Malmidea corallophora</i> Aptroot & Schumm	79175	bark	Agudo, Cascata Raddatz
RS	<i>Malmidea rhodopsis</i> (Tuck.) Kalb, Rivas Plata &	79198	bark	Agudo, Cascata Raddatz

	Lumbsch			
SC	<i>Malmidea vinosa</i> (Eschw.) Kalb, Rivas Plata & Lumbsch	78479	bark	Joinville, Nascentes Divinas
SC	<i>Megalalaria anaglyptica</i> (Kremp.) Fryday & Lendemer	79673	bark	Urubici, near Pedra Furada
SC	<i>Megalalaria endochroma</i> (Fée) Fryday & Lendemer	79691	bark	Urubici, near Pedra Furada
SC	<i>Melaspilea diplasiozona</i> (Nyl.) Müll. Arg.	78752	bark	Rio Negrinho, Rio Preto
SC	<i>Micarea lignaria</i> (Ach.) Hedl.	78586	detritus	Garuva, Quiriri, summit
SC	<i>Mycoporum eschweileri</i> (Müll. Arg.) R.C. Harris	78410	bark	Joinville, campus Univille
SC	<i>Myelochroa aurulenta</i> (Tuck.) Elix & Hale	78742	bark	Rio Negrinho, Rio Preto
BR	<i>Myriotrema frondosum</i> Hale	79221	rock	Agudo, Cascata Raddatz
SC	<i>Neoprotarmelia plurisporibadia</i> Garima Singh, M. Cáceres & Aptroot	78632	rock	Garuva, Quiriri, summit
SC	<i>Ocellularia cavata</i> (Ach.) Müll. Arg.	78681	bark	Rio Negrinho, Rio Preto
SC	<i>Ocellularia dolichotata</i> (Nyl.) Zahlbr.	78812	bark	São Bento do Sul, Rio Vermelho
SC	<i>Ochrolechia osorioana</i> Verseghy	78596	rock	Garuva, Quiriri, summit
SC	<i>Opegrapha astraea</i> Tuck.	78731	bark	Rio Negrinho, Rio Preto
RS	<i>Opegrapha ramisorediata</i> Aptroot & M. Cáceres	79247	rock	Agudo, Cascata Raddatz
SC	<i>Pallidogramme chrysenderon</i> (Mont.) Lücking	78815	bark	São Bento do Sul, Rio Vermelho
SC	<i>Parmelinopsis horrescens</i> (Taylor) Elix & Hale	78794	bark	São Bento do Sul, Rugendas
SC	<i>Parmelinopsis schindleri</i> (Hale) Elix & Hale	78784	bark	São Bento do Sul, Rugendas
SC	<i>Parmotrema argentinum</i> (Kremp.) Hale	78441	bark	Joinville, Nascentes Divinas
SC	<i>Parmotrema conformatum</i> (Vain.) Hale	79090	bark	Santa Cecília, along BR116
SC	<i>Parmotrema consors</i> (Nyl.) Krog & Swinscow	79690	bark	Urubici, near Pedra Furada
SC	<i>Parmotrema gardneri</i> (C.W. Dodge) Serus.	78429	bark	Joinville, campus Univille
SC	<i>Parmotrema maraense</i> Hale	78589	rock	Garuva, Quiriri, summit
SC	<i>Peltigera laciniata</i> (G. Merr. ex Riddle) Gyelnik	79656	rock	Urubici, near Pedra Furada
RS	<i>Peltula auriculata</i> Büdel, M. Schultz & Gröger	79368	rock	Canguçu, Baixada do Rodeio
SC	<i>Peltula brasiliensis</i> (Zahlbr.) Büdel, Kauff & Bachran	78840	rock	São Bento do Sul, Rio Vermelho
RS	<i>Pertusaria consanguinea</i> Müll. Arg.	79467	rock	Piratini, Cerro do Ubaldo
SC	<i>Pertusaria dehiscens</i> Müll. Arg.	78710	bark	Rio Negrinho, Rio Preto
SC	<i>Pertusaria lichexanthofarinosa</i> Aptroot & M. Cáceres	78609	bark	Garuva, Quiriri, summit
RS	<i>Pertusaria lichexanthoimmersa</i> Aptroot & M. Cáceres	79319b	bark	Canguçu, Florida
RS	<i>Phaeographis brasiliensis</i> (A. Massal.) Kalb & Matthes-Leicht	79563	bark	Pelotas, Cascata
SC	<i>Phaeographis brasiliensis</i> (A. Massal.) Kalb & Matthes-Leicht	78667	bark	Rio Negrinho, Rio Preto
SC	<i>Phaeographis dendritica</i> (Ach.) Müll. Arg.	79654	bark	Urubici, near Pedra Furada
SC	<i>Phaeographis kalbii</i> Staiger	78748	bark	Rio Negrinho, Rio Preto
SC	<i>Phaeographis leiogrammodes</i> (Kremp.) Müll. Arg.	79087	bark	Santa Cecília, along BR116
RS	<i>Phaeographis neotricosa</i> Redinger	79319i	bark	Canguçu, Florida
SC	<i>Phaeophyscia hispidula</i> (Ach.) Moberg	79076	bark	Santa Cecília, along BR116
SC	<i>Phlyctis brasiliensis</i> Nyl.	79098	bark	Santa Cecília, along BR116
SC	<i>Phyllobathelium thaxteri</i> (Vain.) Zahlbr.	78778u	leaves	São Bento do Sul, Rugendas
RS	<i>Phyllopsora cuyabensis</i> (Malme) Zahlbr.	79238	bark	Agudo, Cascata Raddatz
SC	<i>Phyllopsora pyrromelaena</i> (Tuck.) Swinscow & Krog	78825	bark	São Bento do Sul, Rio Vermelho
SC	<i>Physcia krogiae</i> Moberg	78646	bark	Rio Negrinho, Rio Preto
RS	<i>Physcia ochroleuca</i> (Müll. Arg.) Müll. Arg.	79631	bark	Rio Pardo, Baln. S. Vitória
RS	<i>Physcia phaeocarpa</i> (Nyl.) Hue	79618	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Physcia poncinsii</i> Hue	78420	bark	Joinville, campus Univille
SC	<i>Piccolia conspersa</i> (Fée) Hafellner	78664	wood	Rio Negrinho, Rio Preto
RS	<i>Piccolia wrightii</i> (Tuck.) Hafellner	79253	bark	Candelária, Cerro Botucaraf
SC	<i>Placidiopsis hypothallina</i> Aptroot	78537	rock	Garuva, Quiriri, summit
BR	<i>Placynthiella dasaea</i> (Stirt.) Tønsberg	78684	wood	Rio Negrinho, Rio Preto
SC	<i>Platythecium colliculosum</i> (Mont.) Staiger	78486	bark	Joinville, Nascentes Divinas
RS	<i>Porina conspersa</i> Malme	79171	bark	Agudo, Cascata Raddatz

RS	<i>Porina distans</i> Vězda & Vivant	79289	rock	Candelária, Cerro Botucaraí
RS	<i>Porina eminentior</i> (Nyl.) P.M. McCarthy	79266	bark	Candelária, Cerro Botucaraí
RS	<i>Porina guentheri</i> (Flot.) Zahlbr.	79178	rock	Agudo, Cascata Raddatz
SC	<i>Porina guentheri</i> (Flot.) Zahlbr.	78484	rock	Joinville, Nascentes Divinas
SC	<i>Porina isidioambigua</i> M. Cáceres, M.W.O. Santos & Aptroot	78680	bark	Rio Negrinho, Rio Preto
RS	<i>Porina nigrofusca</i> Müll. Arg.	79246	rock	Agudo, Cascata Raddatz
BR	<i>Porpidia cinereoatra</i> (Ach.) Hertel & Knoph	79660	rock	Urubici, near Pedra Furada
RS	<i>Pseudobogoriella captiosa</i> (Kremp.) Lücking, R. Miranda & Aptroot	79525	bark	Pelotas, Cascata
RS	<i>Pseudobogoriella hemispherica</i> (Müll. Arg.) Lücking, R. Miranda & Aptroot	79396	bark	Canguçu, Baixada do Rodeio
BR	<i>Pseudopyrenula dubia</i> Vain.	79080	bark	Santa Cecília, along BR116
RS	<i>Pterygiopsis atra</i> Vain.	79365	rock	Canguçu, Baixada do Rodeio
RS	<i>Pyrenula acutalis</i> R.C. Harris	79393	bark	Canguçu, Baixada do Rodeio
SC	<i>Pyrenula acutispora</i> Kalb & Hafellner	78497	bark	Joinville, Nascentes Divinas
SC	<i>Pyrenula duplicans</i> (Nyl.) Aptroot	78498	bark	Joinville, Nascentes Divinas
BR	<i>Pyrenula erumpens</i> R.C. Harris	79203	bark	Agudo, Cascata Raddatz
BR	<i>Pyrenula lyoni</i> (Zahlbr.) Aptroot	78493	bark	Joinville, Nascentes Divinas
SC	<i>Pyrenula microtheca</i> R.C. Harris	78458	bark	Joinville, Nascentes Divinas
RS	<i>Pyrenula ravenelii</i> (Tuck.) R.C. Harris	79193	bark	Agudo, Cascata Raddatz
SC	<i>Pyrenula schiffneri</i> (Zahlbr.) Aptroot	78776	bark	Rio Negrinho, Rio Preto
SC	<i>Pyxine coralligera</i> Malme	78401	bark	Joinville, campus Univille
SC	<i>Pyxine daedalea</i> Krog & R. Sant.	78406	bark	Joinville, campus Univille
RS	<i>Pyxine eschweileri</i> (Tuck.) Vain.	79598	bark	Pelotas, Cascata
RS	<i>Pyxine fallax</i> (Zahlbr.) Kalb	79648	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Pyxine katendei</i> Swinscow & Krog	78526	bark	Joinville, Nascentes Divinas
SC	<i>Pyxine primaria</i> Kalb	78409	bark	Joinville, campus Univille
RS	<i>Racoplaca melanobapha</i> (Kremp.) S.H. Jiang, Lücking & J.C. Wei	79148x	leaves	Agudo, Cascata Raddatz
SC	<i>Racoplaca melanobapha</i> (Kremp.) S.H. Jiang, Lücking & J.C. Wei	78778t	leaves	São Bento do Sul, Rugendas
RS	<i>Ramalina anceps</i> Nyl.	79324	bark	Canguçu, Florida
RS	<i>Ramalina continentalis</i> Malme	79496	rock	Piratini, Cerro do Ubaldo
SC	<i>Ramalina laevigata</i> Fr.	79652	rock	Urubici, near Pedra Furada
SC	<i>Ramboldia blochiana</i> Lendemer & R.C. Harris	78755	bark	Rio Negrinho, Rio Preto
RS	<i>Ramboldia heterocarpa</i> (Fée) Kalb, Lumbsch & Elix	79718	rock	Piratini, Cerro do Sandi
RS	<i>Rhizocarpon sipmanianum</i> Kalb & Aptroot	79448	rock	Piratini, Parque Municipal
BR	<i>Rinodina atrocineria</i> (Fr.) Körb.	78595	rock	Garuva, Quiriri, summit
RS	<i>Rinodina maculans</i> (Kremp.) Müll. Arg.	79593	bark	Pelotas, Cascata
RS	<i>Rinodina oxydata</i> (A. Massal.) A. Massal.	79328	rock	Canguçu, Florida
SC	<i>Rinodina sipmanii</i> Aptroot	78647	bark	Rio Negrinho, Rio Preto
RS	<i>Scoliciosporum camptosporum</i> (Vain.) Aptroot	79428	rock	Piratini, Parque Municipal
SC	<i>Scoliciosporum intrusum</i> (Th. Fr.) Hafellner	78796	rock	São Bento do Sul, Rugendas
BR	<i>Septotrapelia glauca</i> Aptroot & Chaves	78507	rock	Joinville, Nascentes Divinas
BR	<i>Septotrapelia usnica</i> (Sipman) Kalb & Bungartz	78403	bark	Joinville, campus Univille
BR	<i>Septotrapelia usnica</i> (Sipman) Kalb & Bungartz	79300	rock	Santa Cruz do Sul, Parque
SC	<i>Sphaerophoropsis stereocauloides</i> Vain.	78628a	detritus	Garuva, Quiriri, summit
SC	<i>Stereocaulon microcarpum</i> Müll. Arg.	78511	rock	Joinville, Nascentes Divinas
RS	<i>Stirtonia nitida</i> Xavier-Leite, M. Cáceres & Aptroot	79569	bark	Pelotas, Cascata
SC	<i>Sulzbacheromyces caatingae</i> (Sulzbacher & Lücking) B.P. Hodk. & Lücking	78792	soil	São Bento do Sul, Rugendas
RS	<i>Synalissa matogrossensis</i> (Malme) Henssen	79331	rock	Canguçu, Florida
SC	<i>Synoesia rhizomorpha</i> Tehler	78525	bark	Joinville, Nascentes Divinas
SC	<i>Tephromela colensoica</i> Rambold & Knoph	79666	rock	Urubici, near Pedra Furada

RS	<i>Tephromela immersa</i> Kalb & Elix	79340	rock	Canguçu, Florida
RS	<i>Tephromela matogrossensis</i> Kalb & Elix	79472	rock	Piratini, Cerro do Ubaldo
SC	<i>Tephromela matogrossensis</i> Kalb & Elix	78604	rock	Garuva, Quiriri, summit
SC	<i>Thecaria quassiiicola</i> Fée	78521	bark	Joinville, Nascentes Divinas
SC	<i>Thelenella brasiliensis</i> (Müll. Arg.) Vain.	78449	rock	Joinville, Nascentes Divinas
RS	<i>Thelenella luridella</i> (Nyl.) Mayrh.	79242	rock	Agudo, Cascata Raddatz
SC	<i>Thelenella luridella</i> (Nyl.) Mayrh.	78630a	rock	Garuva, Quiriri, summit
BR	<i>Trapelia placodioides</i> Coppins & P. James	79663	rock	Urubici, near Pedra Furada
SC	<i>Trapeliopsis flexuosa</i> (Fr.) P. James & Coppins	78475	wood	Joinville, Nascentes Divinas
RS	<i>Traponora asterella</i> Aptroot	79636	bark	Rio Pardo, Baln. S. Vitória
SC	<i>Trichothelium minutum</i> (Lücking) Lücking	78778n	leaves	São Bento do Sul, Rugendas
SC	<i>Tylophoron hibernicum</i> (D. Hawksw., Coppins & P. James) Ertz, Diederich, Bungartz & Tibell	78735	bark	Rio Negrinho, Rio Preto
SC	<i>Tylophoron protrudens</i> Nyl.	78729	bark	Rio Negrinho, Rio Preto
SC	<i>Vainionora aemulans</i> (Vain.) Kalb	78756	bark	Rio Negrinho, Rio Preto
RS	<i>Verrucaria nigrescens</i> Pers.	79611	rock	Pelotas, Cascata
BR	<i>Verrucaria pachyderma</i> Arnold	79205	rock	Agudo, Cascata Raddatz
BR	<i>Verrucaria pachyderma</i> Arnold	78438	rock	Joinville, Nascentes Divinas
BR	<i>Willeya protrudens</i> Gueidan	79244	rock	Agudo, Cascata Raddatz
BR	<i>Xanthoparmelia alectoronica</i> Hale	78617	rock	Garuva, Quiriri, summit
SC	<i>Xanthoparmelia crystallicola</i> (Kalb & Hale) Nash & Elix	78599	rock	Garuva, Quiriri, summit
RS	<i>Xanthoparmelia hypomelaena</i> (Hale) Hale	79429	rock	Piratini, Parque Municipal
SC	<i>Xanthoparmelia substenophylloides</i> Hale	78633	rock	Garuva, Quiriri, summit