

De Herbario Berolinensi Notulae No. 28

H. J. M. SIPMAN

Lichenotheca Latinoamericana a museo botanico berolinensi edita, fasciculum secundum***Abstract**

Sipman, H. J. M.: Lichenotheca Latinoamericana a museo botanico berolinensi edita, fasciculum secundum [Lichenotheca Latinoamericana edited by the Botanical Museum Berlin-Dahlem, second fascicle]. – Willdenowia 23: 305–314. – ISSN 0511–9618.

Label information is presented for 50 lichen specimens from Brazil, Colombia, Costa Rica, French Guyana, Guyana, Mexico, Suriname and Venezuela, which form the second fascicle of this series of exsiccata. *Teloschistes californicus* from Baja California, Mexico, and California, USA, related to *T. villosus*, is described as new to science and illustrated.

The second fascicle of Lichenotheca Latinoamericana is distributed to the following institutional herbaria: B, C, CBG, COL, COLO, CR, GZU, ICN, LD, M, MEXU, MVM, NY, PRE, QCN, S, TNS, UPS, U, US, VEN. It contains isotype material of a species new to science, i.e. *Teloschistes californicus*, which is described below. Samples of three species have been collected on or very close to the type locality and can be considered as “topotypes”: *Arthonia opegraphina*, *Monoblastia pellucida* and *Porina fusca*.

The author is much indebted to the following contributors of material: Dr. A. Aptroot (Baarn, The Netherlands), Dr. R. Lücking (Ulm, Germany) and Dr. H. Osorio (Montevideo, Uruguay). Their support is much appreciated.

51. *Arthonia opegraphina* Lücking

det. R. Lücking, 1991.

COSTA RICA, San José prov., Braulio Carillo national park, section Carillo, c. 35 km NNE of San José at the San José-Limon highway, atlantic slope of Cordillera Central, 10°09' N, 83°58' W, lower montane rain forest zone, primary forest on the “Botella”-trail, on leaves of indet. dicot., c. 700–800 m.

leg. R. Lücking 91–3354.

d.d. September 1991

* Continued from Willdenowia 19: 543-555 (1990).

52. *Badimia dimidiata* (Müll. Arg.) Vezda

det. H. Sipman, 1988.

GUYANA, Upper Mazaruni distr., mount Latipu, c. 8 km N of Kamarang, 5°57' N, 60°38' W, foliicolous in undergrowth of c. 15 m tall forest on N-foot, c. 600 m.

leg. H. Sipman & A. Aptroot 19008.

d.d. 24 February 1985

53. *Biatora pyrromelaena* Tuck.

det. H. Sipman, 1990.

GUYANA, Upper Mazaruni distr., E-bank of Waruma river, 12 km S of confluence with Kako river, 5°24' N, 60°47' W, foliicolous in undergrowth of c. 25 m tall, virgin, riverain forest, c. 550 m.

leg. H. Sipman & A. Aptroot 18630.

d.d. 10 February 1985

54. *Byssoloma leucoblepharum* (Nyl.) Vain.

det. H. Sipman, 1989.

COLOMBIA, dept. Antioquia, munic. Medellín, El Boqueron, mountain pass c. 10 km NW of Medellín on road to Sta. Fe de Antioquia, 6°19' N, 75°42' W, foliicolous in undergrowth of strongly disturbed forest remnants on steep slope, 2500 m.

leg. H. Sipman, M. Escobar et al. 29800.

d.d. 26 June 1986

55. *Byssoloma tricholomum* (Mont.) Zahlbr.

det. H. Sipman, 1989.

COLOMBIA, dept. Nariño, munic. Tumaco, surroundings of Estacion Forestal La Espriella, on road Tumaco-Pasto, 1°25' N, 78°40' W, foliicolous in undergrowth of moderately affected relics of c. 30 m tall rainforest between La Espriella and Río Mira, 35 m.

leg. H. Sipman, R. Velosa et al. 29595.

d.d. 4–6 June 1986

56. *Chroodiscus coccineus* (Leight.) Müll. Arg.

det. H. Sipman, 1992.

GUYANE FRANÇAISE, Saül, near Cambrouze, along trail to Saül, 3°38' N, 53°14' W, foliicolous in undergrowth of tropical primary forest, c. 300 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 34485.

d.d. 14 January 1988

57. *Cladina sprucei* (Ahti) Ahti

det. H. Sipman, 1990. TLC: atranorin, fumarprotocetraric acid.

COLOMBIA, dept. Caqueta, Araracuara, tableland near airstrip, 0°36' S, 72°26' W, on thin humus cover on sandstone plate, little shaded, in savanna between airstrip and Bolcan del Diablo, 350 m.

leg. H. Sipman & J. Duivenvoorden 27802.

d.d. 29 October 1988

58. *Cladonia carassensis* Vain.

det. H. Sipman, 1990. TLC: thamnolic acid.

COLOMBIA, commis. Amazonas, Araracuara, tableland on S-side of river Caquetá W of Puerto Santander, opposite airstrip of Araracuara, 0°36' S, 72°25' W, on slightly shaded rockflat in low savanna forest at "Ciudad Perdida", 1 km W of Chorro, 350 m.

leg. H. Sipman & J. Duivenvoorden 27883.

d.d. 29 October 1988

59. *Cladonia corallifera* (Kunze) Nyl. var. *corallifera*

det. T. Ahti, 1982.

SURINAME, white sand savanna near Zanderij.

leg. K. U. Kramer & W. H. A. Hekking s.n.

d.d. 26. December 1960

60. *Cladonia pulviniformis* Ahti

det. T. Ahti, 1987.

GUYANA, Upper Mazaruni distr., along trail from Kamarang river to Puipui Mountain, c. 10 km N of Waramadan, 5°57' N, 60°45' W, in rocky savannah, c. 800 m.

leg. H. Sipman & A. Aptroot 19329.

d.d. 28 February 1985

61. *Cladonia rappii* Evans var. *exilior* (Abbeyes) Ahti

det. H. Sipman, 1990.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27573.

d.d. 25 October 1988

62. *Cladonia signata* (Eschw.) Vain.

det. T. Ahti, 1987.

GUYANA, Upper Mazaruni distr., along trail from Kamarang river to Puipui Mountain, c. 10 km N of Waramadan, 5°57' N, 60°45' W, in rocky savannah, c. 800 m.

leg. H. Sipman & A. Aptroot 19328.

d.d. 28 February 1985

63. *Cladonia spinea* Ahti

det. T. Ahti, 1990. TLC: usnic, squamatic acids.

COLOMBIA, dept. Caqueta, Araracuara, tableland near airstrip, 0°36' S, 72°26' W, on thin humus cover on sandstone plate, little shaded, in savanna between airstrip and Bolcan del Diablo, 350 m.

leg. H. Sipman & J. Duivenvoorden 27803.

d.d. 29 October 1988

64. *Cladonia subradiata* (Vain.) Sandst.

det. H. Sipman, 1990. TLC: fumarprotocetraric acid.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27569.

d.d. 25 October 1988

65. *Crocynia gossypina* (Sw.) Mass.

det. H. Sipman, 1992.

GUYANE FRANÇAISE, Saül, along trail (route 1, 4, 5) 1–2 km SSW of Saül, 3°37' N, 53°13' W, foliicolous in undergrowth of tropical primary forest, c. 300 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 31680.

d.d. 11 January 1988

66. *Dendrographa leucophaea* (Tuck.) Darbish.

det. A. Aptroot, 1989.

MEXICO, Baja California, Cabo San Quintin, along Pacific Ocean front NW of Bahía Falsa, 30°28' N, 116°02' W, on dwarfshrub branches in coastal scrub community (*Euphorbia*, *Jatropha*, etc.), c. 10 m.

leg. A. Aptroot 24518.

d.d. 4 January 1989

67. *Dimerella hypophylla* Vežda

det. H. Sipman, 1990.

VENEZUELA, Bolivar, Cerro Guaiquinima, at confluence of rivers Carapo and Lima, c. 5°35' N, 63°32' W, foliicolous in undergrowth of tropical primary forest, c. 320 m.

leg. H. Sipman 27302.

d.d. 16 February 1990

68. *Erioderma verruculosa* Vain.

det. H. Sipman, 1990.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, on small trees in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27615.

d.d. 25 October 1988

69. *Erioderma wrightii* Tuck.

det. H. Sipman, 1990.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, on small trees in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27617.

d.d. 25 October 1988

70. *Eschatogonia prolifera* (Mont.) R. Sant.

det. H. Sipman, 1991.

GUYANA, Upper Mazaruni distr., N-slope of Mount Roraima, 5°17' N, 60°46' W, on tree-trunk in c. 25 m tall, virgin, mossy forest, c. 700 m.

leg. H. Sipman & A. Aptroot 18812.

d.d. 12–19 February 1985

71. *Lobaria conformis* Vain.

det. I. Yoshimura, 1972; communicated by H. Osorio.

BRAZIL, Parana, Guarapuava, 25°23' S, 51°28' W, on trunk and branches of indigenous trees, near a brook.

leg. J. E. Montes 10122f.

d.d. 18 April 1956

72. *Megalospora tuberculosa* (Fée) Sipman

det. H. Sipman, 1990.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, on small trees in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27560.

d.d. 25 October 1988

73. *Monoblastia pellucida* Aptroot

det. H. Sipman, 1992. TLC: no lichen substances detected.

GUYANE FRANÇAISE, Cayenne, gardens around ORSTOM buildings, c. 4°56' N, 52°17' W, epiphyte on *Andira inermis*, c. 10 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 31526.

d.d. 3 January 1988

74. *Myriotrema glaucophaena* (Kremp.) Hale

det. H. Sipman, 1990. TLC: psoromic acid.

GUYANA, Upper Mazaruni distr., E-bank of Waruma river, c. 4 km S of confluence with Kako river, 5°28' N, 60°47' W, on c. 10 cm diam. trunklet in undergrowth of c. 25 m tall, virgin, riverain forest, c. 550 m.

leg. H. Sipman & A. Aptroot 18596.

d.d. 9 February 1985

75. *Myriotrema myrioporoides* (Müll. Arg.) Hale

det. H. Sipman, 1990. TLC: hypoprotocetraric acid.

GUYANA, Upper Mazaruni distr., Pakaraima mountains, c. 2 km N of Kamarang, 5°53' N, 60°38' W, epiphyte in c. 25 m tall, virgin forest, c. 500 m.

leg. H. Sipman & A. Aptroot 18230.

d.d. 4 February 1985

76. *Myriotrema* cf. *olivaceum* Fée

det. H. Sipman, 1983. TLC: unidentified substance.

GUYANE FRANÇAISE, Montagne du Mahury, 10 km SE of Cayenne, 4°53' N, 52°17' W, epiphytic in forest relict, c. 100 m.

leg. A. Aptroot 15482.

d.d. March 1985

Remark: The material fits *M. olivaceum* quite well morphologically. However, the unidentified substance does not seem to be identical with the "olivacea unknown"; it turns brownish grey on developed TLC plates, and runs about the same distance as protocetraric acid in solvents A and B (White & James 1985). The collection is probably best considered as belonging to a chemical strain of *M. olivaceum*.

77. *Ocellularia auberiana* (Mont.) Hale

det. H. Sipman, 1991. TLC: psoromic acid.

GUYANA, East Demerara distr., Timehri, Dakara Creek, Thompson's farm, 6°29' N, 58°15' W, epiphyte on *Eperua* tree-trunk in Wallaba forest on white sand, c. 10 m.

leg. H. Sipman & A. Aptroot 17923.

d.d. 2 February 1985

78. *Ocellularia cavata* (Ach.) Müll. Arg.

det. H. Sipman, 1993. TLC: "cinchonarum unknown".

GUYANA, Upper Mazaruni distr., N-slope of Mount Roraima, 5°17' N, 60°46' W, 5 m high on 10 cm diam. tree-trunk in c. 25 m tall, virgin, mossy forest, c. 700 m.

leg. H. Sipman & A. Aptroot 18742.

d.d. 12–19 February 1985

79. *Ocellularia emersa* (Kremp.) Müll. Arg.

det. H. Sipman, 1993. TLC: psoromic acid.

GUYANE FRANÇAISE, Saül, along trail (route 1, 4, 5) 1–2 km SSW of Saül, 3°37' N, 53°13' W, epiphyte in undergrowth of tropical primary forest, c. 300 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 31682.

d.d. 11 January 1988

80. *Ocellularia meiosperma* (Nyl.) Hale

det. H. Sipman, 1991. TLC: no identifiable substances.

GUYANA, East Demerara distr., Timehri, Dakara Creek, Thompson's farm, 6°29' N, 58°15' W, epiphyte on *Eperua* tree-trunk in Wallaba forest on white sand, c. 10 m.

leg. H. Sipman & A. Aptroot 17922.

d.d. 2 February 1985

81. *Ocellularia perforata* (Leight.) Müll. Arg.

det. H. Sipman, 1993. TLC: protocetraric acid.

GUYANE FRANÇAISE, Saül, in primary forest near Boeuf Mort, 3°38' N, 53°12' W, epiphyte on 10 cm diam. tree, 200–300 m.

leg. A. Aptroot 15358.

d.d. March 1985

Remark: The specimen has rather large ascocarp warts, c. 1 mm in diameter.

82. *Opegrapha vegae* R. Sant.

det. H. Sipman, 1992.

GUYANE FRANÇAISE, Ile de Cayenne, montagne du Mahury, ca. 10 km SE of Cayenne, along trail to Lac du Rorota, 4°51' N, 52°16' W, foliicolous on palm leaf in secondary vegetation, c. 50 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 32038.

d.d. 5 January 1988

83. *Peltigera dolichorrhiza* Nyl.

det. H. Sipman, 1990.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, near finca Sta. Helena, 6°05' N, 73°12' W, in pasturefield with forest remnants in mountain valley, 1900 m.

leg. H. Sipman & J. Aguirre 27572.

d.d. 25 October 1988

84. *Phyllopsora buettneri* (Müll. Arg.) Zahlbr.

det. H. Sipman, 1983. TLC: zeorin, unidentified substance (not pannarin).

GUYANE FRANÇAISE, Montagne du Mahury, 10 km SE of Cayenne, 4°53' N, 52°17' W, epiphytic in forest relict, c. 100 m.

leg. A. Aptroot 15483.

d.d. March 1985

85. *Phyllopsora furfuracea* (Pers.) Zahlbr.

det. L. Brako, 1990. TLC: furfuracein, det. L. Brako.

GUYANA, Upper Mazaruni distr., mount Latipu, c. 8 km N of Kamarang, 5°57' N, 60°38' W, on 15 cm diam. tree-trunk in c. 15 m tall forest on N-foot, c. 600 m.

leg. H. Sipman & A. Aptroot 19003.

d.d. 24 February 1985

86. *Porina epiphylla* (Fée) Fée

det. H. Sipman, 1989.

COLOMBIA, dept. Meta, munic. Villavicencio, forest of S.A. Bavaria, N of the town, near Rio Guaitiquia, foliicolous in undergrowth of subandine forest, 600 m.

leg. J. Aguirre & H. Sipman 5691.

d.d. 26 September 1984

87. *Porina fusca* Lücking

det. R. Lücking, 1991.

COSTA RICA, Puntarena prov., Carara biological reserve, c. 55 km WSW of San José, close to the Pacific coast, 9°47' N, 84°35' W, on leaves of *Erythrochiton* in tropical lowland rainforest, 50–100 m.

leg. R. Lücking 91–5000.

d.d. September 1991

88. *Porina mastoidea* (Ach.) Müll. Arg.

det. A. Aptroot, 1991.

GUYANA, East Demerara distr., Timehri, Dakara Creek, Thompson's farm, 6°29' N, 58°15' W, epiphyte on tree-trunk in Wallaba forest on white sand, c. 10 m.

leg. H. Sipman & A. Aptroot 17998.

d.d. 2 February 1985

89. *Porina papillifera* (Stirt.) Shilling

det. R. Lücking, 1991.

COSTA RICA, Limón prov., Hitoy Cerere biological reserve, c. 120 km ESE of San José on Atlantic slope of the Cordillera de Talamanca, 9°41' N, 83°02' W, on leaves of *Chrysophila albida* in primary forest, 100–200 m.

leg. R. Lücking 91–5001.

d.d. March 1991

90. *Porina tetracerae* (Afz.) Müll. Arg.

det. H. Sipman, 1992.

GUYANE FRANÇAISE, near Sinnemary, 23 km on the Piste de St.-Elie, c. 5°15' N, 53°03' W, in disturbed primary tropical forest, c. 50 m.

leg. H. Sipman, R. Kruyt & B. Zimmer 31852.

d.d. 19 January 1988

91. *Ramalina ceruchis* Ach.

det. H. Sipman, 1989. TLC: unknown fatty substance, unknown terpenoids.

MEXICO, Baja California, along route 1, near km 131 from Ensenada to San Quintin, 2 km S of Colonet, 31°04' N, 116°13' W, on branchlets of *Euphorbia miserrima* in c. 1 m tall coastal desert scrub, c. 100 m.

leg. H. Sipman 24754.

d.d. 3 January 1989

92. *Ramalina homalea* Ach.

det. H. Sipman, 1989. TLC: divaricatic acid (tentative identification).

MEXICO, Baja California, near km 62.5 on road from Parador Punta Prieta to Guerrero Negro, near El Tomatal, 28°34' N, 114°04' W, on gravelly soil on exposed hill slope close to the seashore, 30 m.

leg. H. Sipman 25103.

d.d. 10 January 1989

93. *Ramalina homalea* Ach.

det. H. Sipman, 1989. TLC: sekikaic acid.

MEXICO, Baja California, near km 62.5 on road from Parador Punta Prieta to Guerrero Negro, near El Tomatal, 28°34' N, 114°04' W, on gravelly soil on exposed hill slope close to the seashore, 30 m.

leg. H. Sipman 25102.

d.d. 10 January 1989

Remark: The pronounced differences between the plants distributed under nr. 92 and 93 suggest that more than one species is involved; further investigations into this aggregate seem very desirable.

94. *Rocella fimbriata* Darb.

det. A. Aptroot, 1989.

MEXICO, Baja California, Cabo San Quintin, along Pacific Ocean front NW of Bahía Falsa, 30°28' N, 116°02' W, on rock in coastal scrub community (*Euphorbia*, *Jatropha*, etc.), c. 10 m.

leg. A. Aptroot 24475.

d.d. 4 January 1989

95. *Siphula carassensis* Müll. Arg.

det. H. Sipman, 1991. TLC: siphulin, thamnolic acid.

VENEZUELA, Bolivar, Cerro Guaiquinima, near NE edge of upper plateau, c. 5°54' N, 63°27' W, on sandstone rock flat in periodically dry rivulet, c. 1200 m.

leg. H. Sipman 26704.

d.d. 7 February 1990

96. *Stereocaulon pityrizans* Nyl.

det. H. Sipman, 1990. TLC: atranorin, trace norstictic acid, stictic acid and associated substances, probably including menegazziaic, cryptostictic and constictic acids.

COLOMBIA, dept. Santander, munic. Charala, correg. Virolín, Cañaverales, along road to Duitama, c. 6°02' N, 73°14' W, on open road bank on steep slope with mossy *Quercus* forest, c. 2300 m.

leg. H. Sipman & J. Aguirre 27652.

d.d. 26 October 1988

97. *Sticta ferax* Müll. Arg.

det. H. Sipman, 1990.

COSTA RICA, San José prov., Cordillera de Talamanca, c. 5 km W of Cerro de la Muerte, San Gerardo de Dota, along Quebrada Ojo de Agua, 9°35' N, 83°48' W, epiphyte in *Quercus* forest, 2600 m.

leg. H. Sipman & A. Chaverri 20760.

d.d. 21 March 1985

98. *Teloschistes californicus* Sipman – ISOTYPUS

det. H. Sipman, 1993.

MEXICO, Baja California, near km 22 on road from Ciudad Constitucion to San Carlos (Route 22), 24°59' N, 111°51' W, on branches in desert scrub on sandy plain with *Acacia constricta*, *Fouquieria diguetii*, etc., 30 m.

leg. H. Sipman 25056.

d.d. 8 January 1989

***Teloschistes californicus* Sipman, spec. nova – Fig. 1–2.**Typus: *Sipman 25056* (Holo- B; iso- distributed in *Lichenotheca Latinoamericana* 2: no. 98).**Diagnosis:**

A *Teloschistide villoso* simili differt sorediis a latere inferiore productis, thallo minore, tomento brevioribus, apotheciis minoribus.

Description:

Thallus (Fig. 1A) fruticose, 1–2(–3) cm long, rather stiff, composed of one or more blades attached by a permanent basal holdfast, grey with a brownish tinge, growing on twigs; blades dorsiventral, divided from the base into mostly linear, strongly branched, undulate lobes.

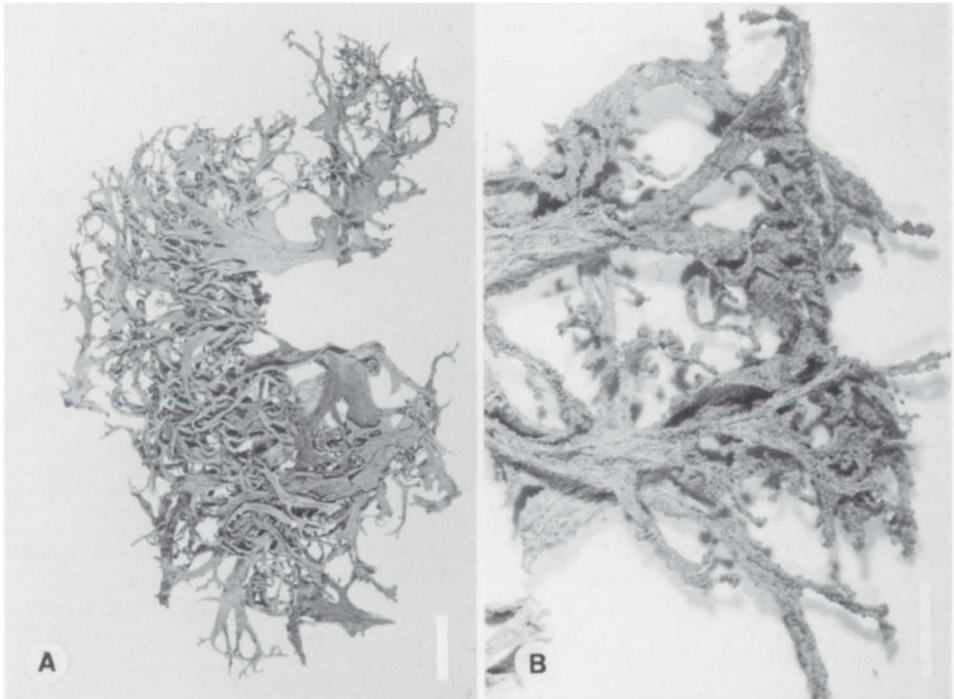


Fig. 1. A: *Teloschistes californicus*, part of holotype. A cluster of plants which show strong branching from shortly above the basal holdfasts into linear lobes. Scale = 5 mm. – B: *Teloschistes californicus*, part of holotype. Apical part of plant, seen from below. Note the strongly striate lower side and the dactyloid lacinulae at lobe tips. Scale = 2 mm.

Lobes (Fig. 1B) 0.2–2 mm wide, at the tips often with minute dactyloid or coralloid-branched, c. 0.1 mm wide, terete lacinulae; upper side flat or slightly convex, rather densely covered with hairs, which may disappear in older thallus parts; lower side flat or slightly concave, strongly longitudinally striate-reticulate, concolourous with the upper side, sometimes hairy on the striae, towards the tip \pm covered with a thin, greenish layer of medium-sized soredia; hairs (Fig. 2B) straight, c. 1 mm long, at base c. 15 μm wide, composed of bundled hyphae, mostly unbranched or with short perpendicular branchlets; lobe axils usually wide and rounded; wider lobes often perforated; thallus without anthraquinones. Anatomy (Fig. 2A): lobes c. 100–200 μm thick and composed of three very irregular layers: upper layer c. 10–25 μm thick, prosoplectenchymatic, composed of \pm longitudinally running hyphae; algiferous layer c. 75 μm thick, much interrupted, with algae in scattered groups; ventral layer prosoplectenchymatic, composed of \pm longitudinally running hyphae, in depressions covered by scarce and thin patches of arachnoid tissue.

Apothecia infrequent, laminal on upper side of older parts of the thallus, 0.5–1 mm in diam., with thalloid, hairy margin and orange-coloured (anthraquinone!) disc, when young strongly constricted at base and with prominent margin and concave disc, later becoming flattened with wider base and less prominent margin. Anatomical details (one apothecium from

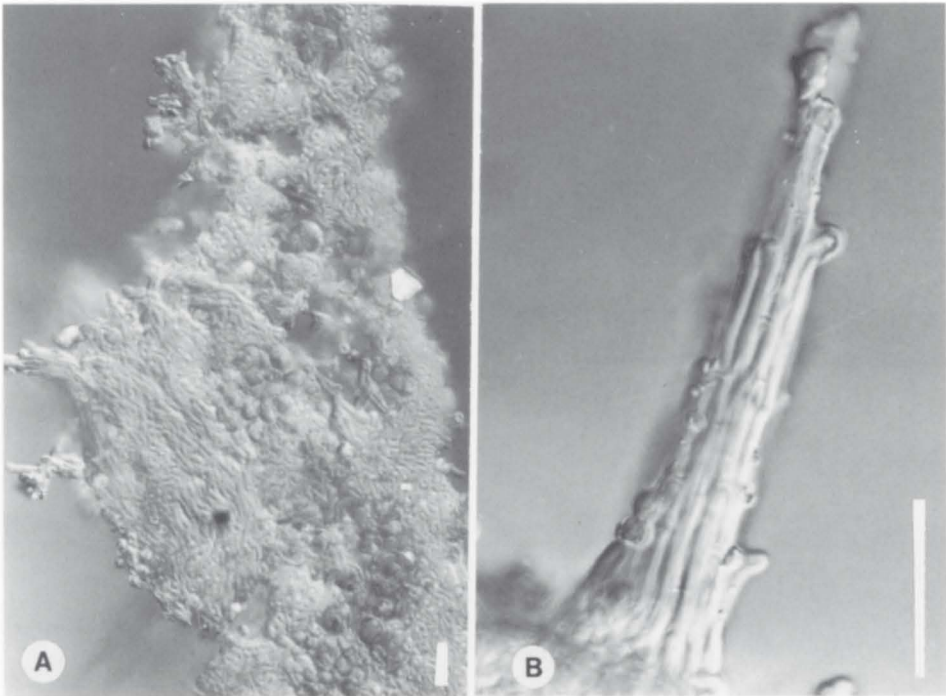


Fig. 2. A: *Teloschistes californicus*, transverse section through thallus lobe (interference contrast microscopy). Note the irregular, prosoplectenchymatic upper layer, interrupted algal layer and very irregular lower layer, composed mainly of prosoplectenchymatic tissue; arachnoid tissue hardly developed. Scale = 25 μm . – B: *Teloschistes californicus*, thallus hair (interference contrast microscopy). Note the projecting tips of hyphae, which may form perpendicular branchlets. Scale = 25 μm .

holotype investigated): hymenium 40 μm tall, clear; epithecium yellowish granular, granules K+ dark reddish, dissolving and producing fine crystals; hypothecium hyaline; spores polarilocular, c. $10 \times 4 \mu\text{m}$, septum occupying about one third of the length, 8 per ascus. Pycnidia (one from holotype investigated) immersed in orange warts, c. 0.1 mm in diam., on upper surface of lobes; pycnoconidia c. $3 \times 1 \mu\text{m}$, elongate with rounded ends, slightly narrower towards one end.

Teloschistes californicus has been mistaken in the past for *T. villosus* (Ach.) Norm. It differs most conspicuously by the production of soredia on the lower surface. In addition, its thallus is smaller, less densely tomentose, with shorter hairs (c. 0.1 mm instead of c. 0.2 mm long), regularly perforate, with the lower side more strongly ridged. The apothecia and spores seem to remain smaller. (Data on *T. villosus* taken from Hillmann (1930) and herbarium material in B). Nevertheless *T. villosus* seems the closest relative of *T. californicus*. *T. lacunosus* (Rupr.) Sav. has much shorter and less divided thallus lobes, and is otherwise closer to *T. villosus*.

T. californicus is so far known only from Baja California, Mexico, and California, USA, where it grows on twigs of shrubs (*Lycium californicum*, *Idria*) in coastal desert with abundant fog. All specimens identified as *T. villosus* from this area which I have seen belong to *T. californicus*. Specimens from South America, e.g. Peru, turned out to be true *T. villosus*.

Additional specimens seen:

USA, California: Point Loma bei San Diego, 1898, ex herb. H. E. Hasse (B).

Mexico, Baja California: 23 km SE of El Rosario, 5. 1. 1989, *H. Sipman 24920* (B); km 170 on road Santa Rosalia – Guerrero Negro, 9. 1. 1989, *H. Sipman 25090* (B).

99. *Thelotrema glaucopallens* Nyl.

det. H. Sipman, 1991. TLC: stictic acid and associated substances, probably including constictic acid.

GUYANA, East Demerara distr., Timehri, Dakara Creek, Thompson's farm, 6°29' N, 58°15' W, epiphyte on *Eperua* treetrunk in Wallaba forest on white sand, c. 10 m.

leg. H. Sipman & A. Aptroot 17913

d.d. 2 February 1985

100. *Trypethelium nitidiusculum* (Nyl.) R. C. Harris

det. H. Sipman, 1991.

GUYANA, Upper Mazaruni distr., N-slope of Mount Roraima, 5°17' N, 60°46' W, 7 m high on 40 cm diam. treetrunk in c. 25 m tall, virgin, mossy forest, c. 700 m.

leg. H. Sipman & A. Aptroot 18767.

d.d. 12–19 February 1985

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