F. Schumm (2026):

Images of Lichens *from Japan 10*

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With this volume I document a collection of images mainly out of the Exsiccats of Kashiwadani, Kurokawa and Ohmura from Japan 10. The main names are always the names that are written on the Exsiccats. That is the reason why Parmelia, Punctelia, Flavoparmelia etc appear on different places. New synonyms can be found in the Index. I mostly omitted the search for description from the literature because most of them could be found in the earlier Vols. of Vezda

For the descriptions of europaean species I recomend the excellent descriptions that are provided in Prof. Nimis ITALIC 8 under the URL:
https://italic.units.it/

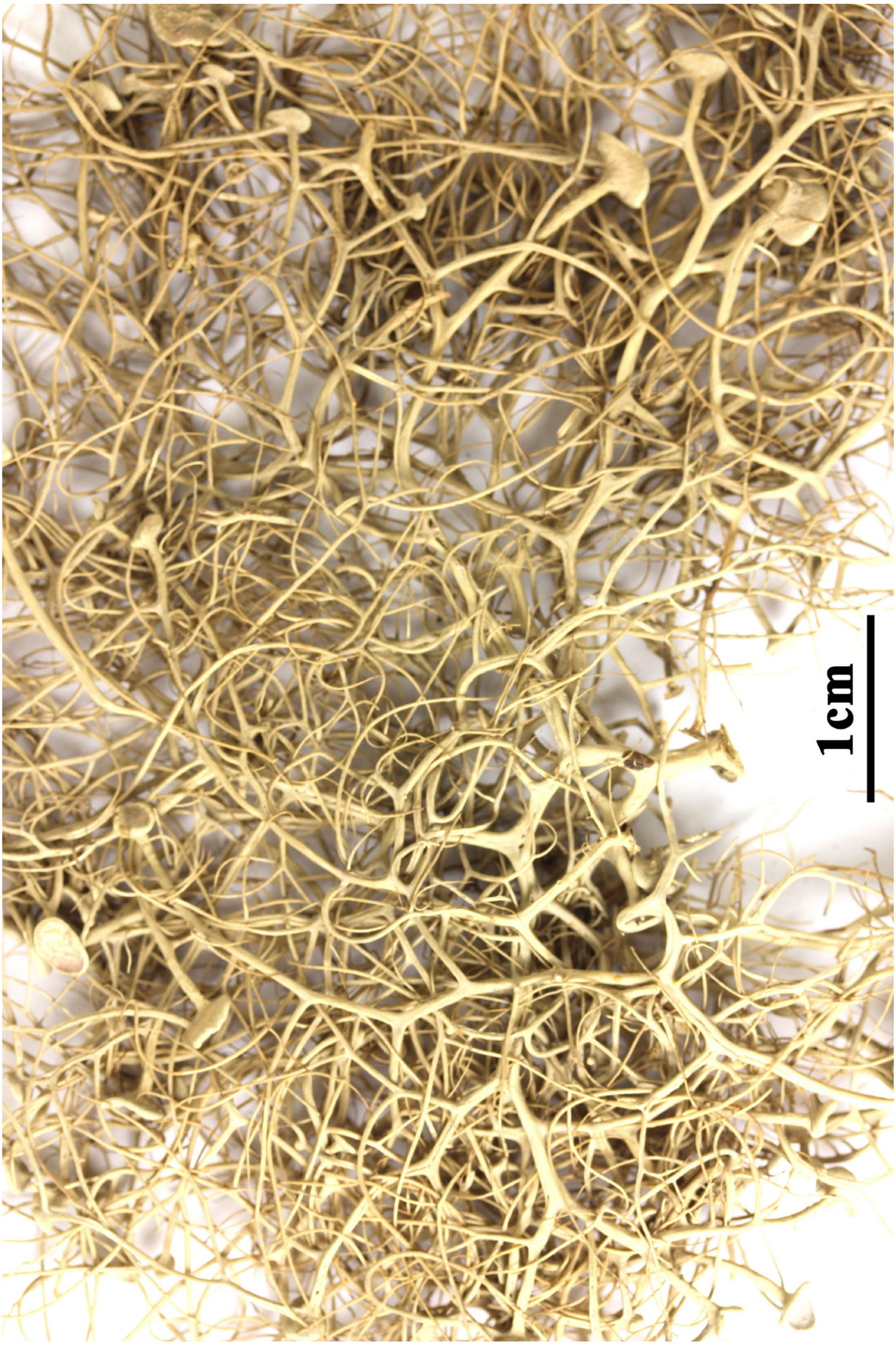
and the Australian Lichenslist under the Url:
https://www.anbg.gov.au/abrs/lichenlist/lichenchecklist_e_o.html

F. Schumm, 2026

Alectoria sulcata (Lév.) Nyl., Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 98 (1858) [1857]
= *Cornicularia sulcata* Lév. 1844
= *Sulcaria sulcata* (Lév.) Bystrek ex Brodo & D. Hawksw., Op. bot. 42: 156 (1977)

[KU103], Japan. Honshu. Prov. Musashi: Karisaka Pass, Chichibu. On tree trunk, 1850 m. Leg. S. Kurokawa (no.70160), 25.5.1970, det. S. Kurokawa. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR.103.

The lichen genus Sulcaria was established by BYSTREK (1971) mainly because of the long furrow-like (=sulcate) pseudocyphellae which, in older parts of the thallus, burst and expose the partly hollow medulla. The author included two species, the shrubby erect (or slightly pendant) *Sulcaria sulcata*, which is whitish-grey (to brownish purple) in colour, and the elongate, pendant *S. virens* with a green-yellow to yellow-grey thallus due to the vulpinic acid in the cortex and medulla.



Alectoria sulcata

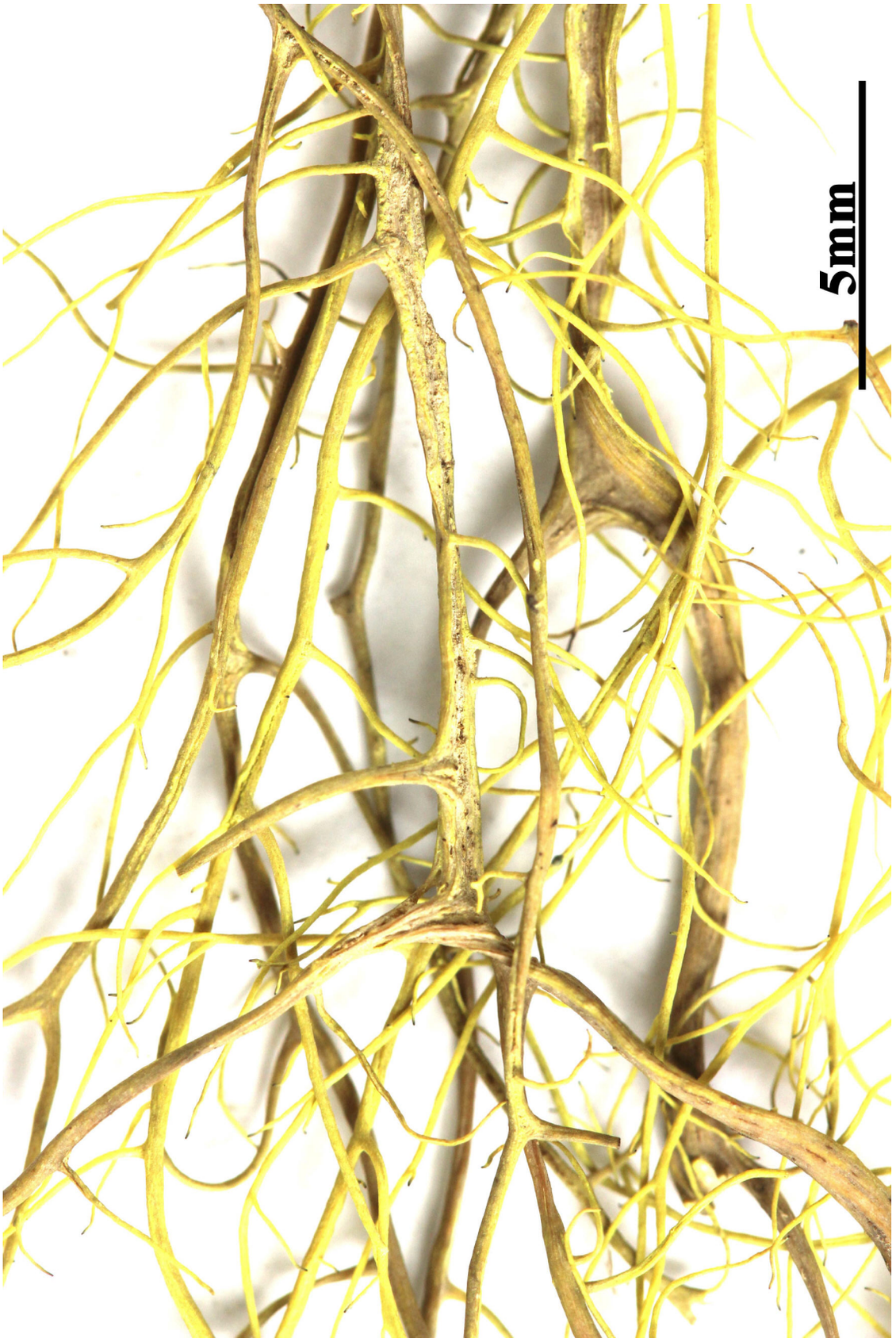


Alectoria sulcata

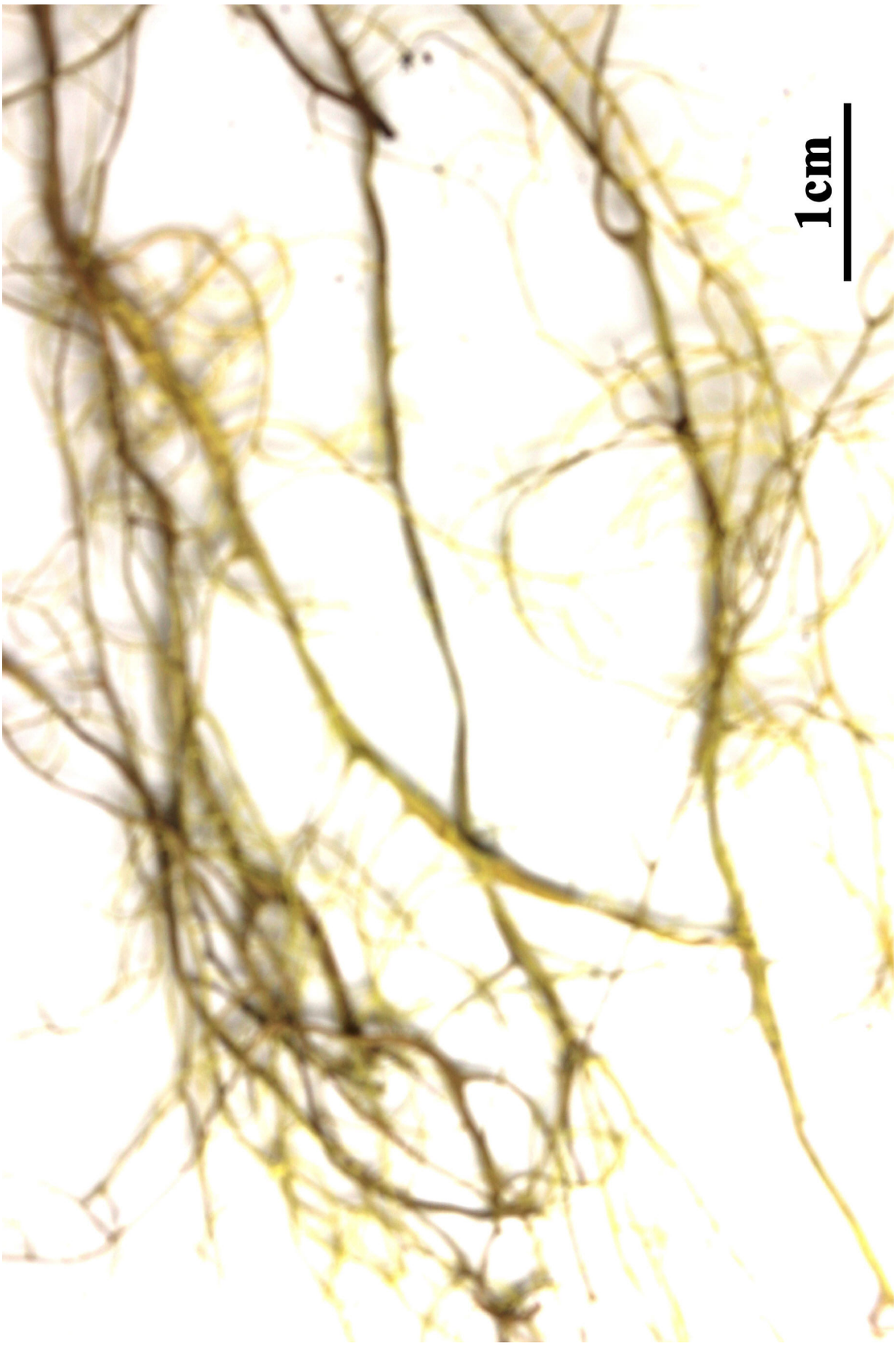
Alectoria virens Taylor, London J. Bot. 6: 188 (1847)
= *Sulcaria virens* (Taylor) Bystrek ex Brodo & D. Hawksw., Op. bot. 42: 156 (1977)

{KU402], Nepal.Kathomandu: Shiopur. On bark of *Rhododendron arboreum*, 2600m. Leg. M. Togashi, 21.9.1989, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORE ET CRITICI EXSICCATI NR. 402.

Sulcaria virens is a very distinctive species which is restricted to the Himalayan region (including parts of India, Nepal and China) and Taiwan. Sulcaria virens are perhaps most easily separated on the basis of the single longitudinal furrow which characterizes all branches.



Alectoria virens



Alectoria virens

Stereocaulon exutum Nyl., Lich. Japon.: 18 (1890)
= *Stereocaulon subramulosum* Müll. Arg., Flora, Regensburg 74(1): 108 (1891)

[KU490], Japan. Honshu. Prov. Ohmi: Mt. Horai, Shigagun. On rocks. 850 m. Leg. M. Togashi, 36.07.1967, det. Y. Asahina. Ex S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 490.

Pseudopodetia 4-7 cm, firmly fixed on the substratum (stone), 1-2 mm thick at the base, ascending, dichotomously and sympodially branched throughout the main stem, one side denuted, glabrous faintly yellowish or brownish; phyllocladia palmately branched below, in the upper part becoming shorter and subsimple. Cephalodia botryose, stalked, ashy gray. Apothecia terminal on the ultimate branchlets, 1-5 mm wide, at length convex and emerginate, larger ones often splitted in several divisions, disc reddish brown. Hymenium almost colorless, 80-88 µm high, hyaline ; hypothecium colorless or slightly yellowish, 60-70 µm thick; asci cylindrical 8-spored ; spores bacilliform, one end narrower, now 3-septate now 5-septate, 30-40 x 3.5-4.5 µm. The thalline reaction of this species is rather misleading. It is advisable to extract thalline fragments at first with hot benzene and then with hot aceton. The dried benzene extract (K+yellow) yields with o-T. solution yellow trichites (atranorin). The dried aceton extract (KC-+red) yields on recrystallization from G.E. solution under cover glass, radiating fine prisms (lobaric acid). - Very common in Hondo, Shikoku and Kiusiu.



Stereocaulon exutum



Stereocaulon exutum

Stereocaulon exutum Nyl., Lich. Japon.: 18 (1890)
= *Stereocaulon subramulosum* Müll. Arg., Flora, Regensburg 74(1): 108 (1891)

[OH690], Japan. Honshu. Prov. Shinano (Nagano Pref.): Lakeside of Shirakaba. On rock, 1400 m. Leg. M. Nuno & M. Togashi, 2.11.1969, det. Y. Asahina. Ex Ý. Ohmura LICHENES MINUS COGNITI EXSICCATI NR. 690.

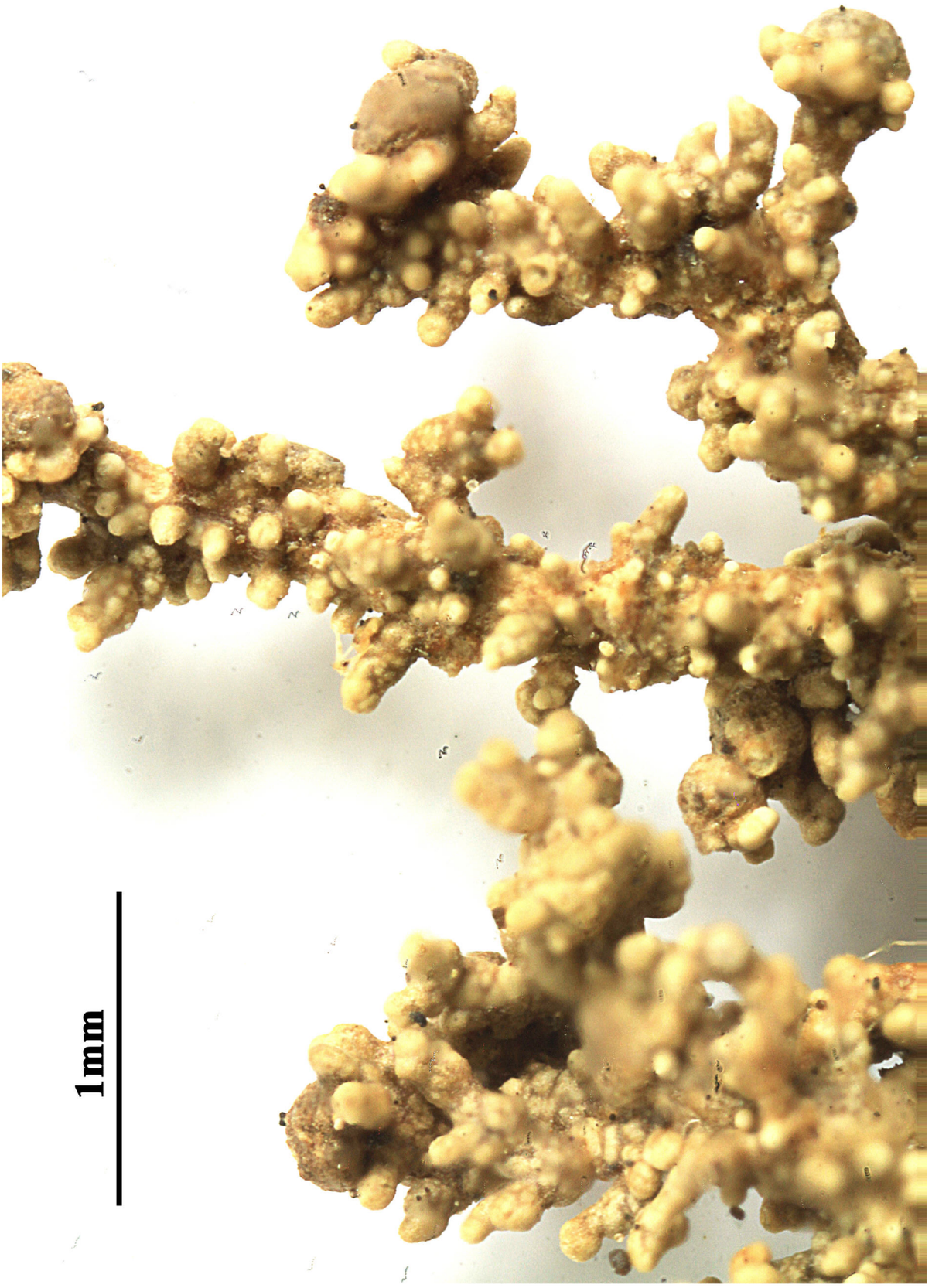
Pseudopodetia 4-7 cm, firmly fixed on the substratum (stone), 1-2 mm thick at the base, ascending, dichotomously and sympodially branched throughout the main stem, one side denuted, glabrous faintly yellowish or brownish; phyllocladia palmately branched below, in the upper part becoming shorter and subsimple. Cephalodia botryose, stalked, ashy gray. Apothecia terminal on the ultimate branchlets, 1-5 mm wide, at length convex and emerginate, larger ones often splitted in several divisions, disc reddish brown. Hymenium almost colorless, 80-88 µm high, hyaline ; hypothecium colorless or slightly yellowish, 60-70 µm thick; asci cylindrical 8-spored ; spores bacilliform, one end narrower, now 3-septate now 5-septate, 30-40 x 3.5-4.5 µm. The thalline reaction of this species is rather misleading. It is advisable to extract thalline fragments at first with hot benzene and then with hot aceton. The dried benzene extract (K+yellow) yields with o-T. solution yellow trichites (atranorin). The dried aceton extract (KC-+red) yields on recrystallization from G.E. solution under cover glass, radiating fine prisms (lobaric acid). - Very common in Hondo, Shikoku and Kiusiu.



Stereocaulon exutum



Stereocaulon exutum



Stereocaulon exutum

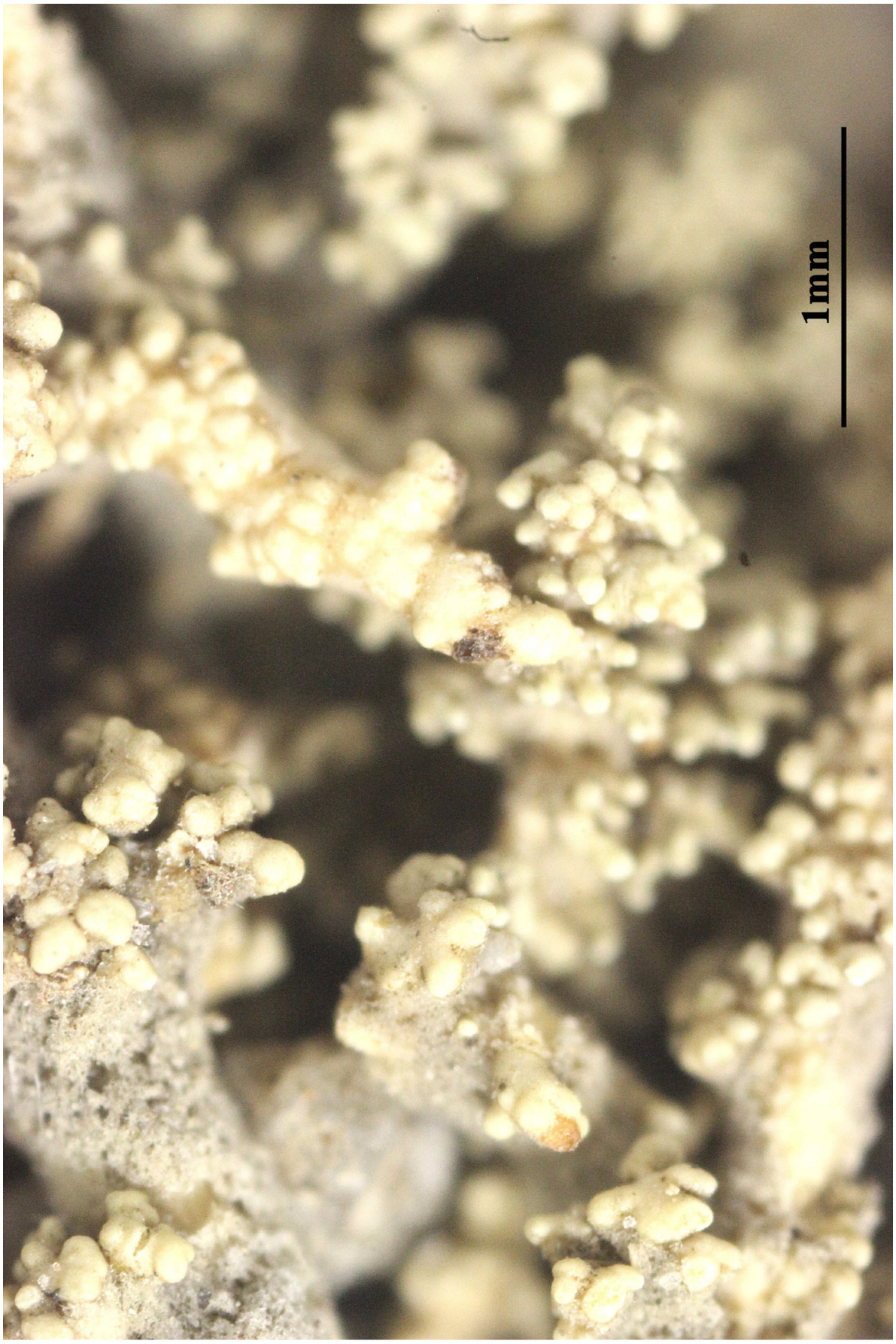
Stereocaulon incrustatum Flörke, Deutsche Lich. 4: 12 (1819)

[KU491], Japan. Hokkaido. Prov. Iburi: Kashiwabar, Tomakomai-city. On sandy soil, 5 m. Leg. H. Kashiwadani (no. 16039), 11.8.1980, det. E. Lamb. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et CriticiExsiccati Nr.491.

Primary thallus crustose-granulose, ephemeral, usually absent in mature individuals, secondary thallus fruticose, forming thick loose tufts. Pseudopodetia prostrate to ascending at the periphery, erect in the centre, 1-3(-5) cm tall, 0.8-1.2 mm thick, terete, densely white- to ash-grey-tomentose, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia irregularly distributed, thicker at the apices, whitish to bluish grey, verruciform and very small, often hidden by the tomentum, <0.2 mm in diam. Cephalodia sparse, up to 2 mm across but often smaller, grey-green to dark brown, globose, localised in the parts free from phyllocladia, often covered by the tomentum, containing *Stigonema*. Apothecia rare, 1-2 mm across, with a dark brown, convex disc and an indistinct, thin proper margin. Proper exciple brown in outer part, colourless within; epithecium brown, K-; hymenium colourless, (50-)60-65 µm high; paraphyses mostly simple, 1-1.5 µm thick, the apical cells 2-3.5 µm wide, with a dark cap; hypothecium colourless. Asci (4-)6(-8)-spored, cylindrical-clavate, with a K/I+ blue outer layer and apical dome, and a central, K/I+ darker blue tube, Porpidia-type. Ascospores septate, hyaline, fusiform, 35-44 x 2.5-3 µm. Pycnidia dark, immersed. Conidia 1-celled, hyaline, bacilliform, 4.5-6(-7) x 0.8-1.2 µm. Main photobiont chlorococcoid. Spot tests: K+ yellow, C-, KC- or KC+ violet (reaction often difficult to observe macroscopically, best evident on acetone extract on filter paper!), P- or P+ slowly pale yellow, UV+ blue-white. Chemistry: atranorin and variable amounts of lobaric acid. *Note*: an arctic-alpine to boreal-montane, circumpolar lichen found on mineral, nutrient-poor soil, in open Pinus-woodlands, in the vicinity of glaciers and by rivers.



Stereocaulon incrustatum



Stereocaulon incrustatum

Stereocaulon intermedium (Savicz) H. Magn., Göteborgs Kungl. Vetensk.-och Vitterh. Samh. handl., Ser. 4 30(no. 7): 23 (1926)

= *Stereocaulon coralloides* f. *intermedium* Savicz, Bot. Mater. Inst. Sporov. Rast. Glavn. Bot. Sada RSFSR 2(11 163. 1923): 163 (1923)

= *Stereocaulon intermedium* var. *gracile* M.R. Huang & J.C. Wei, Mycotaxon 90(2): 469 (2004)

[KU390], Japan, Honshu. Prov. Shinano: Mt Kamikochi, 2700 m. Leg. M. Togashi, 10.07.1971, det. Y. Asahina. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 390.

Primary thallus lacking; pseudopodetia erect, dorsiventral, caespitose, well branched from the base to the top, becoming gradually thinner toward the top. 2.5–3.7 cm tall, 0.5–0.7mm wide, decorticate, exposing inner layer, not ligneous, glabrous to thin tomentum, firmly attached to the rock, phyllocladia abundant, granular to verrucose in upper part, whereas in basal part terete to coralloid, partly squamulose-like, grayish white to white, 0.5–1mm long, 0.1–0.2 mm wide, cephalodia abundant, sessile on pseudopodetia, violet-gray to brownish, spherical to botryose, tubercular, 1–2mm wide, concealed in phyllocladia to conspicuous well on pseudopodetia. Apothecia are not observed. Chemistry: K+ yellow, P– pale yellow. TLC: atranorin, lobaric acid. Remarks: This species may be confused with other coralloid type species. It is close to *S. verruculigerum* but differs by having a short tomentum and shorter pseudopodetia and is more whitish with verrucose phyllocladia at the young stage.



Stereocaulon intermedium



Stereocaulon intermedium

Stereocaulon intermedium (Savicz) H. Magn., Göteborgs Kungl. Vetensk.-och Vitterh. Samh. handl., Ser. 4 30(no. 7): 23 (1926)

= *Stereocaulon coralloides* f. *intermedium* Savicz, Bot. Mater. Inst. Sporov. Rast. Glavn. Bot. Sada RSFSR 2(11 163. 1923): 163 (1923)

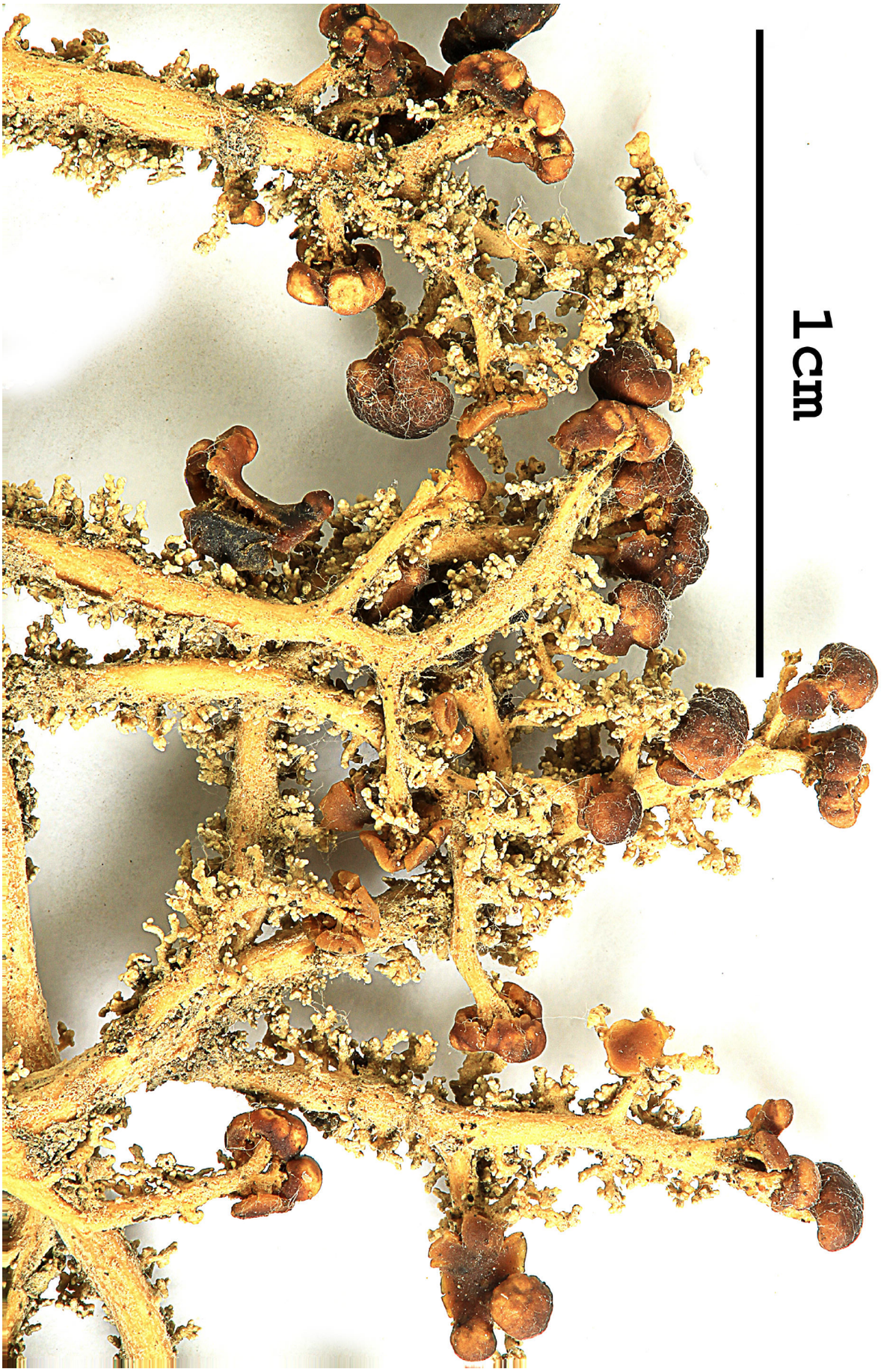
= *Stereocaulon intermedium* var. *gracile* M.R. Huang & J.C. Wei, Mycotaxon 90(2): 469 (2004)

[KU539], Japan, Honshu. Prov. Suruga: Mt Nohtori. On rocks, 2600 m. Leg. M. Togashi, 17.07.1971, det. Y. Asahina. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 539.

Primary thallus lacking; pseudopodetia erect, dorsiventral, caespitose, well branched from the base to the top, becoming gradually thinner toward the top. 2.5–3.7 cm tall, 0.5–0.7mm wide, decorticate, exposing inner layer, not ligneous, glabrous to thin tomentum, firmly attached to the rock, phyllocladia abundant, granular to verrucose in upper part, whereas in basal part terete to coralloid, partly squamulose-like, grayish white to white, 0.5–1mm long, 0.1–0.2 mm wide, cephalodia abundant, sessile on pseudopodetia, violet-gray to brownish, spherical to botryose, tubercular, 1–2mm wide, concealed in phyllocladia to conspicuous well on pseudopodetia. Apothecia are not observed. Chemistry: K+ yellow, P– pale yellow. TLC: atranorin, lobaric acid. Remarks: This species may be confused with other coralloid type species. It is close to *S. verruculigerum* but differs by having a short tomentum and shorter pseudopodetia and is more whitish with verrucose phyllocladia at the young stage.



Stereocaulon intermedium



Stereocaulon intermedium

Stereocaulon intermedium (Savicz) H. Magn., Göteborgs Kungl. Vetensk.-och Vitterh. Samh. handl., Ser. 4 30(no. 7): 23 (1926)

= *Stereocaulon coralloides* f. *intermedium* Savicz, Bot. Mater. Inst. Sporov. Rast. Glavn. Bot. Sada RSFSR 2(11 163. 1923): 163 (1923)

= *Stereocaulon intermedium* var. *gracile* M.R. Huang & J.C. Wei, Mycotaxon 90(2): 469 (2004)

[OH692], Japan, Honshu. Kai Prov. (Yamanashi Pref.): Mt. Kita-dake (35°40' N, 138°14' E). On rock, 2800 m. Leg. M. Togashi, 19.07.1972, det. Y. Asahina. - Ex Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 692.

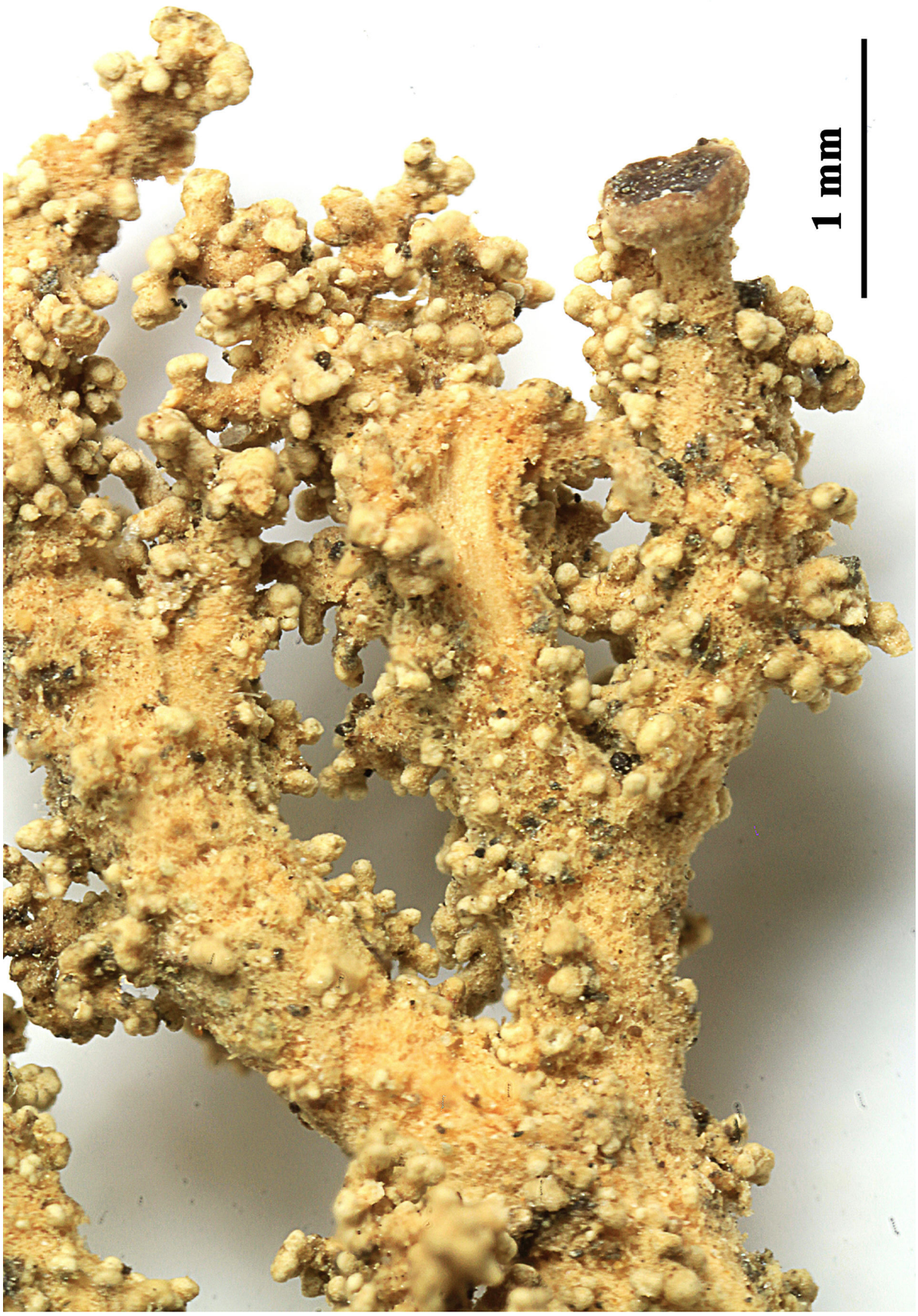
Primary thallus lacking; pseudopodetia erect, dorsiventral, caespitose, well branched from the base to the top, becoming gradually thinner toward the top. 2.5–3.7 cm tall, 0.5–0.7mm wide, decorticate, exposing inner layer, not ligneous, glabrous to thin tomentum, firmly attached to the rock, phyllocladia abundant, granular to verrucose in upper part, whereas in basal part terete to coralloid, partly squamulose-like, grayish white to white, 0.5–1mm long, 0.1–0.2 mm wide, cephalodia abundant, sessile on pseudopodetia, violet-gray to brownish, spherical to botryose, tubercular, 1–2mm wide, concealed in phyllocladia to conspicuous well on pseudopodetia. Apothecia are not observed. Chemistry: K+ yellow, P– pale yellow. TLC: atranorin, lobaric acid. Remarks: This species may be confused with other coralloid type species. It is close to *S. verruculigerum* but differs by having a short tomentum and shorter pseudopodetia and is more whitish with verrucose phyllocladia at the young stage.



Stereocaulon intermedium



Stereocaulon intermedium



Stereocaulon intermedium

Stereocaulon japonicum* var. *subfastigiatum Asahina, J. Jap. Bot. 35: 289 (1960)

[OH693], Japan. Kyushu. Ohsumi Prov. (Kagoshima Pref.): Hananoe-go, Yakushima Island. On rock, 1600 m. Leg. M. Togashi, 10.11.1962, det. Y. Asahina. - Ex Y .OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 693.

St. japonicum Th. Fr.

1a Primary thallus usually evanescent; true phyllocladia coralloid, up to 0.7(-1.0) mm long and over 0.1 mm diam ->2

2a Habitus fastigiate-caespitose; many of the lower phyllocladia in the form of harmonic phyllocladioid branchlets: **var *subfastigiatum* Asah**.

2b Habitus not fastigiate-caespitose; phyllocladia all coralloid and disharmonic, not in the form of phyllocladioid branchlets: f**orma typica speciei**

1b Primary thallus persistent; phyllocladia minute, not over 0.5 mm long and 0.1(-0.15) mm diam. ->3

3a Primary thallus forming a diffract-areolate crust; pseudopodetia very short, 2-4 rnm long; phyllocladia grain-like: **var *tokioense* Lamb**

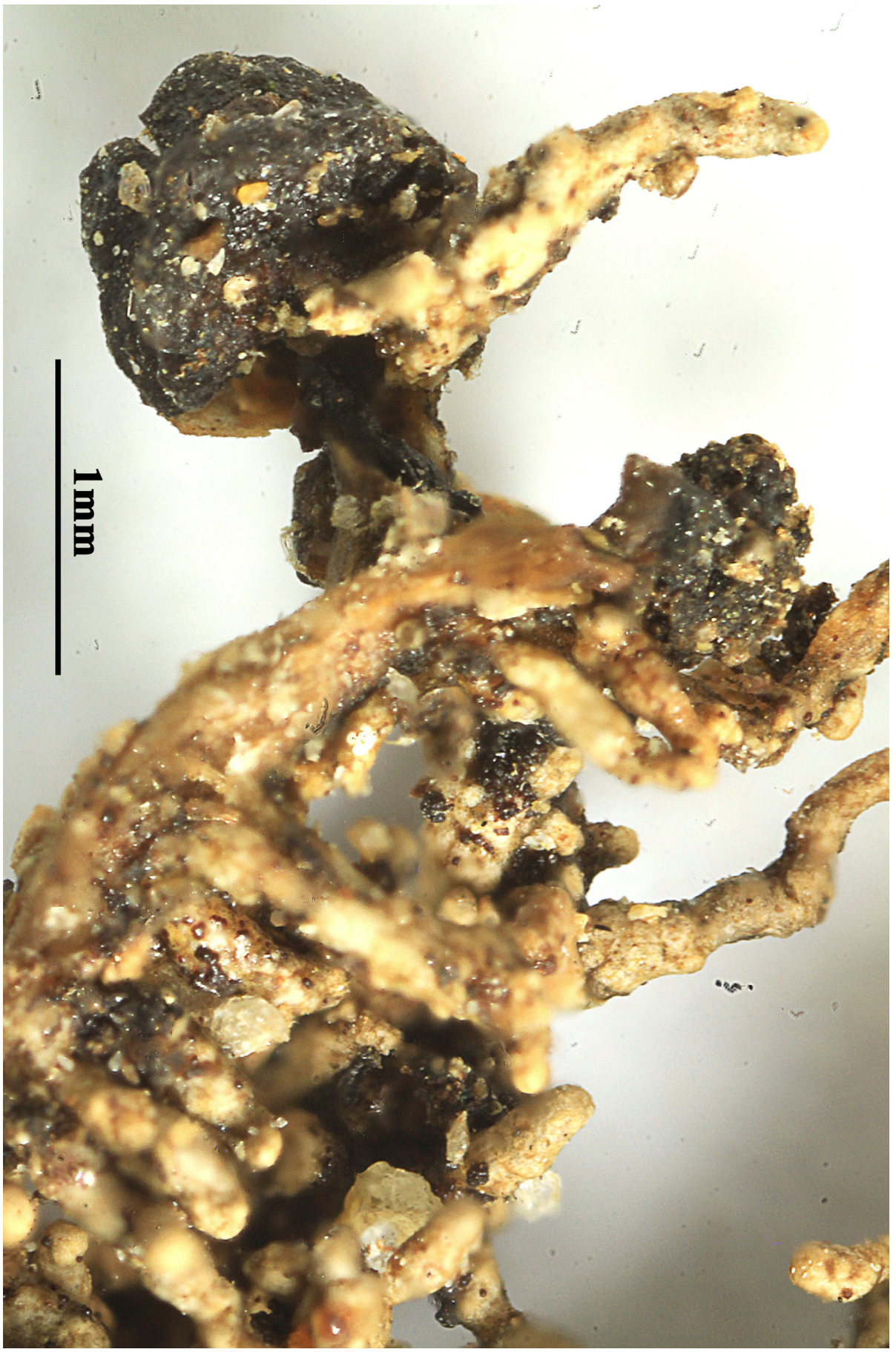
3b Primary thallus not forming a diffract-areolate crust; pseudopodetia longer, up to 2(-2.5) cm long; phyllocladia minutely coralloid: **var. *aogasimense* (Asah.) Lamb**



Stereocaulon japonicum* var. *subfastigiatum



Stereocaulon japonicum* var. *subfastigiatum



Stereocaulon japonicum* var. *subfastigiatum

Stereocaulon japonicum Th. Fr., Stereoc. Piloph. Comm.: 18 (1857)

[KU687], Japan, Honshu, Prov. Sagami: Saijohji Temple, Odawara. Leg. M. Togashi, 31.12.1956. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 687.

Podetia caespitose, 12-15 mm high, subtomentose, the peristent basal squamules more or less coralline branched, reaching 2 mm in length, the upper merely papilliform und under 1 mm. Cephalosia botryose, up to 2,3 mm in diam. Apothecia terminal, 1-2 mm, emarginate, black or nearly so. Spores 4-locular, 22-36 x 3.5 µm, obtuse at both ends. Hypothecium pale.





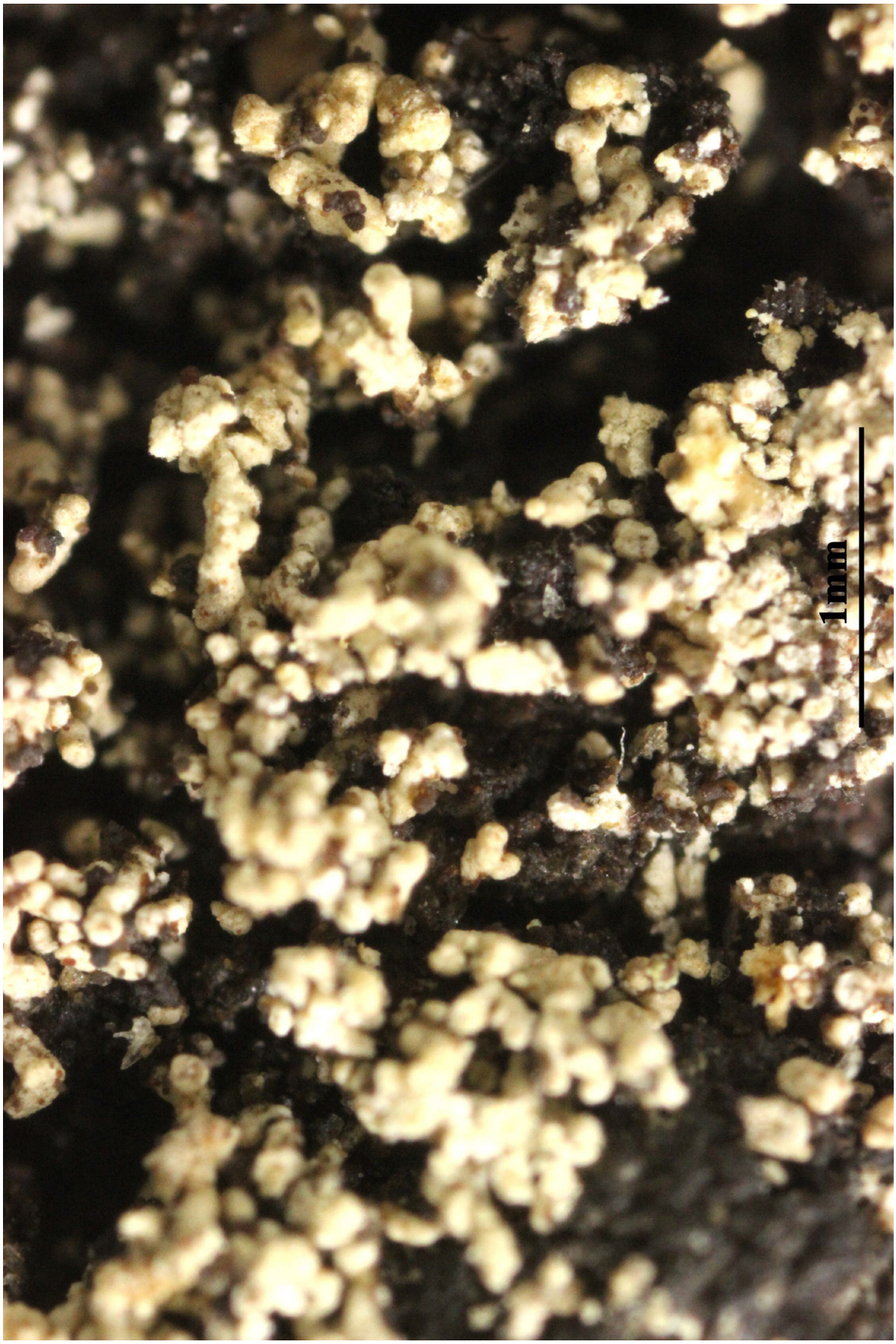
Stereocaulon japonicum

Stereocaulon japonicum* var. *tokyoense I.M. Lamb [as 'tokioense'], J. Jap. Bot. 44(9): 265 (1969)

[KU332], Japan. Honshu. Prov. Izu: jahatano. Izu Peninsula. On cliffs along the sea. Leg. S. Kurokawa (no. 72039), 22-4-1972, det. Y. Asahina. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr.332.



Stereocaulon japonicum* var. *tokyoense



Stereocaulon japonicum* var. *tokyoense

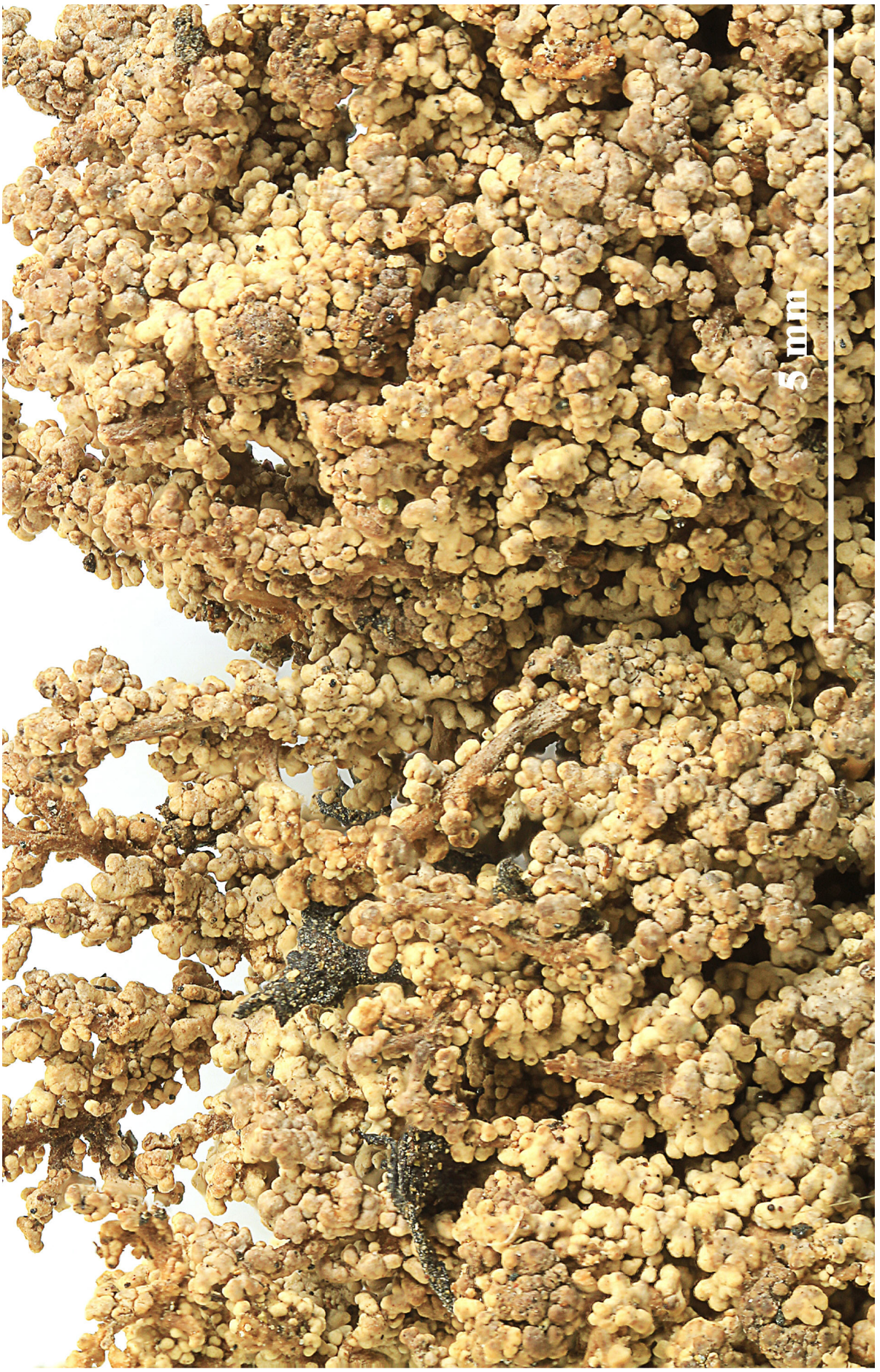
Stereocaulon intermedium (Savicz) H. Magn., Göteborgs Kungl. Vetensk.-och Vitterh. Samh. handl., Ser. 4 30(no. 7): 23 (1926)
= *Stereocaulon coralloides* f. *intermedium* Savicz, Bot. Mater. Inst. Sporov. Rast. Glavn. Bot. Sada RSFSR 2(11 163. 1923): 163 (1923)

[OH691], Japan, Honshu. Shinano Prov. (Nagano Pref.): Mt. Shiomidake (35°45' N, 138°11' E). On rock, 2800-3000 m. Leg. M. Nuno & M. Togashi, 26.08.1969, det. Y. Asahina. - Ex Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 691.

Primary thallus lacking; pseudopodetia erect, dorsiventral, caespitose, well branched from the base to the top, becoming gradually thinner toward the top. 2.5–3.7 cm tall, 0.5–0.7mm wide, decorticate, exposing inner layer, not ligneous, glabrous to thin tomentum, firmly attached to the rock, phyllocladia abundant, granular to verrucose in upper part, whereas in basal part terete to coralloid, partly squamulose-like, grayish white to white, 0.5–1mm long, 0.1–0.2 mm wide, cephalodia abundant, sessile on pseudopodetia, violet-gray to brownish, spherical to botryose, tubercular, 1–2mm wide, concealed in phyllocladia to conspicuous well on pseudopodetia. Apothecia are not observed. Chemistry: K+ yellow, P– pale yellow. TLC: atranorin, lobaric acid. Remarks: This species may be confused with other coralloid type species. It is close to *S. verruculigerum* but differs by having a short tomentum and shorter pseudopodetia and is more whitish with verrucose phyllocladia at the young stage.



Stereocaulon intermedium



Stereocaulon intermedium

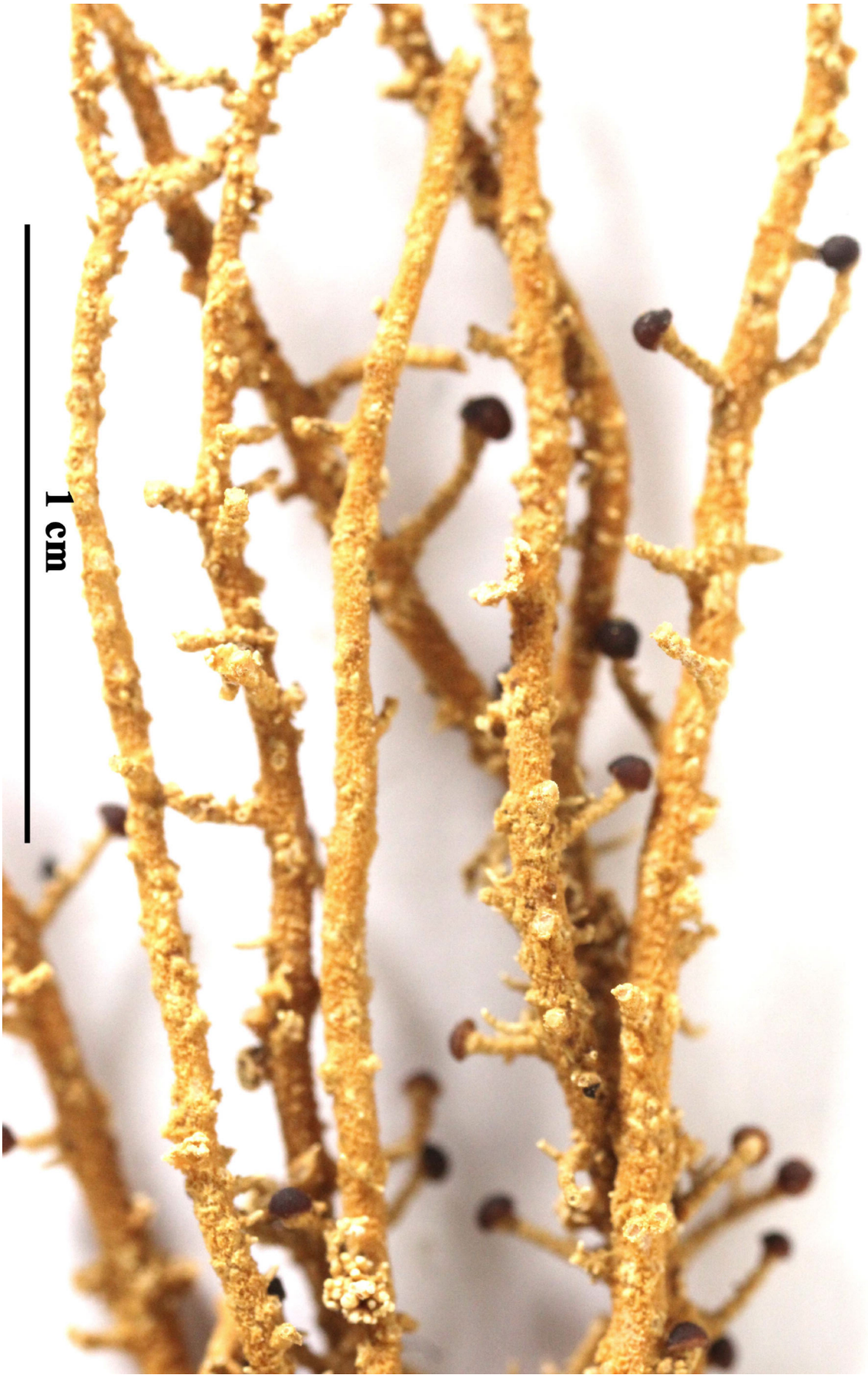


Stereocaulon intermedium

Stereocaulon massartianum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 252 (1898)

[KU688], Papua Vw Guinea. Morabe District. Vicinity of Kasanombe, 0 km N of Lae, 1600-1700 m. Leg. S. Kurokawa (no. 9625), 14.11.1975, det. M. Mineta. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariotes Et Cdritici Exsiccati Nr. 688.

Pseudopodetia erect, up to about 7 cm high, subsimple or sparingly branched, decorticate, glabrous or subglabrous. Phyllocladial branchlets cylindrical-coralloid, slender, simple or branched, ± evenly distributed. Cephalodia lateral on main branches, sessile, foveolate sacculate, wrinkled, gray to brownish, with gelatinous cortex showing both round and palisadically elongated cells; containing *Scytonema* or *Stigonema.* Apothecia mostly terminal on individual short side-branches springing at right angles from pseudopodetium, up to 1 mm diam., originating in small pyriform clavulae, finally convex-immarginate without noticeable hypophysis. Excipulum up to 180 µm thick. Central cone compact, ±hyaline, without inclusions. Hypothecium colorless or faintly sordid. Hymenium (100-)120-160 µm high, with dark brown epithecium. Paraphyses slender, filiform, discrete. Spores 8, spirally wound in ascus, 7-14-septate (rarely up to 19 or 20-septate), vermiform, sinuose, (75-) 90-120 x 3-4 µm.



Stereocaulon massartianum



Stereocaulon massartianum

Stereocaulon massartianum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 252 (1898)

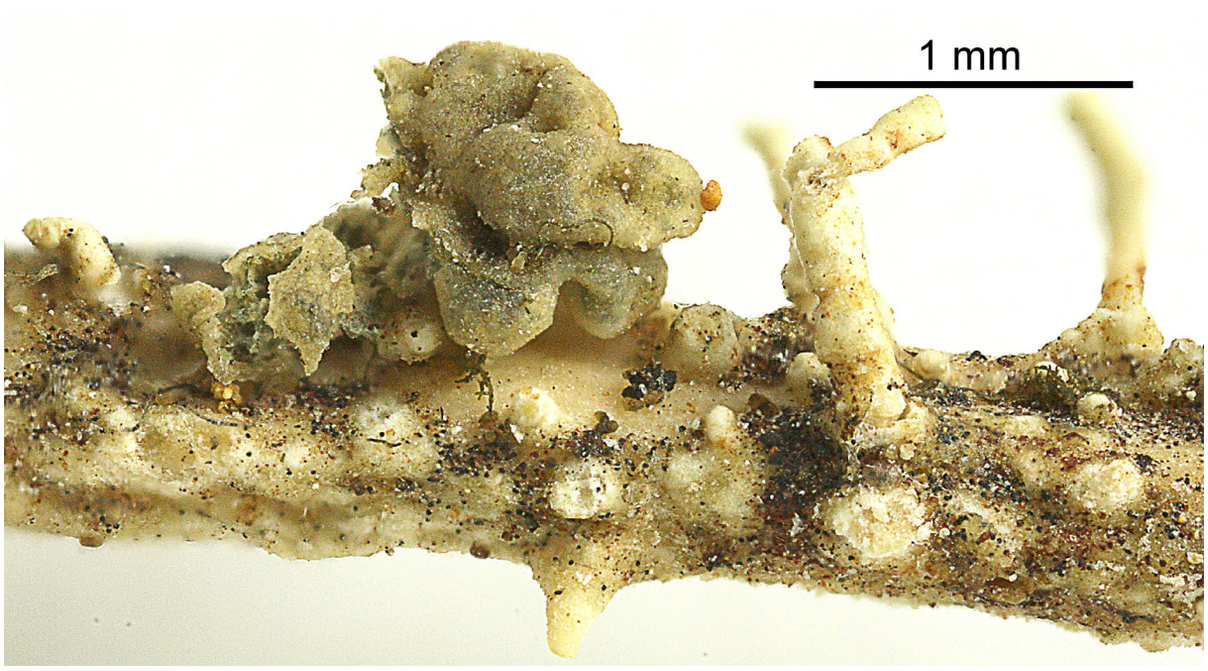
[6001]. Philippinen, Mindanao, Provinz Cotabato, Mt. Apo, tropischer Bergregenwald, Weg zwischen Lake-Agko-Campsite und Marbel-River-Campsite, ca. 07°01'-07°00' N , 125°13.3'-125°14.7'E, 1240 m -1490 m, auf Steinen am Marbel River. Leg. F. Schumm & U. Schwarz, 07.08.1999, det. F. Schumm 10.1999, conf. Sipman 03.2000, vid. Aptroot 2009. - Sporen 14-20 septiert, 120 µm lang, umeinander gewunden. Cephalodien berindet (sacculat). Podetien P- bis gelblich; atranorin, norstictic (Apoth mit K sogar rote Nadeln!), connorstictic acids (solvent G, Sipman). - Ex Herbario F. Schumm Nr.6001.

Pseudopodetia erect, up to about 7 cm high, subsimple or sparingly branched, decorticate, glabrous or subglabrous. Phyllocladial branchlets cylindrical-coralloid, slender, simple or branched, ± evenly distributed. Cephalodia lateral on main branches, sessile, foveolate sacculate, wrinkled, gray to brownish, with gelatinous cortex showing both round and palisadically elongated cells; containing *Scytonema* or *Stigonema*. Apothecia mostly terminal on individual short side-branches springing at right angles from pseudopodetium, up to 1 mm diam., originating in small pyriform clavulae, finally convex-immarginate without noticeable hypophysis. Excipulum up to 180 µm thick. Central cone compact, ±hyaline, without inclusions. Hypothecium colorless or faintly sordid. Hymenium (100-)120-160 µm high, with dark brown epithecium. Paraphyses slender, filiform, discrete. Spores 8, spirally wound in ascus, 7-14-septate (rarely up to 19 or 20-septate), vermiform, sinuose, (75-) 90-120 x 3-4 µm.

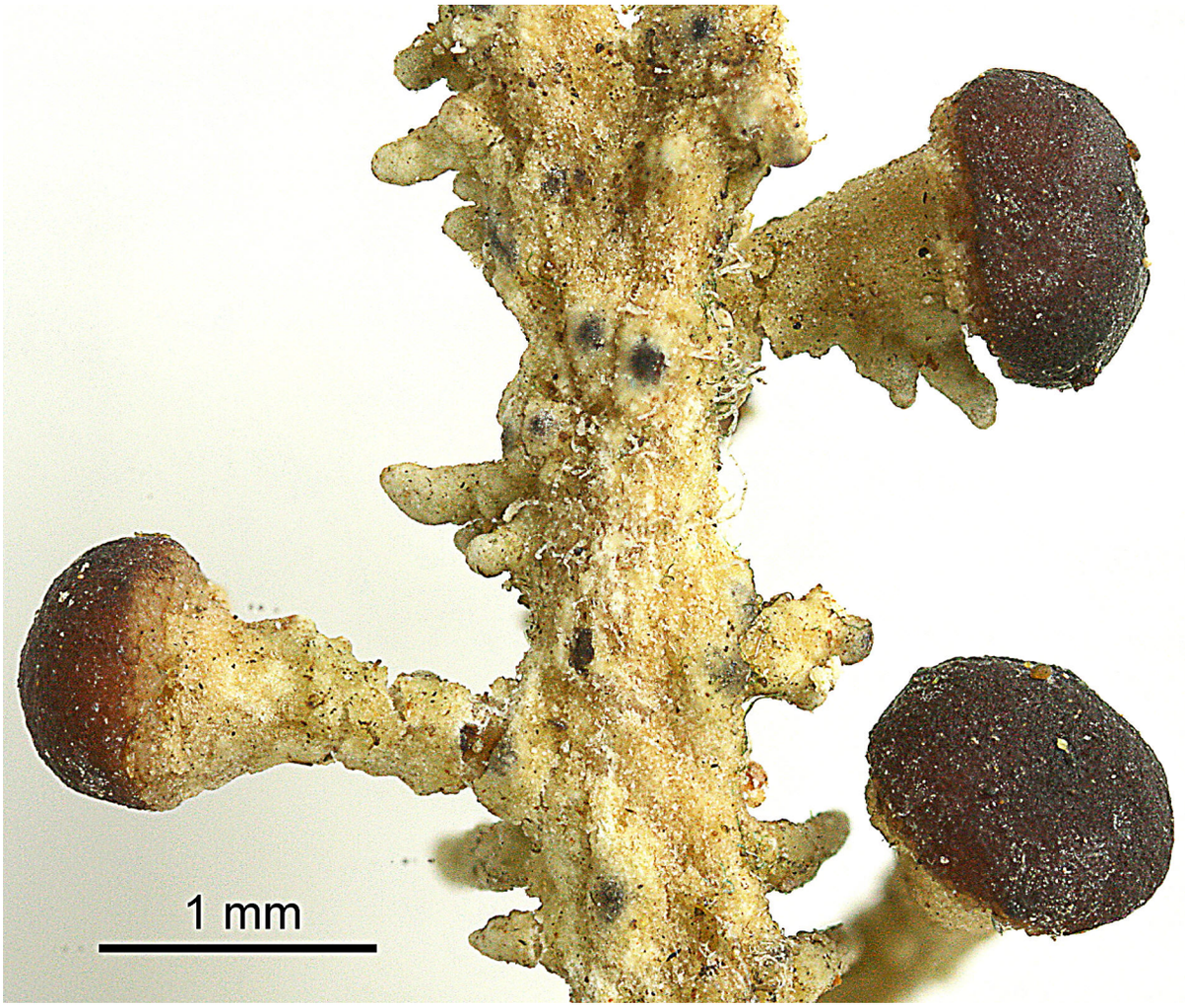


Stereocaulon massartianum

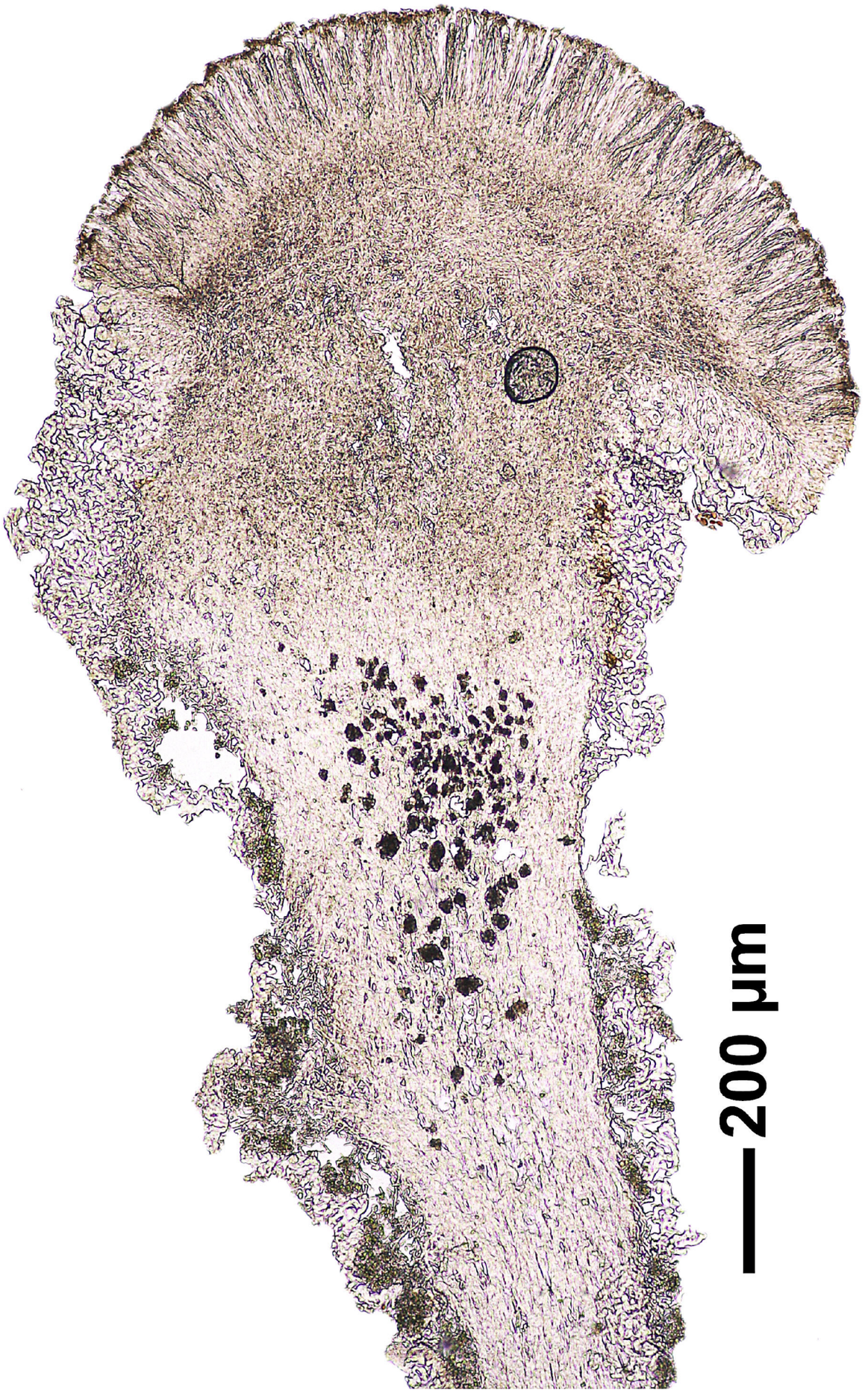




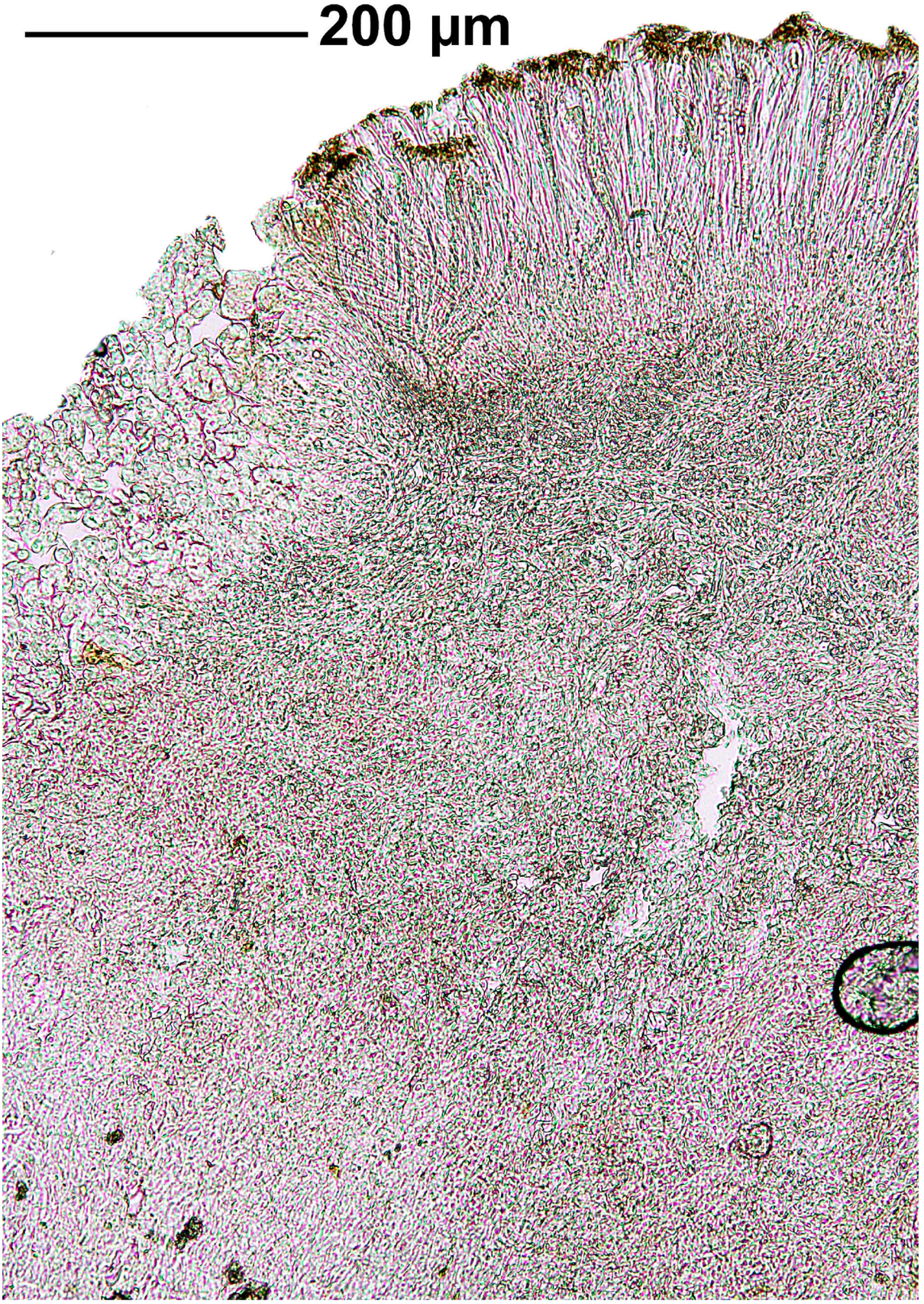
Stereocaulon massartianum



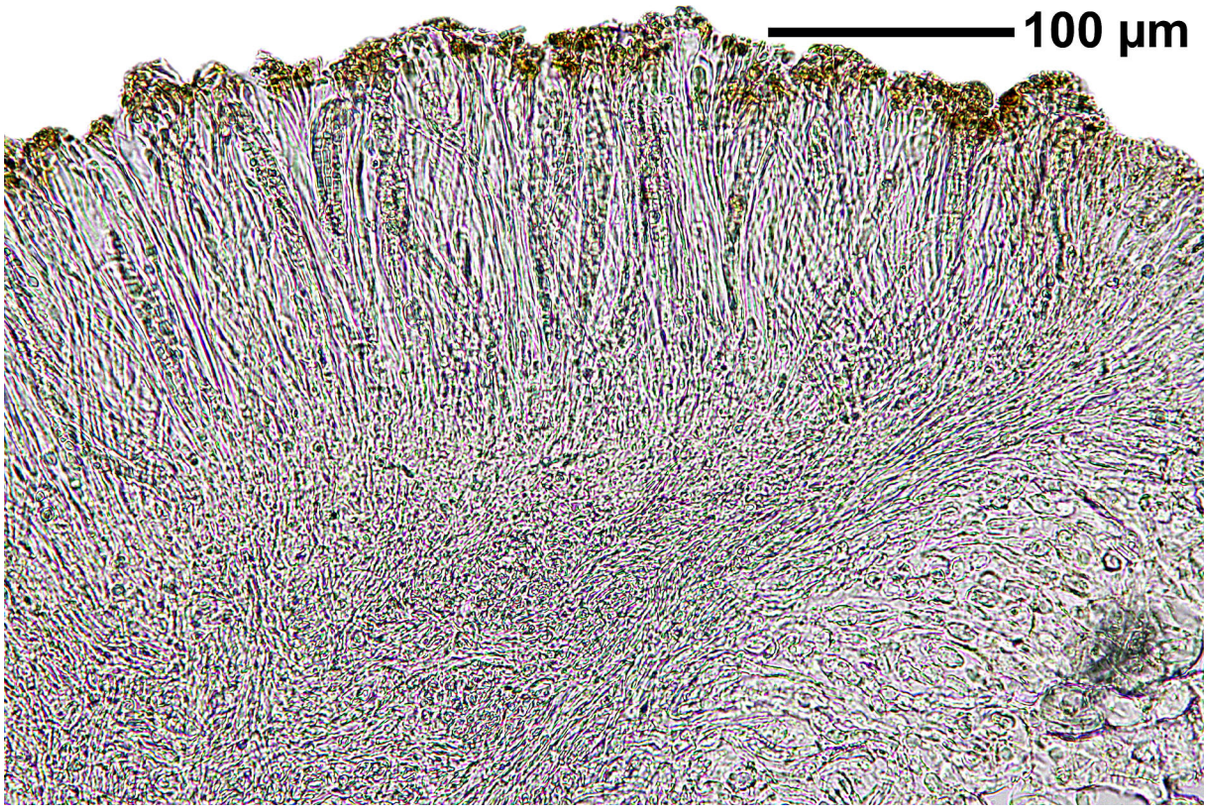
Stereocaulon massartianum

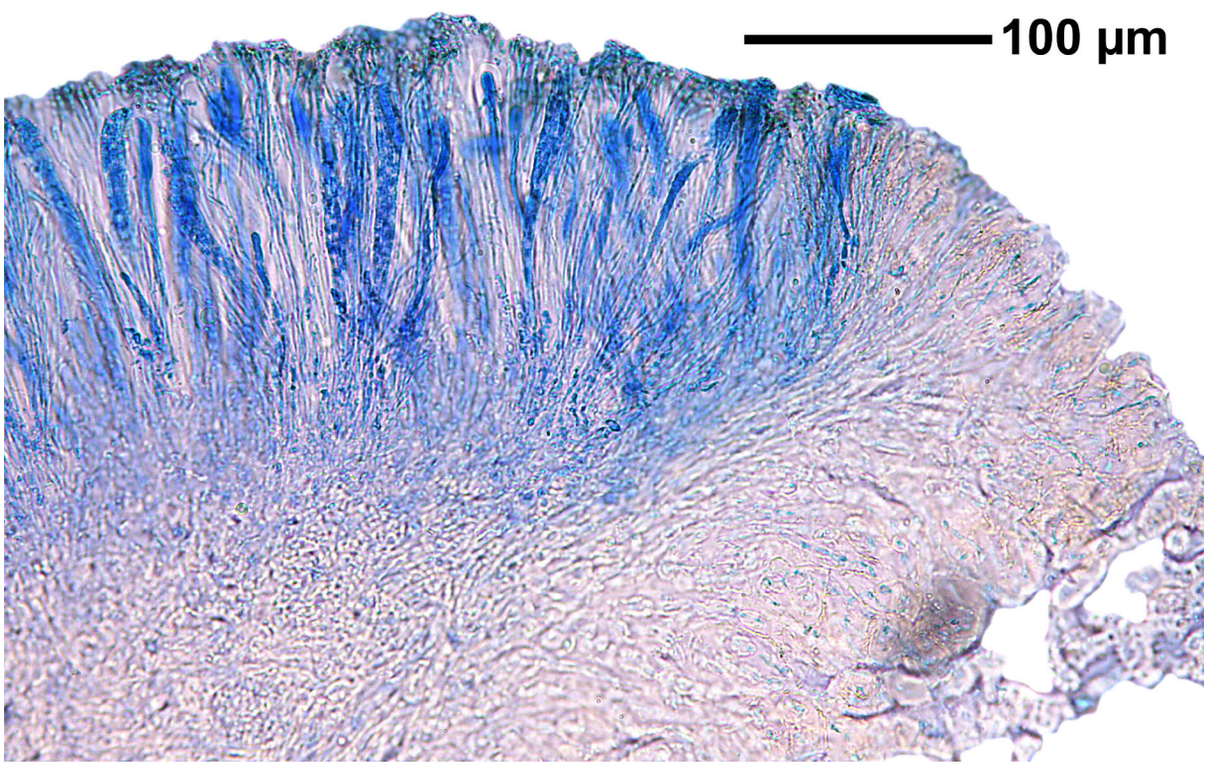


Stereocaulon massartianum



Stereocaulon massartianum

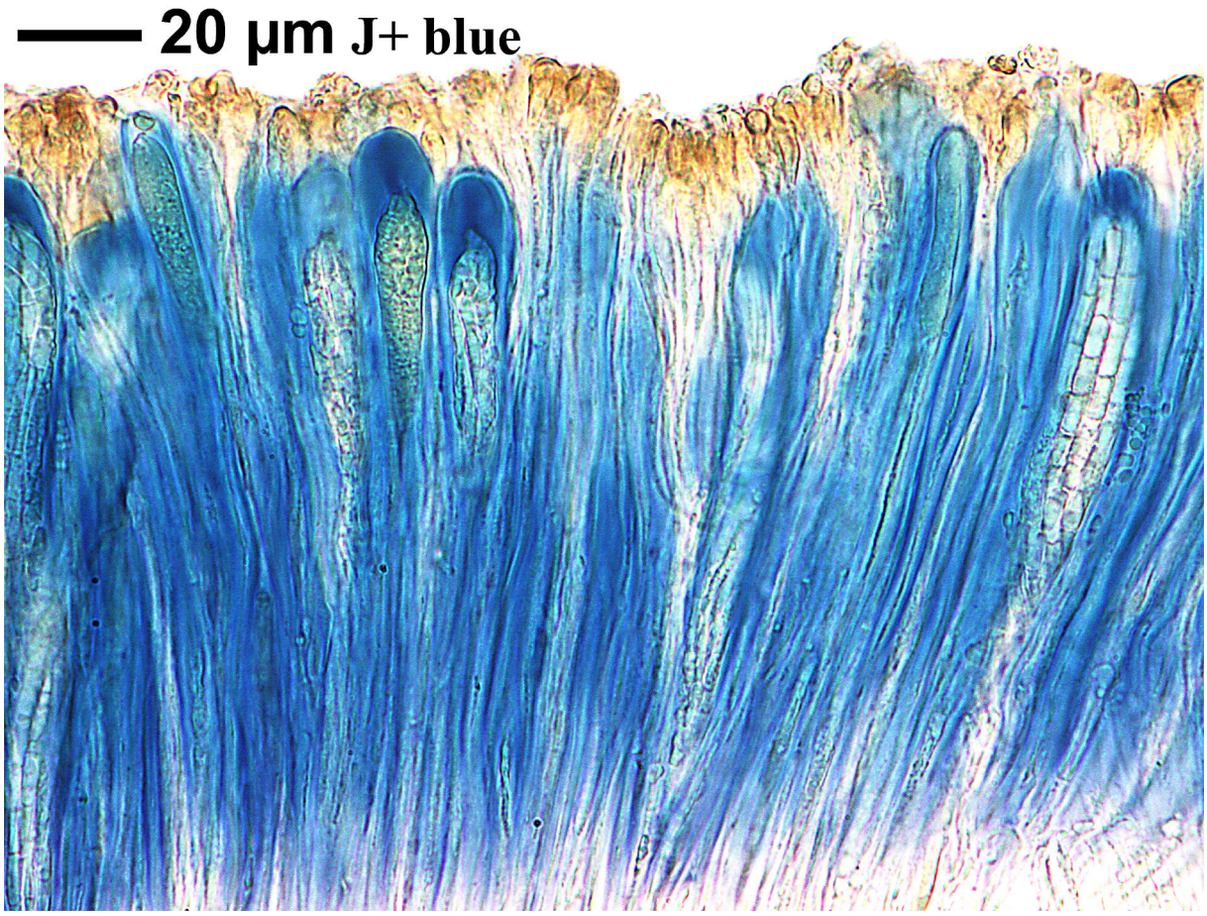


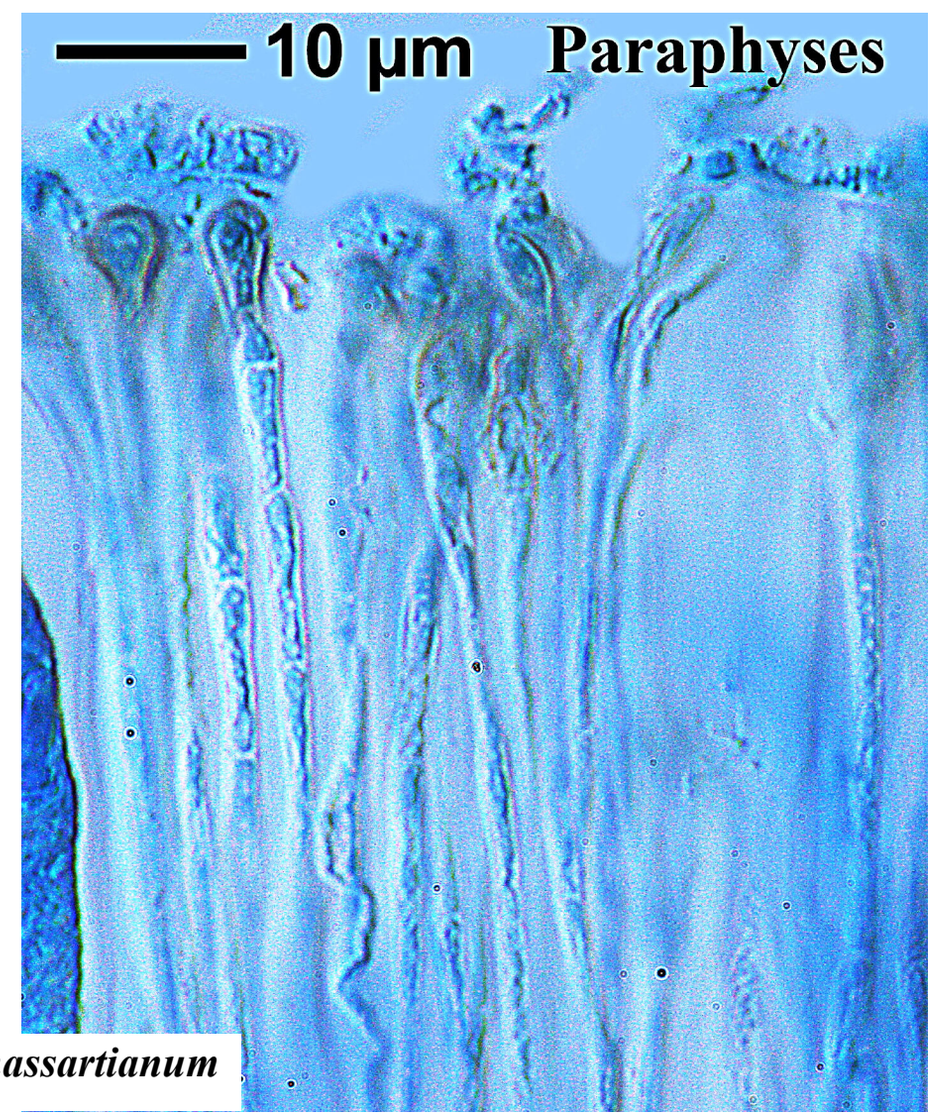


Stereocaulon massartianum

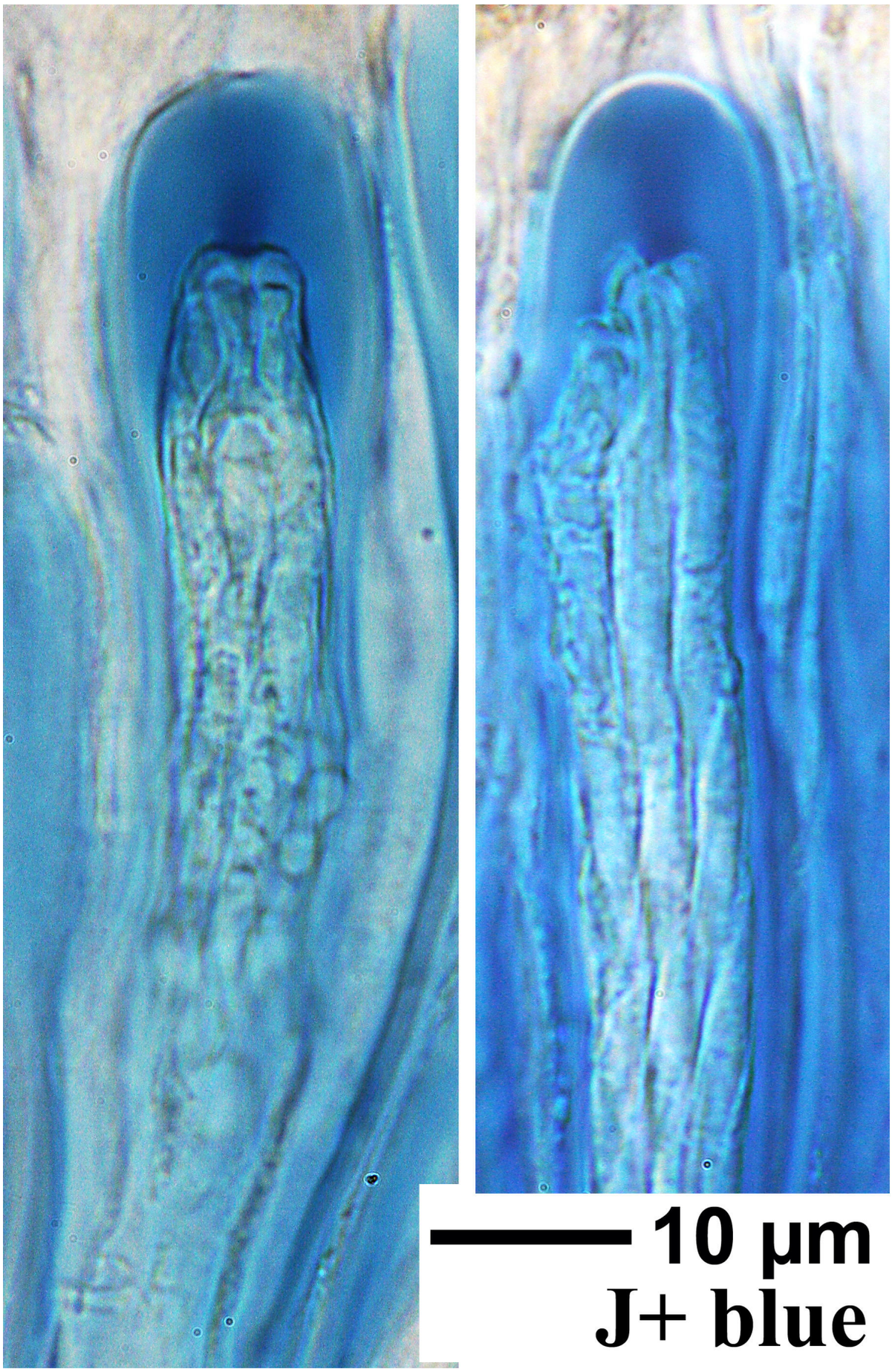


Stereocaulon massartianum

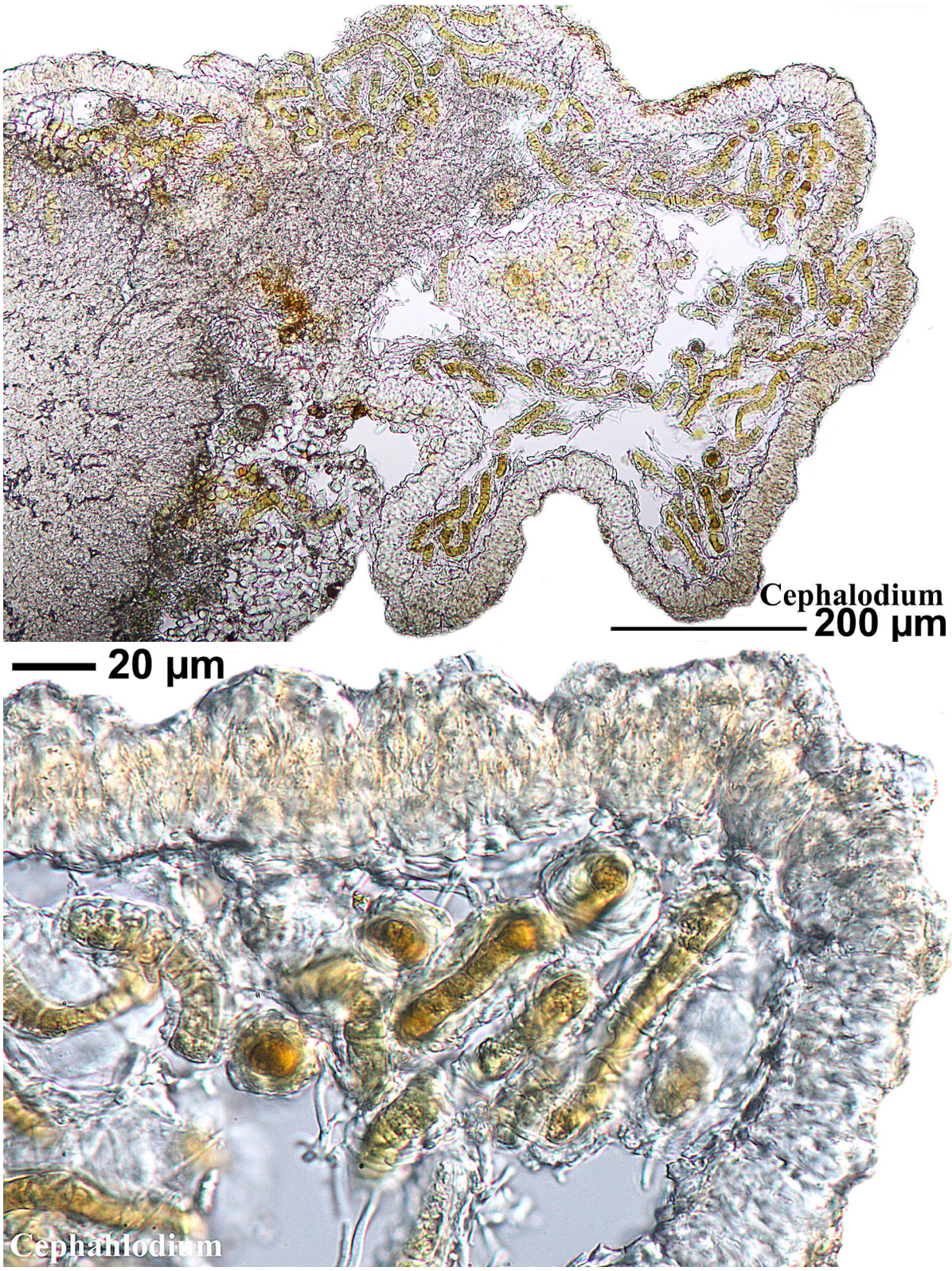




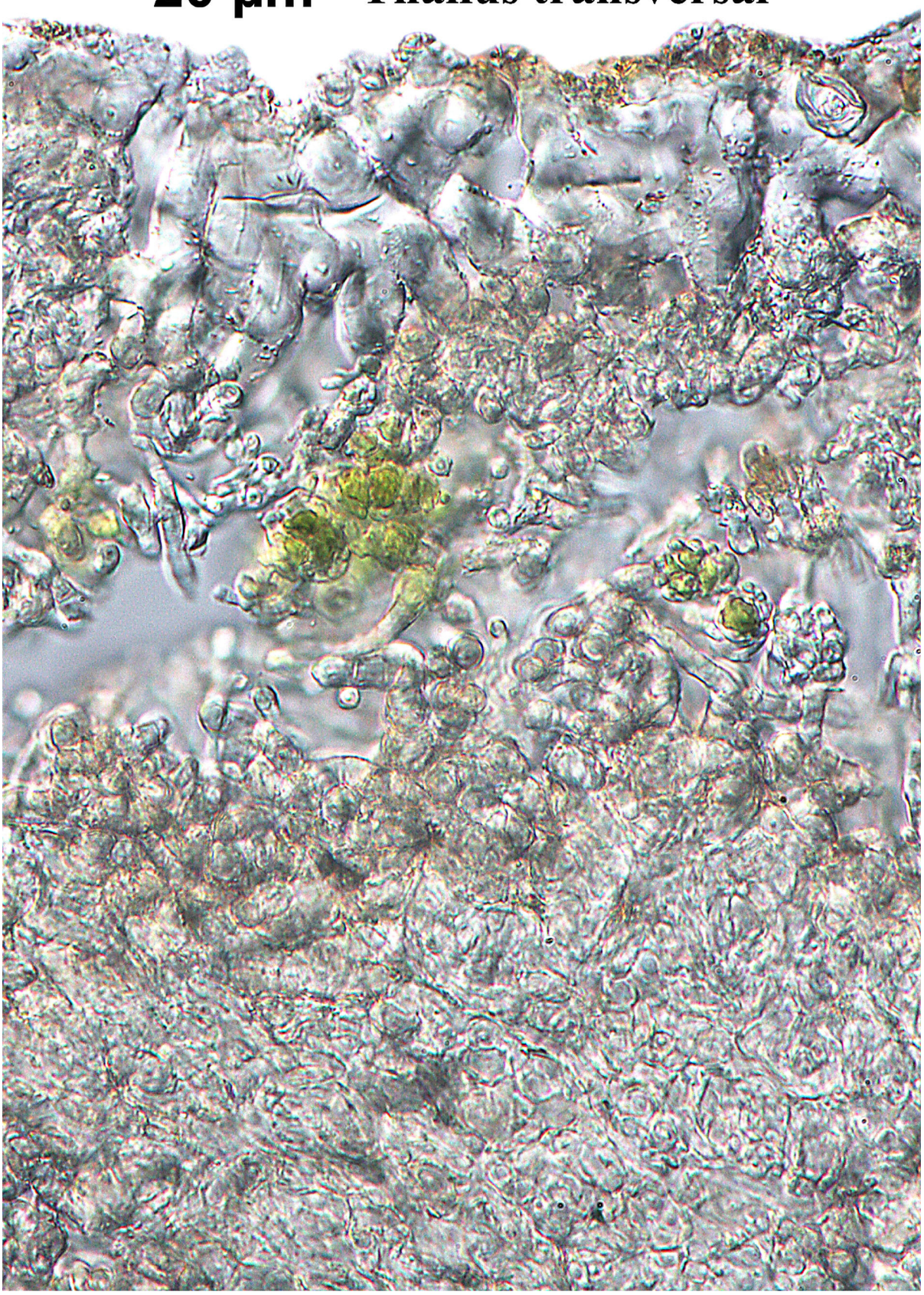
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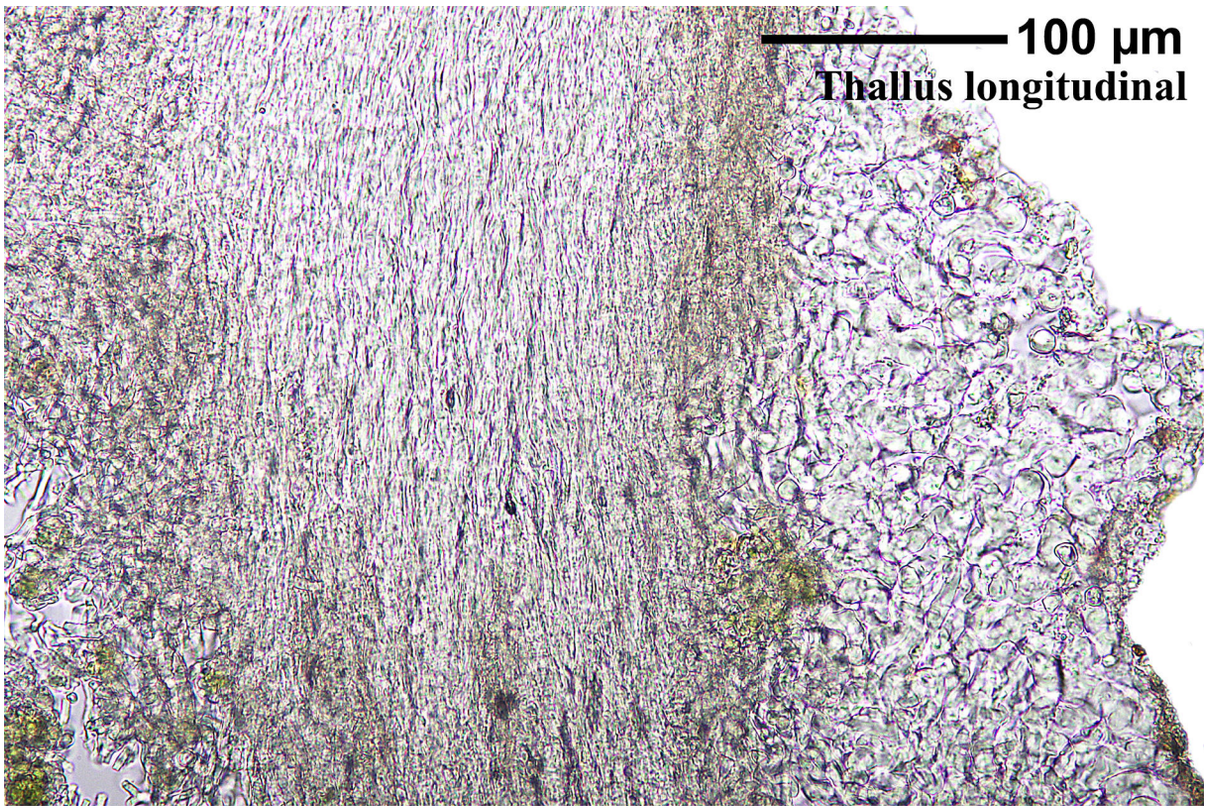
Stereocaulon massartianum

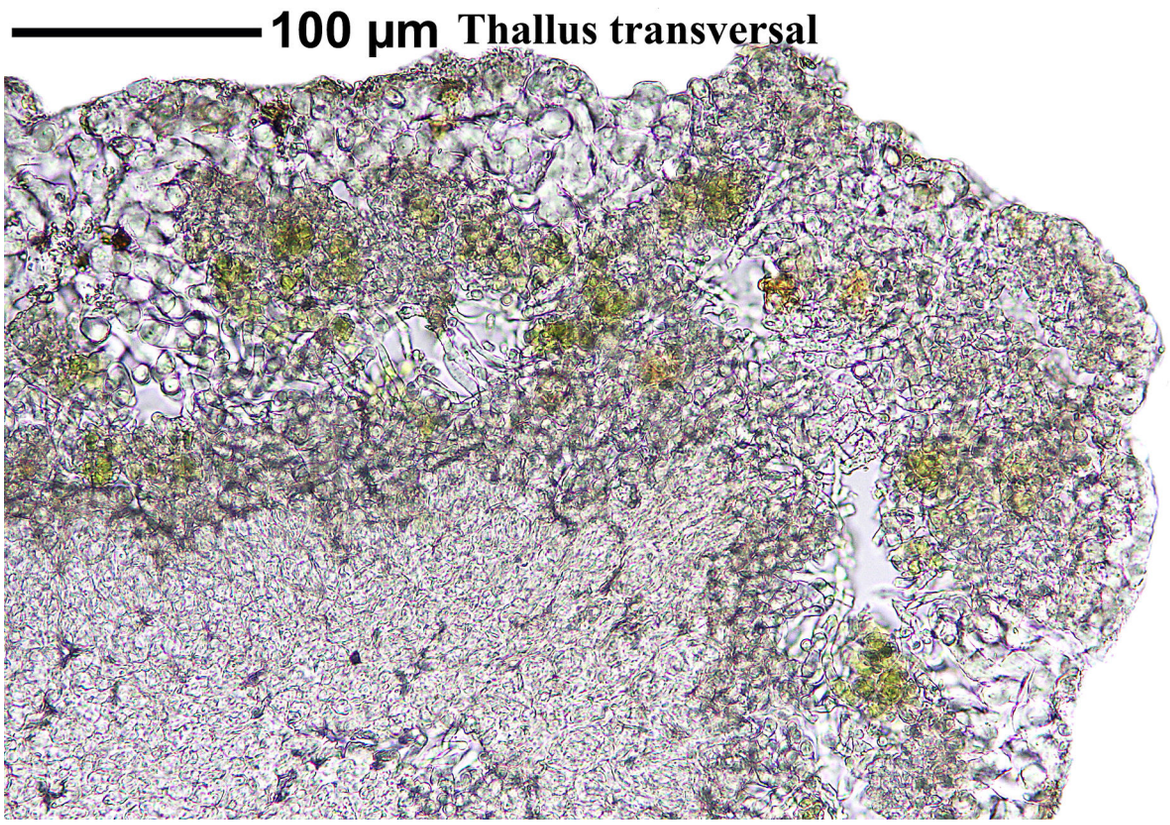


Stereocaulon massartianum

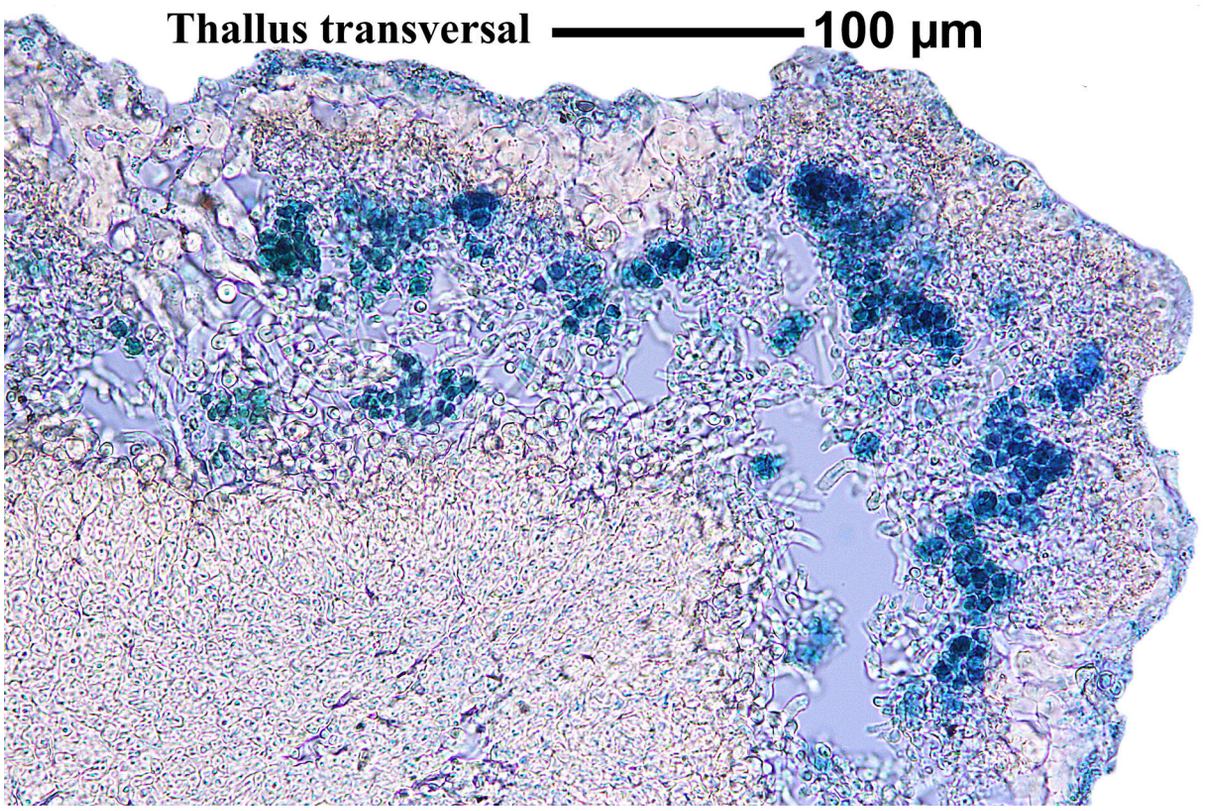


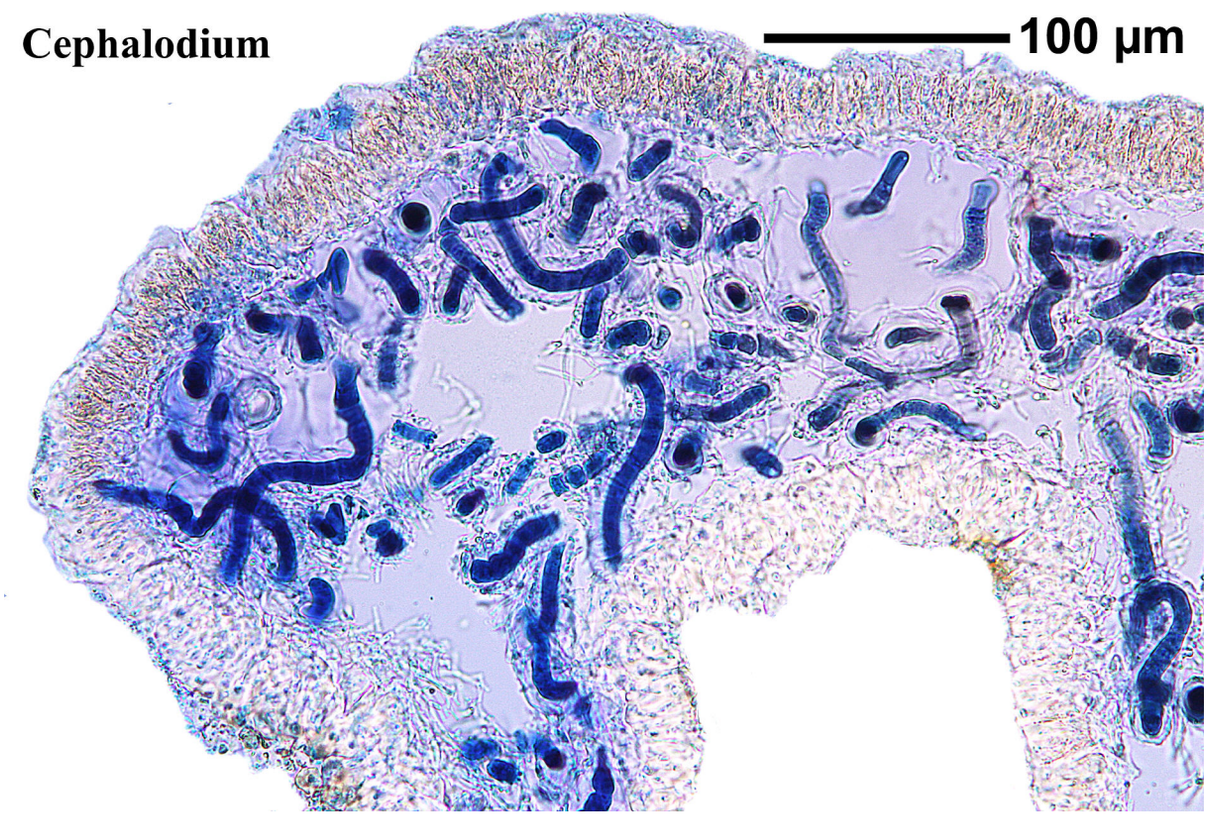
Stereocaulon massartianum



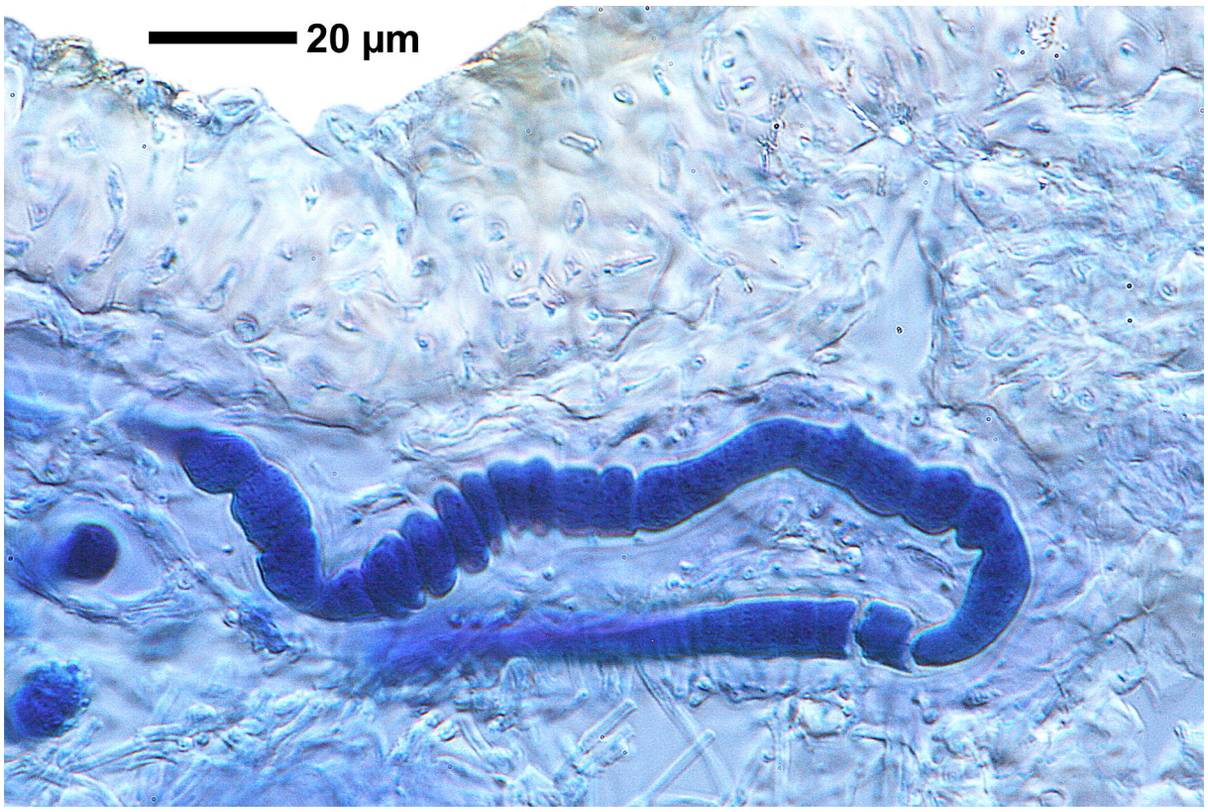


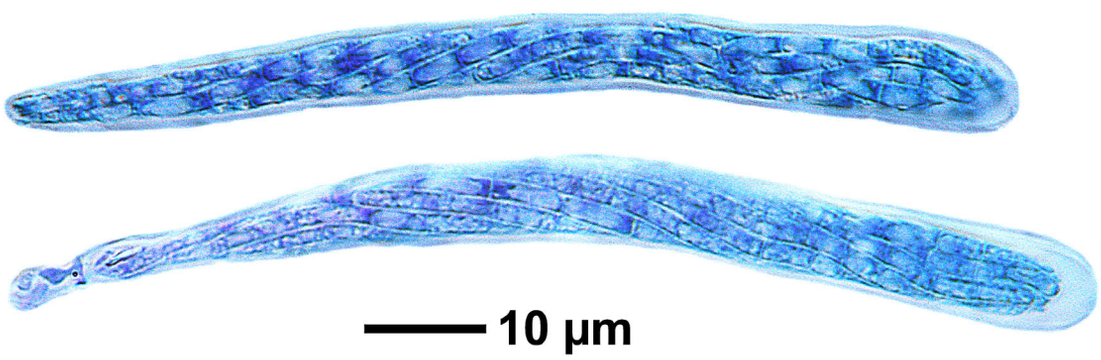
Stereocaulon massartianum





Stereocaulon massartianum



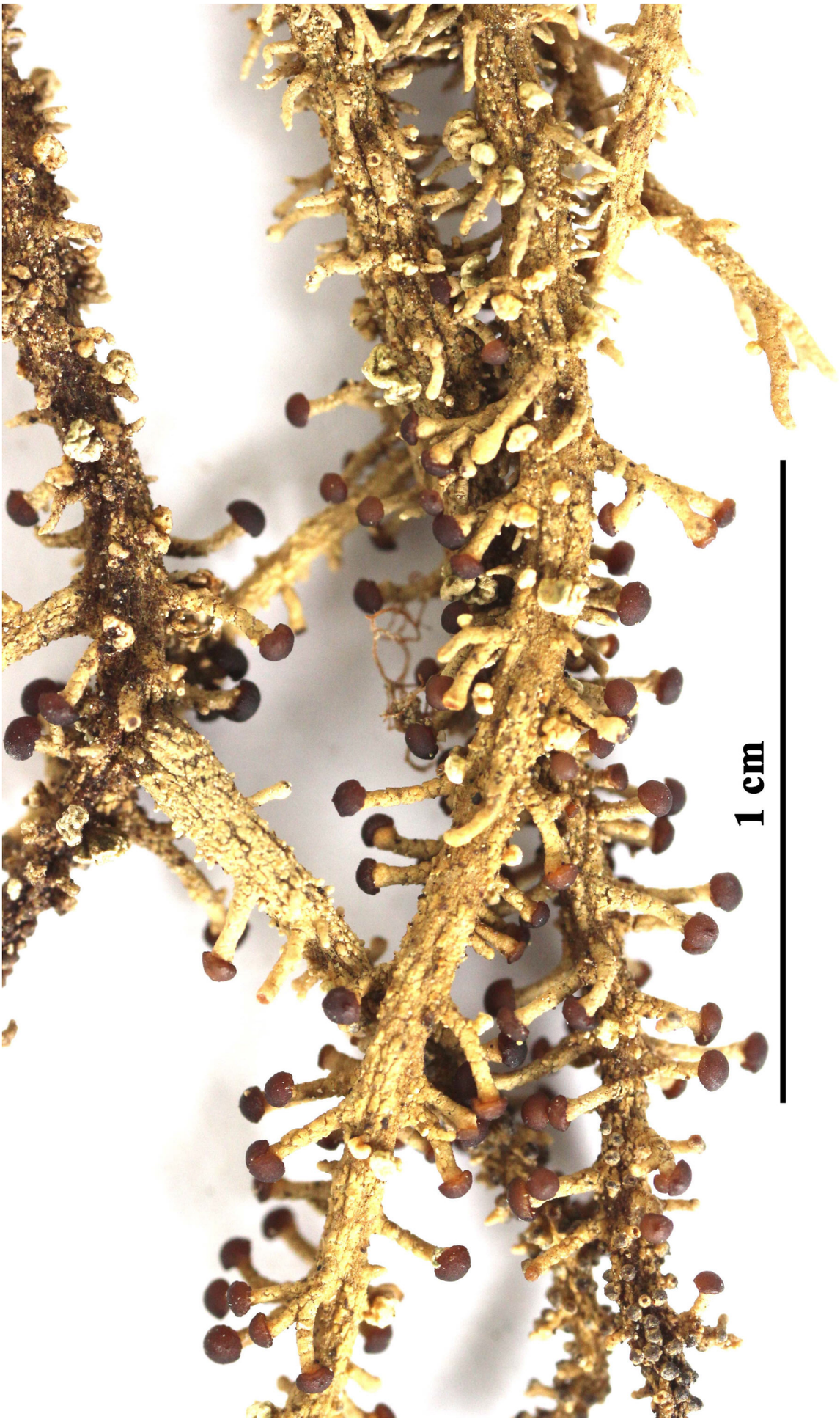


Stereocaulon massartianum

Stereocaulon massartianum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 252 (1898)

[KU141], Malaysia. Malaya: Cameron Highland. On exposed rocks, 8000 ft. Leg. M. Togashi (no. 62235), 1.-3.2.1962, det. I. M. Lamb. Ex A. Kurokawa Lichenes Rariores Et Critici Exsiccati Nr.141.

Pseudopodetia erect, up to about 7 cm high, subsimple or sparingly branched, decorticate, glabrous or subglabrous. Phyllocladial branchlets cylindrical-coralloid, slender, simple or branched, ± evenly distributed. Cephalodia lateral on main branches, sessile, foveolate sacculate, wrinkled, gray to brownish, with gelatinous cortex showing both round and palisadically elongated cells; containing *Scytonema* or *Stigonema*. Apothecia mostly terminal on individual short side-branches springing at right angles from pseudopodetium, up to 1 mm diam., originating in small pyriform clavulae, finally convex-immarginate without noticeable hypophysis. Excipulum up to 180 µm thick. Central cone compact, ±hyaline, without inclusions. Hypothecium colorless or faintly sordid. Hymenium (100-)120-160 µm high, with dark brown epithecium. Paraphyses slender, filiform, discrete. Spores 8, spirally wound in ascus, 7-14-septate (rarely up to 19 or 20-septate), vermiform, sinuose, (75-) 90-120 x 3-4 µm.



Stereocaulon massartianum



Stereocaulon massartianum

Stereocaulon montagneanum I.M. Lamb, J. Jap. Bot. 40: 272 (1965)

[KU142], Malaysia: Cameron Highland. On exposed rocks, 8000 ft. Leg. M. Togashi (no. 62236), 1-3.1962, det. I.M. Lamb. - Ex S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 142.

Pseudopodetia tall (up to 13 cm long), of dendroid habitus, glabrous, not fragile, not sorediate. Phyllocladia abunant developed on terminal branches, reduced to verruculae or papillae, K+ yellow, P+ red. Cephalodia sacculate. Apothecia small, c. 1 mm diam., on apical branches of pseudopodetia. Hymenium not over 160 µm high. Spores (70-)90-110(-120) x 3-4 µm, 16(-20)-septate. Chemistry: porphyrilic acid absent. - Closely related to *Stereocaulon massartianum* Hue but differing in its taller growth, conspicuously dendroid habitus and in the reduction of the phyllocladia on the uppermost branches to short papillae - Indonesia, S.E. Asia.



Stereocaulon montagneanum



Stereocaulon montagneanum

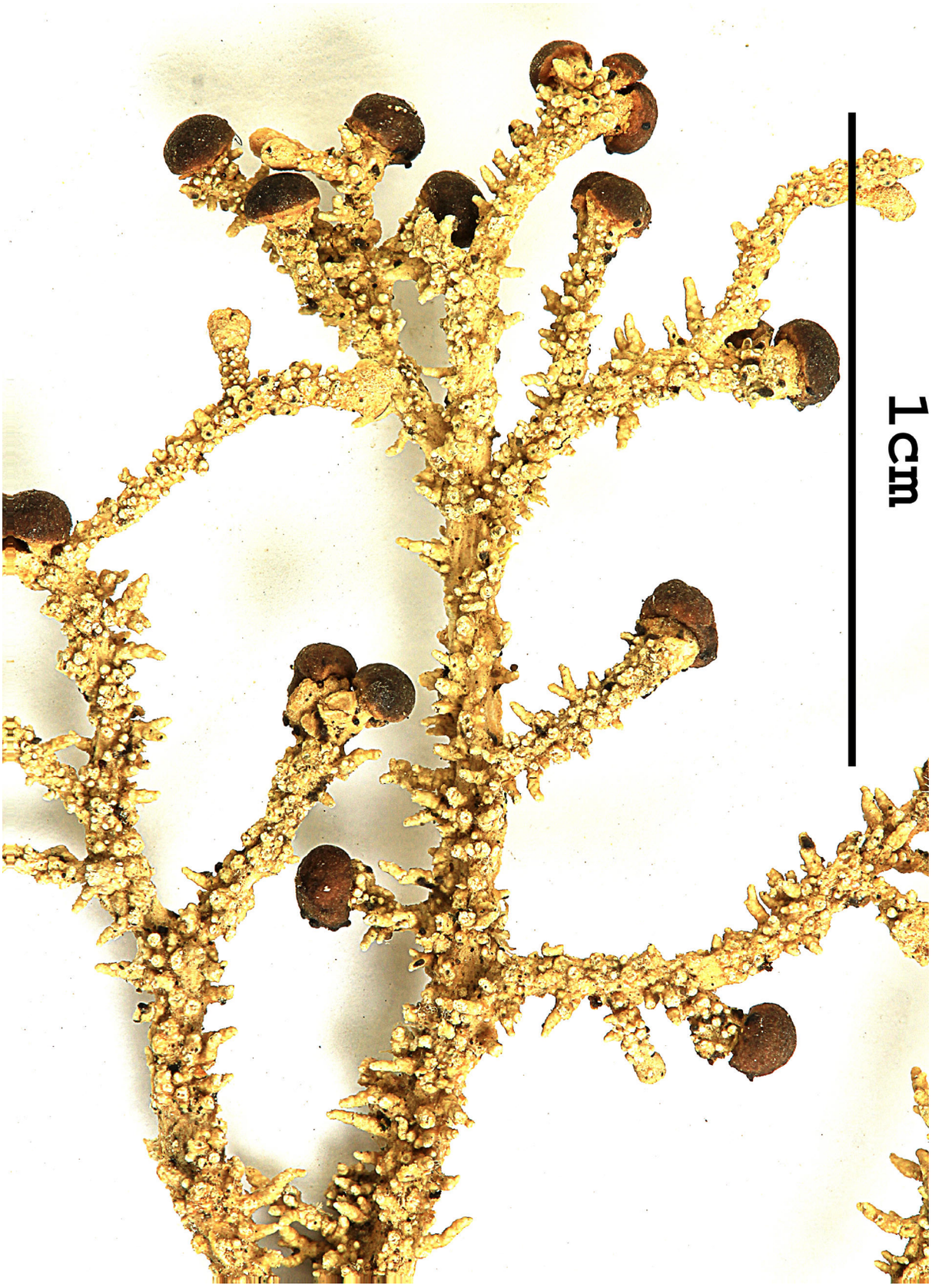
Stereocaulon montagneanum I.M. Lamb, J. Jap. Bot. 40: 272 (1965)

[KU391], Malaya. Cameron Highland. On granite, 1500 m. Leg. M. Togashi, 6.03.1970, det. Y. Asahina. - Ex S. KURUKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 291.

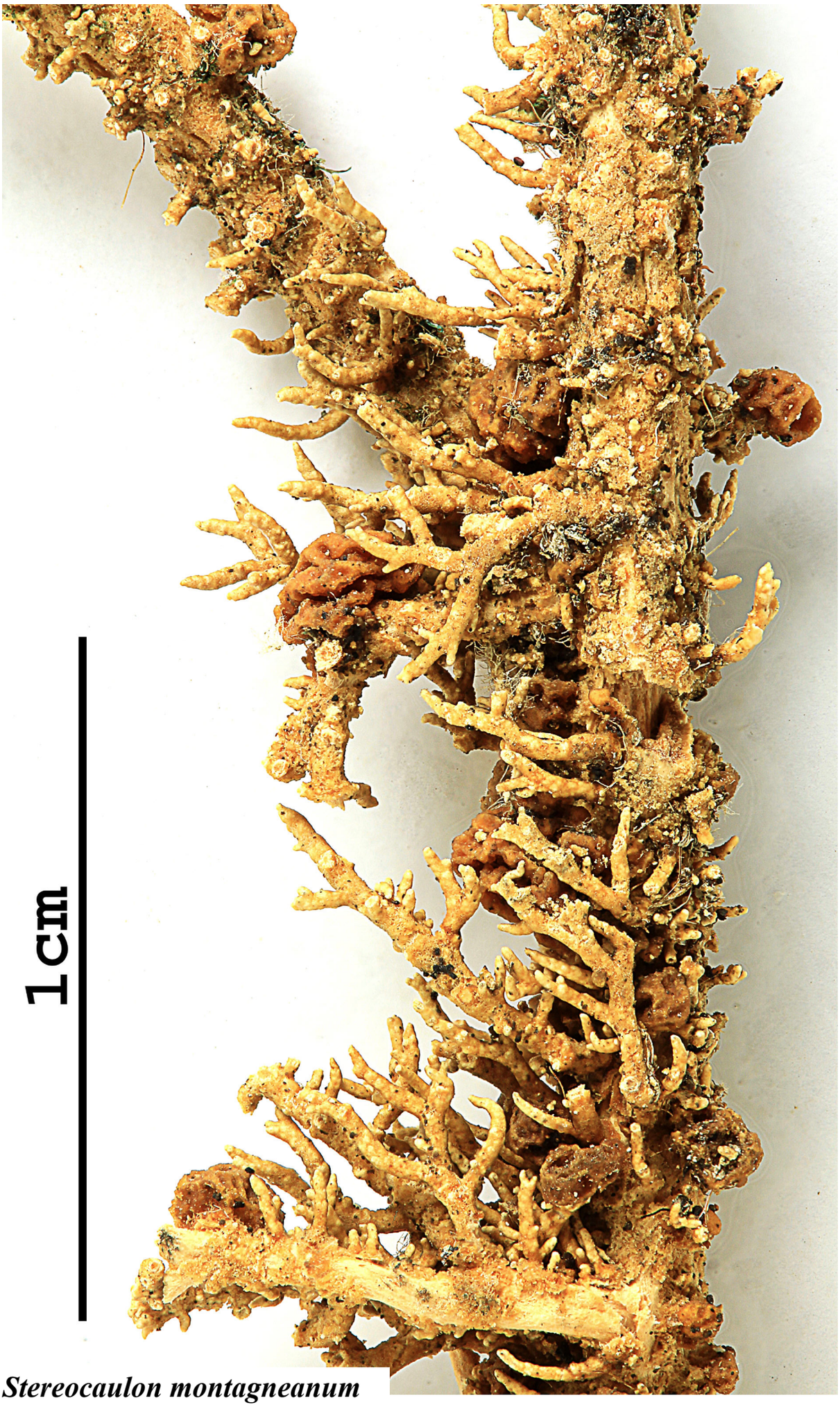
Pseudopodetia tall (up to 13 cm long), of dendroid habitus, glabrous, not fragile, not sorediate. Phyllocladia abunant developed on terminal branches, reduced to verruculae or papillae, K+ yellow, P+ red. Cephalodia sacculate. Apothecia small, c. 1 mm diam., on apical branches of pseudopodetia. Hymenium not over 160 µm high. Spores (70-)90-110(-120) x 3-4 µm, 16(-20)-septate. Chemistry: porphyrilic acid absent. - Closely related to *Stereocaulon massartianum* Hue but differing in its taller growth, conspicuously dendroid habitus and in the reduction of the phyllocladia on the uppermost branches to short papillae - Indonesia, S.E. Asia.



Stereocaulon montagneanum



Stereocaulon montagneanum



Stereocaulon montagneanum

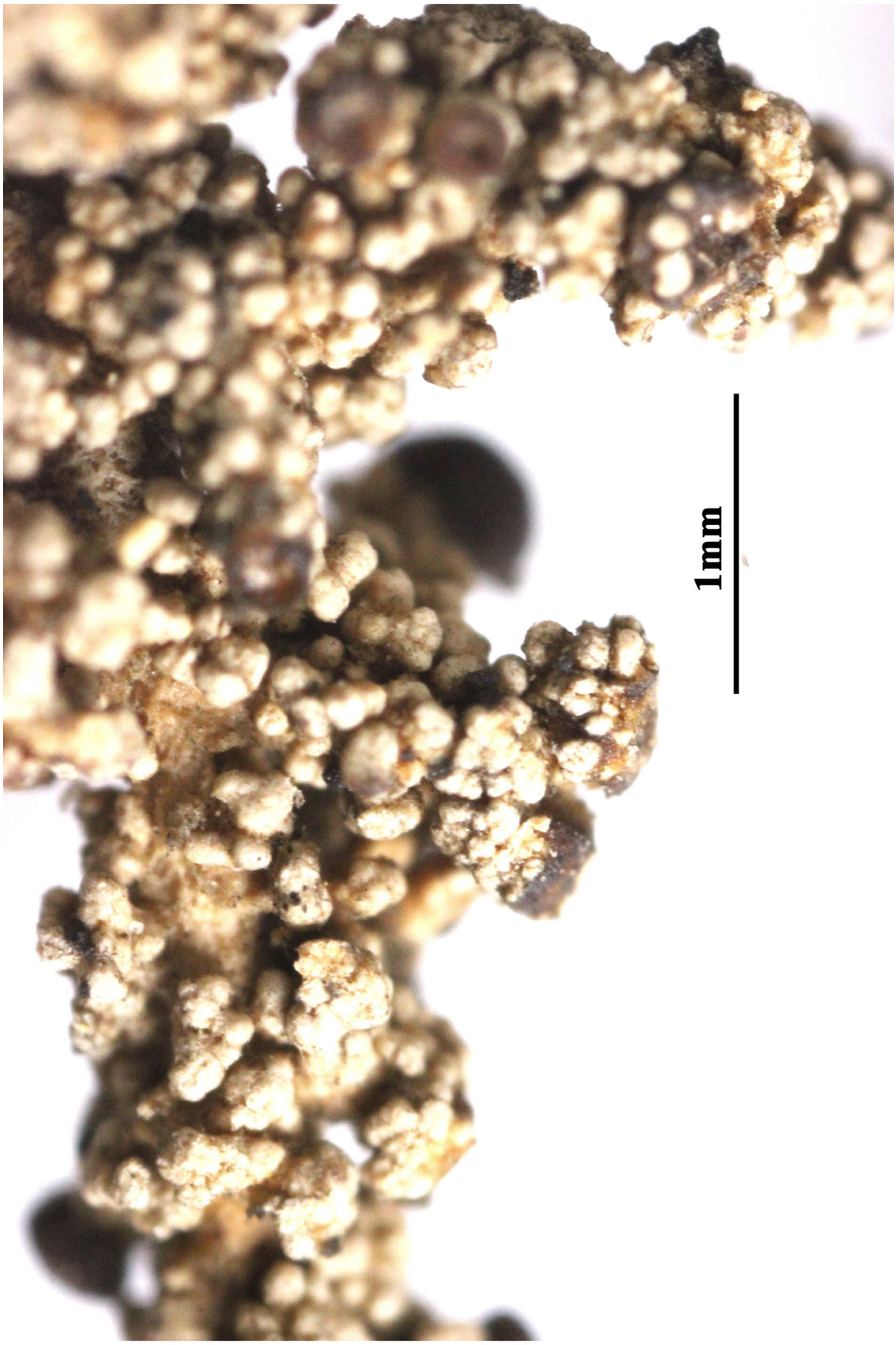
Stereocaulon myriocarpum Th. Fr., Stereoc. Piloph. Comm.: 15 (1857)

[KU143}, Sikkim. Jongri. On rocks, 4000 m. Leg. M. Togashi, 22.5.1960, det. Y. Asahina. Ex S. Kurokawa Lichenes Rariores Et Critici Exsiccati Nr. 143.

Pseudopodetia not pseudosorediate or sorediate. Phyllocladia irregularly arising from pseudopodetia, verrucose-digitate, not cylindrical and not terete; P+ red. Cephalodia verrucose, botryose with poorly developed parenchymatous tissue. Apothecia numerous, 1(- 2) mm diam., spores 23-38 x 3.5-4 µm. Differs from *S. tomentosum* in having large black cephalodia (1 mm across) and more appressed tomentum. Chemistry: atranorin, stictic acid, sometimes constictic acid, usually also some norstictic acid



Stereocaulon myriocarpum



Stereocaulon myriocarpum

Stereocaulon nigrum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 248 (1898)

[KU572], Japan, Honshu. Prov. Etchu (Pref. Toyama): Magawa. On rock. Leg. Y. Asahina (no. 1241b), 26.07.1936, det. Y. Asahina. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 572.

Pseudopodetia 3-5 cm long, 1-2 mm thick, fixed on stone, nearly erect, rather robust, sparingly branched towards the apex, one side denuded. Phyllocladia 0.5-3 mm long, simple or branched but not flat palmate, apices whitened. Apothecia 1-3 mm wide, terminal, solitary or agrregate, disc black or dark brown, soon convex and margin excluded. Hymenium 80-100 µm high, colorless, hypothecium 50-80 µm thick, dark brown; spores bacilliform, one end narrower, (3-5-)7-septate, 40-50 x 4.5-6 µm. Cephalodia botryose, 0.5-2 mm wide, stipitate. Contains atranorin and lobaric acid. Distributed in Hondo, Shikoku and Kiusiu.



Stereocaulon nigrum



Stereocaulon nigrum

Stereocaulon octomerellum Müll. Arg., Nuovo G. bot. ital. 24(3): 190 (1892)

[KU595], Japan, Honshu. Prov. Rikuchu: Mt. Yakeishi Isawa-gun. On rocks, 1350 m. Leg. H. Kashiwadani (no. 20299), 26.08.1983, det. H. Kashiwadani. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 595.

This tiny species is saxicolous (very rarely terricolous), firmly attached to rock, and has a distinct persistent primary thallus consisting of minute, scattered or crowded verruculae which are not of coralloid form except when giving rise to pseudopodetial initials. The phyllocladia on the pseudopodetia vary from papillose-verruculose to cylindric-coralloid. It seems to be always fertile. . *St. octomerellum* is a somewhat variable species in its morphology and anatomy. The algae of the cephalodia are usually *Stigonema.* Chemistry*:* atranorin and lobaric acid. Distribution: Japan (Honshu, Hokkaido, Shikoku, Kiushiu); Hawaii.



Stereocaulon octomerellum



Stereocaulon octomerellum



Stereocaulon octomerellum

Stereocaulon octomerum Müll. Arg., Flora, Regensburg 74(1): 109 (1891)

[KU493], Japan, Hokkaido. Prov. Iburi: Mt. Nisekoan-nupuri, Abuta-gun. On rocks, 1150 m. Leg. H. Kashiwadani (no. 15584), 20.09.1979. det. E. Lamb. - Ex Kurokawa & H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 493.

Pseudopodetia ca 2 cm long, branched towards the middle part, lower part (stem) decorticate, up to 2 mm thick, upper part densely covered with phyllocladia. Phyllocladia verruculose or simple digitiform, terete, rarely branched, apex whitened. Cephalodia ashy gray or blackish, botryose. Apothecia terminal, 2.5-3 mm broad, disc almost plane, dark brown, afterwards emarginate; epithecium brownish; hymenium ca 90 µmhigh; hypothecium ca 100 µm thick, upper half brownish; asci oblong, 80 x13 µm; spores bacilliforin, one end narrow, 7-rarely less septate, 30-45 x 4-7 µm. Contains atranorin and lobaric acid. On stone in the mountainous districts of Hokkaido, Hondo and Shikoku.



Stereocaulon octomerum



Stereocaulon octomerum



Stereocaulon octomerum

Stereocaulon octomerum Müll. Arg., Flora, Regensburg 74(1): 109 (1891)

[OH422], Japan, Honshu. Prov. Hoki (Pref. Tottori): western side of summit, Mt. Daisen. On rock, 1900 m. Leg. M. Togashi (s.n.), 23.09.1968, det. Y. Asahina. - Ex Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 422.

Pseudopodetia ca 2 cm long, branched towards the middle part, lower part (stem) decorticate, up to 2 mm thick, upper part densely covered with phyllocladia. Phyllocladia verruculose or simple digitiform, terete, rarely branched, apex whitened. Cephalodia ashy gray or blackish, botryose. Apothecia terminal, 2.5-3 mm broad, disc almost plane, dark brown, afterwards emarginate; epithecium brownish; hymenium ca 90 µmhigh; hypothecium ca 100 µm thick, upper half brownish; asci oblong, 80 x13 µm; spores bacilliforin, one end narrow, 7-rarely less septate, 30-45 x 4-7 µm. Contains atranorin and lobaric acid. On stone in the mountainous districts of Hokkaido, Hondo and Shikoku.



Stereocaulon octomerum



Stereocaulon octomerum

Stereocaulon paschale (L.) Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 130 (1796) [1795]
= *Lichen paschalis* L., Sp. pl. 2: 1153 (1753)

[OH694], Japan. Hokkaido. Ishikari Prov.: Mt. Chubetsu-dake, Daisetsu Mts.. On soil, 1800 m. Leg. M. Togashi, 18.07.1969, det. Y. Asahina. - Ex Y .OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 694.

Primary thallus disappearing. Pseudopodetia up to 5 cm tall, loosly attached to the substrate, basally dying and blackish, growing in loose clusters, creeping to erect, with a distinct main branch sparingly branched at the base, richly branched towards the top, covered with greyshwhite tomentum. Phyllocladia gathered in clusters, grain-like, granular or dactyliform, yellowish-grey, more numerous towards the pseudopodetial tips. Cephalodia numerous, irregular, shrubby, granular or warty, black, containing *Stigonema* Apothecia rare, terminal, when young flat marginate, older convex and immarginate, disk dark brown. Chemistry: atranorin and lobaric acid. Spot test reaction: K+ yellow. - *Notes*. *Stereocaulon paschale* is chemicaly identical with *S. alpinum* and *S. taeniarum*, but morphologically these species are fundamentally different. *S. paschale* is characterized by the pseudopodetia loosely attached to the substratum, granular to dactyliform phyllocladia covering the pseudopodetia all around. In addition the species has always numerous, conspicuous blackish cephalodia containing *Stigonema.* The shape of phyllocladia in *S. paschale* and *S. taeniarum* is essentially the same, but they differ in the presence of cephalodia and morphology of pseudopodetia. *Stereocaulon paschale* has usually abundant and conspicuous cephalodia, whereas in *S. taeniarum* they are absent. Moreover in *S. paschale* phyllocladia are more or less evenly distributed around the pseudopodetial axis, whereas *S. taeniarum* has “pine-like” pseudopodetia due to phyllocladia are clustered on the apices.



Stereocaulon paschale



Stereocaulon paschale



Stereocaulon paschale

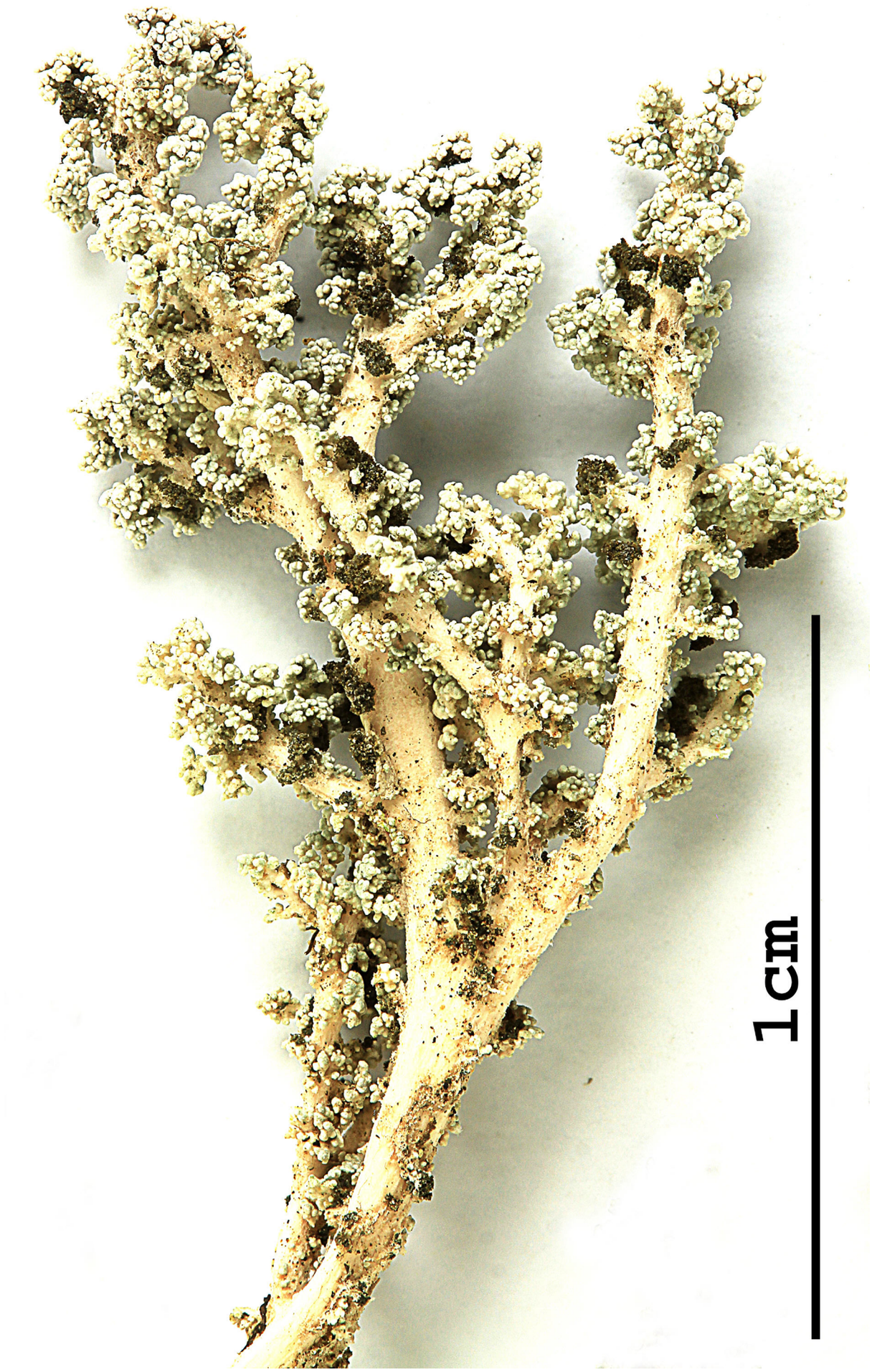
Stereocaulon paschale (L.) Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 130 (1796) [1795]
= *Lichen paschalis* L., Sp. pl. 2: 1153 (1753)

[OH695], Japan. Honshu. Shinano Prov. (Nagano Pref.): Komatsu-mine, Mt. Kai-Komaga-take, Ina-city (35°45' N, 138°13' E. On humus, 2728 m. Leg. Y. Ohmura (no. 13882), 16.10.2021, det. Y. Ohmura. - Ex Y .OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 695.

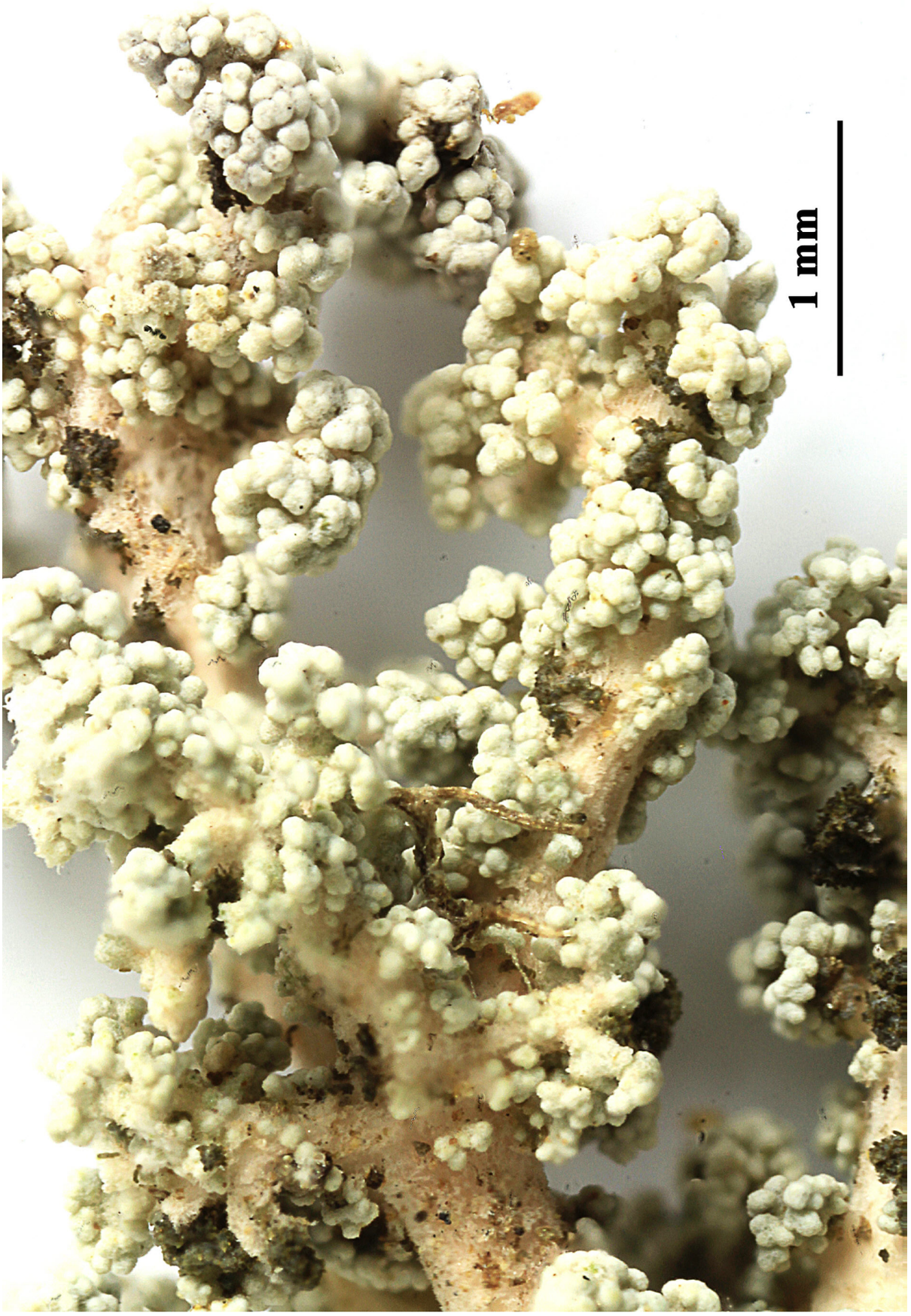
Primary thallus disappearing. Pseudopodetia up to 5 cm tall, loosly attached to the substrate, basally dying and blackish, growing in loose clusters, creeping to erect, with a distinct main branch sparingly branched at the base, richly branched towards the top, covered with greysh-white tomentum. Phyllocladia gathered in clusters, grain-like, granular or dactyliform, yellowish-grey, more numerous towards the pseudopodetial tips. Cephalodia numerous, irregular, shrubby, granular or warty, black, containing *Stigonema* Apothecia rare, terminal, when young flat marginate, older convex and immarginate, disk dark brown. Chemistry: atranorin and lobaric acid. Spot test reaction: K+ yellow. - *Notes*. *Stereocaulon paschale* is chemicaly identical with *S. alpinum* and *S. taeniarum*, but morphologically these species are fundamentally different. *S. paschale* is characterized by the pseudopodetia loosely attached to the substratum, granular to dactyliform phyllocladia covering the pseudopodetia all around. In addition the species has always numerous, conspicuous blackish cephalodia containing *Stigonema.* The shape of phyllocladia in *S. paschale* and *S. taeniarum* is essentially the same, but they differ in the presence of cephalodia and morphology of pseudopodetia. *Stereocaulon paschale* has usually abundant and conspicuous cephalodia, whereas in *S. taeniarum* they are absent. Moreover in *S. paschale* phyllocladia are more or less evenly distributed around the pseudopodetial axis, whereas *S. taeniarum* has “pine-like” pseudopodetia due to phyllocladia are clustered on the apices.



Stereocaulon paschale



Stereocaulon paschale



Stereocaulon paschale

Stereocaulon pendulum Asahina, in Satô, J. Jap. Bot. 17: 247 (1941)

[KU443], Japan, Honshu. Prov. Shinano (Jumonji Pass), Minami-Saku-gun. On rocks, 2000 m. Leg. H. Shibuici (no. 5840), 11.07.1979, det. H. Kashiwadani. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 443.

Pseudopodetia pendulous, simple, subsimple or sparringly branched, firmly attached to substratum, not sorediate, K+ yellow. Phyllocladia granular or papillate-coralloid, very small, but in lower parts larger and distinctly cylindric-coralloid. Cephalodia tuberculate to botryose. Apothecia terminal, sometimes on short side-branchlets, up to 1.5 mm dim.; hypothecium reddish- or yellowish-brown pigmented; hymenium 60-80 µm; spores cylindric-fusiform, (1-)3(-5)-septate, 25-35(-40) x 4.0-4.5 µm. Chemistry: atranorin, pophyrillic acid.



Stereocaulon pendulum



Stereocaulon pendulum



Stereocaulon pendulum



Stereocaulon pendulum

Stereocaulon piluliferum Th. Fr., Stereoc. Piloph. Comm.: 21 (1857)

[KU144], Nepal. East Nepal: Khbang, below Siling Tzokupa. On rocks, 2100 m. Leg. M. Togashi, 20.11.1963, det. Y. Asahina. - Ex S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 144.

Primary thallus saxicolous, rarely terricolous, granular. Pseudopodetia 3(-6) cm tall, 0.5-0.8 mm thick at base, simple or sparingly branched in apical region, brownish, corticated, etomentose; phyllocladia cylindrical, simple to branched, to 5 mm long, more dense on one side. Cephalodia 0.5-1 mm in diam., brownish, sacculate, cortex with tubular to round cell lumina, enclosing *Nostoc.* Apothecia terminal, arising on pyriform c1avulae, 2(-3) mm in diam.; hymeniuml80-225 (-240) µm high; ascospores vermiform, 10-20(-25)-septate, (75-)120-150 x 3 µm. Phyllocladia K+ yellow, P+ orange. Atranorin, stictic and norstictic acids \and rarely porphyrilic acid present. - Distribution: China, (Yunnan, Tibet), Japan.



Stereocaulon piluliferum



Stereocaulon piluliferum

Stereocaulon pomiferum P.A. Duvign., Lejeunia Mém. 14: 119 (1956)

[KU395], India, Darjeeling: Phalut. On rocks, 3500 m. Leg. M. Togashi, 10.05.1960, det. Y. Asahina. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 395.

Primary thallus saxicolous, granular to squamulose. Pseudopodetia 3-5(-9) cm tall, to 3 mm thick at base, subsimple to subcorymbosely branched at apices, grey-brown, decorticate to partially corticate; phyllocladia dense, cylindrical, simple to branched, 1-3(-5) mm long. Cephalodia brownish, 1-2 mm in diam., protosacculate, cortex with tubular to palisade, isodiametric and round cell lumina, enclosing *Nostoc.* Apothecia terminal, arising on pyriform clavulae; 1-3(-5) mm in diam.; receptacle tessellate granulate, in younger stages with distinct hypophysis; hymenium 120-200(-270) µm high; ascospores vermiform, 10-22 (-30)-septate, (80-) 40-180(-220) x 3.5-4 (-4.5) µm. Phyllocladia K + yellow, P+ orange-red. Atranorin, stictic and norstictic acids, occasionally porphyrilic acid present. Rarely stictic and norstictic acids absent. - Reported from temperate regions (alt. 2500-4700m) of India (Sikkim, West Bengal·Darjeeling District), and Nepal (E. Nepal), Bhitan, China.



Stereocaulon pomiferum

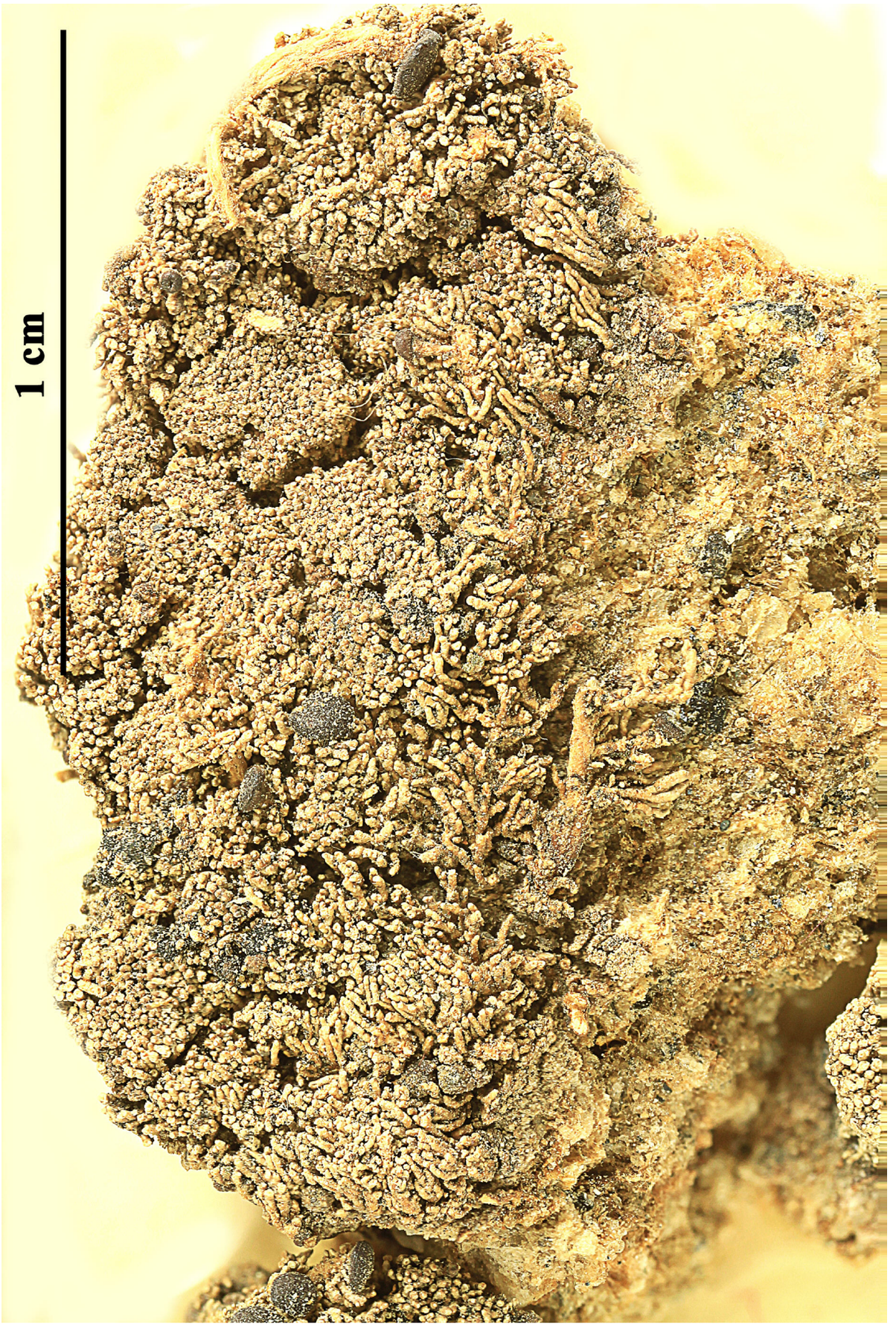


Stereocaulon pomiferum

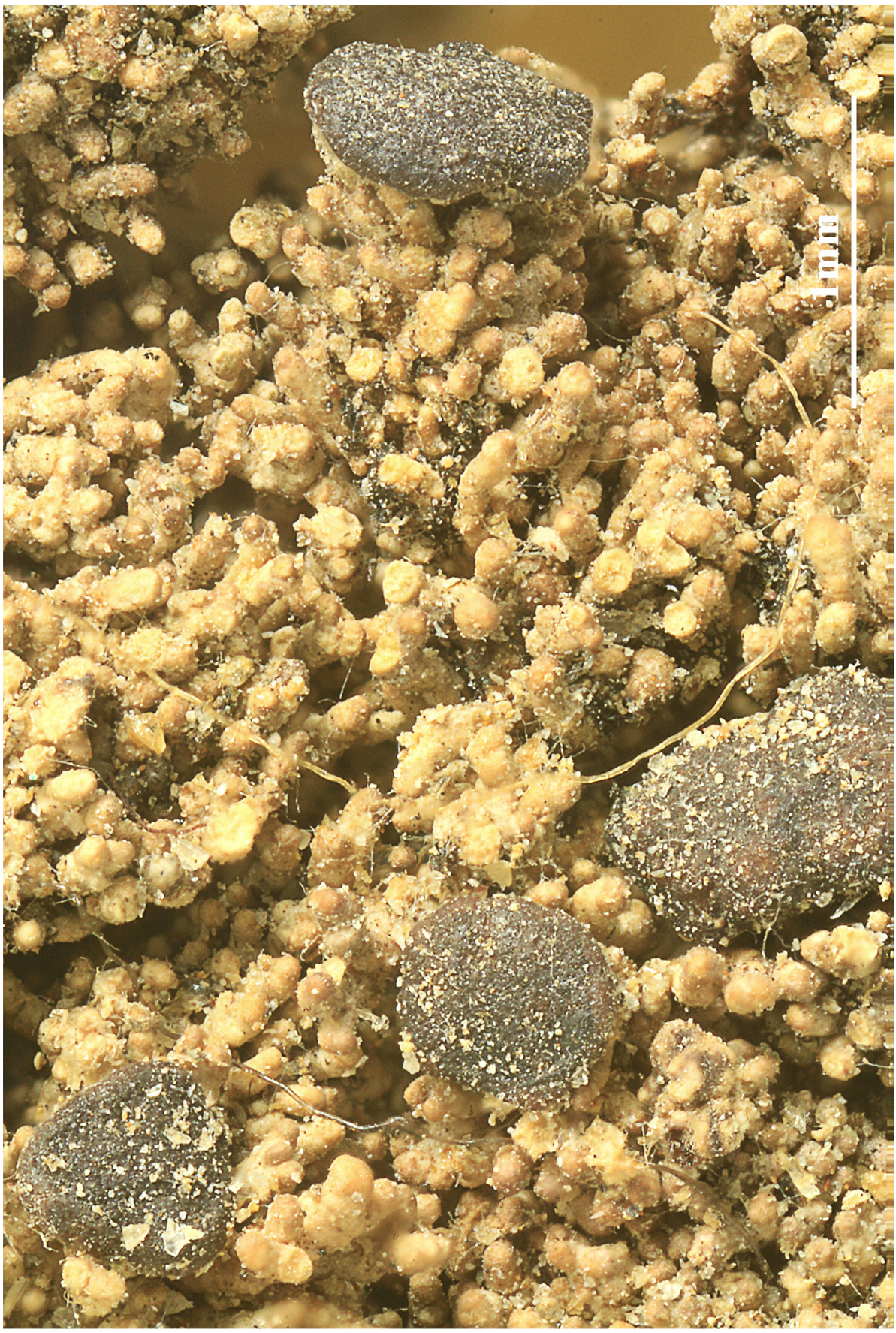
Stereocaulon prostratum Zahlbr., Bot. Mag., Tokyo 41: 340 (1927)

[OH696], Japan. Honshu. Etchu Prov. (Toyama Pref.). Mt. Tateyama. On rock. Leg. Y. Asahina (nr.614e), 07.1926. det. Y. Ashina. - Ex Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 696.

On soil or directly on rock, forming almost crustose, appressed patches. Primary thallus ± persistent, consisting of coralloid phyllocladia. Pseudopodetia prostrate, dorsiventral, ± ligneus, glabrous, copiously branched, short, not over 2 cm long. Phyllocladia apical terete-cylindrical (coralloid) on pseudopodetia, densely crowded, often in branched clusters, up to 0.8 mm long, P+ pale yellow. Cephalodia on the pseudopodetia, grey to brownish, minutely tuberculate or botryose. Hypothecium pigmented, yellow-brown to brown. Hymenium 70-90 μm. Spores 3-septate, 20-28 x 3.5-4.5 μm. Chemistry: atranorin, lobaric acid, stictic acid absent. - Japan.



Stereocaulon prostratum



Stereocaulon prostratum



Stereocaulon prostratum

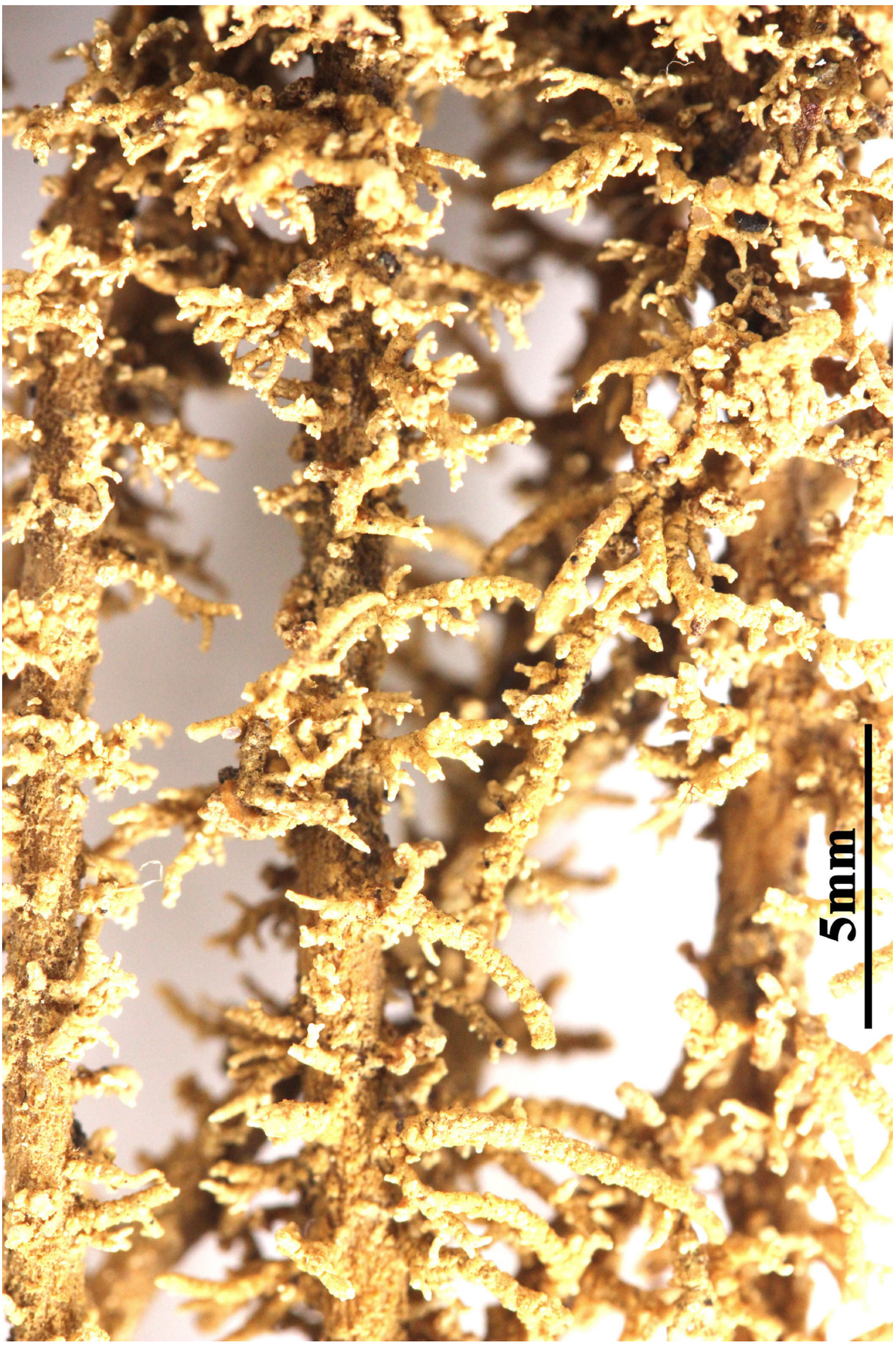
Stereocaulon pseudomassartianum I.M. Lamb, Bot. Jahrb. Syst. 86: 246 (1967)

[KU494], Papua New Guinea. Central District: Mt. Albert-Edward. En route from the Woitape Airstrip to the summit of Mt. Albert-Edward. On rocks, 2500 m. Leg. H. Kashiwadani (no 11522), 22.1.1974, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 494.

Pseudopodetia erect, rigid, simple or more or less irreguraly branched, ecorticate, finely tomentose, 5-11 cm high, 1-2.5mm thick (0.5-0.8 mm thick near the apices); tomenta 80-100 μm thick. Phyllocladia numerous, cylindricat-coralloid, fragile, 1-3 mm long. Cephalodia grayish, plane-flabellate, sessile or short-stalked, scrobiculate-faveolate on the surface, of the protosacculate type. Apothecia terminal or lateral on short branches, not hypophysate, about 1 mm in diameter; disc convex, brown; amphithecium smooth, whitish brown to pale buff; hymenium 80-100 μm high; hypothecium nubilated; asci 45-60 × 10-12.5 μm; spores oblong-fugiform, arranged in parallel in an ascus, 3-5-septate, 30-40× 2.5 μm. Pseudopodetia PD+yellow. Chemical substances: atranorin, perlatolic acid, and anziaic acid. - *Stereocauton pseudomassartianum* closely resembles *S. massartianum*, because these two species have apothecia on lateral stalks. However, it is distinguished from the latter by the flabellate cephalodia, the smooth amphithecium and the production of perlatolic and anziaic acids rather than stictic and norstictic acids. Spores of *S, pseudomassartianum* are arranged in parallel each other in an ascus, while they are more or less twisted each other in *S. massartianum*. This species has been reported from the Philippines, Celebes, and New Guinea.



Stereocaulon pseudomassartianum



Stereocaulon pseudomassartianum

Stereocaulon pseudomassartianum I.M. Lamb, Bot. Jahrb. Syst. 86: 246 (1967)

[KU689], Papua New Guinea. Morobe District: Mt. Kaindi, en route from Wau Ecological Institute to the summit of Mt. Kaindi. on rocks, 2200 m. Leg. S. Kurokawa (no. 9707), 23.11.1975, det. M. Mineta. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 689.

Pseudopodetia erect, rigid, simple or more or less irreguraly branched, ecorticate, finely tomentose, 5-11 cm high, 1-2.5mm thick (0.5-0.8 mm thick near the apices); tomenta 80-100 μm thick. Phyllocladia numerous, cylindricat-coralloid, fragile, 1-3 mm long. Cephalodia grayish, plane-flabellate, sessile or short-stalked, scrobiculate-faveolate on the surface, of the protosacculate type. Apothecia terminal or lateral on short branches, not hypophysate, about 1 mm in diameter; disc convex, brown; amphithecium smooth, whitish brown to pale buff; hymenium 80-100 μm high; hypothecium nubilated; asci 45-60 × 10-12.5 μm; spores oblong-fugiform, arranged in parallel in an ascus, 3-5-septate, 30-40× 2.5 μm. Pseudopodetia PD+yellow. Chemical substances: atranorin, perlatolic acid, and anziaic acid. - *Stereocauton pseudomassartianum* closely resembles *S. massartianum*, because these two species have apothecia on lateral stalks. However, it is distinguished from the latter by the flabellate cephalodia, the smooth amphithecium and the production of perlatolic and anziaic acids rather than stictic and norstictic acids. Spores of *S, pseudomassartianum* are arranged in parallel each other in an ascus, while they are more or less twisted each other in *S. massartianum*. This species has been reported from the Philippines, Celebes, and New Guinea.



Stereocaulon pseudomassartianum



Stereocaulon pseudomassartianum

Stereocaulon ramulosum* f. *elegans Th. Fr., Stereoc. Piloph. Comm.: 11 (1857)
= *Stereocaulon ramulosum* Raeusch., Nomencl. bot., Edn 3: 328 (1797)

[KU690], Chile. Kanquihue: Around top of Cerro Pavilo, 16 km west of Tegualda. On rocks, 800-870 m. Leg. H. Kashiwadani (no. 17839), H. Inoue & Degucji, 14.11.1981, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCCATI NR. 690.



Stereocaulon ramulosum* f. *elegans



Stereocaulon ramulosum* f. *elegans

Stereocaulon ramulosum (Sw.) Räusch.

[19273], Australia, Victoria, Genoa Creek Falls, 2 km west-south-west of Genoa, 37°29' S, 149°34' E, 35 m, growing on rocks along *Melaleuca-Telopea* dominated rocky creek side. Leg. H. Streiman (38161), 18.04.1987. Chemistry: atranorin (minor), stenosporic acid (major), perlatolic acid (major), by HPLC, anal. G.A. Jenkins. EX J. A. ELIX LICHENES AUSTRALASICI EXSICCATI NO. 199. - INHERBARIO F. SCHUMM NR.19273.

Pseudopodetia up to 12 cm tall. Soredia and soredium-like granules absent. Phyllocladia cylindrical (= phyllocladoid branchlets). Cephalodia uniformly grey-coloured, opaque, clavate to globose, with differentiated cortex and aereated tissue (=sacculate). Apothecia common. Ascospores 7-septate, 40-90 x 4-5 µm. Chemistry: Thallus P- or P+ yellowish, protocetraric and stictic acids acid absent; containing atranorin, perlatolic acid (major), anziaic acid (trace).



Stereocaulon ramulosum

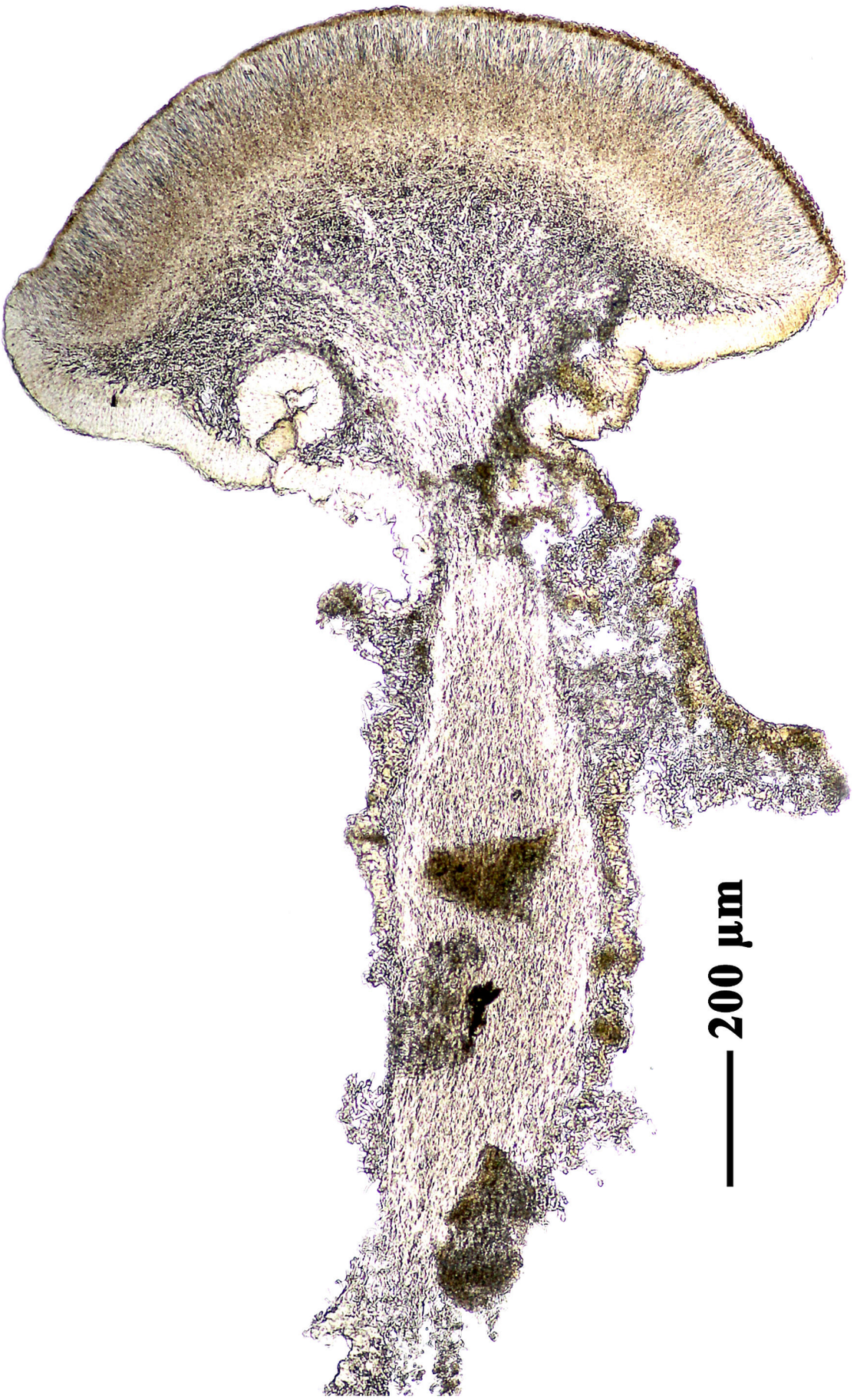
Stereocaulon ramulosum



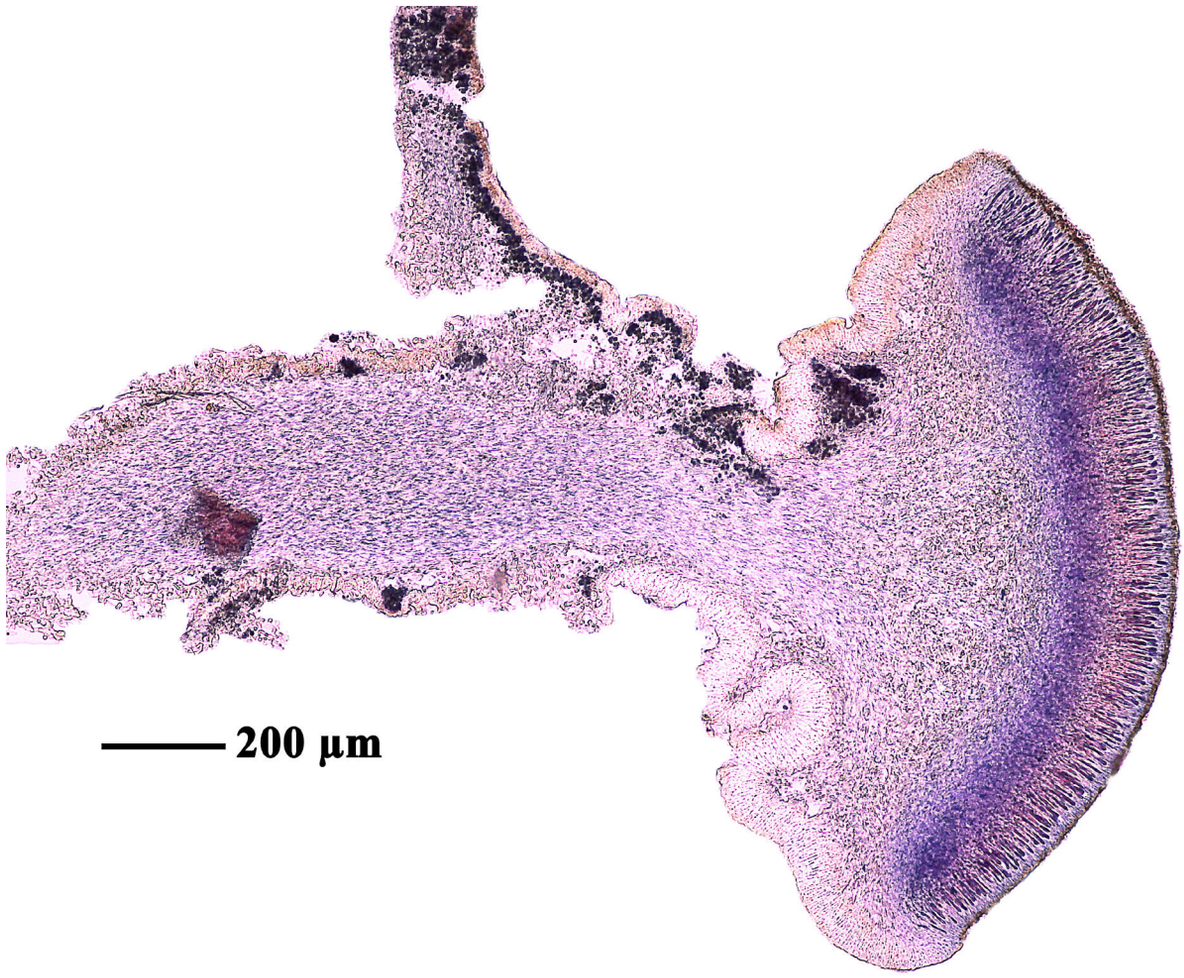
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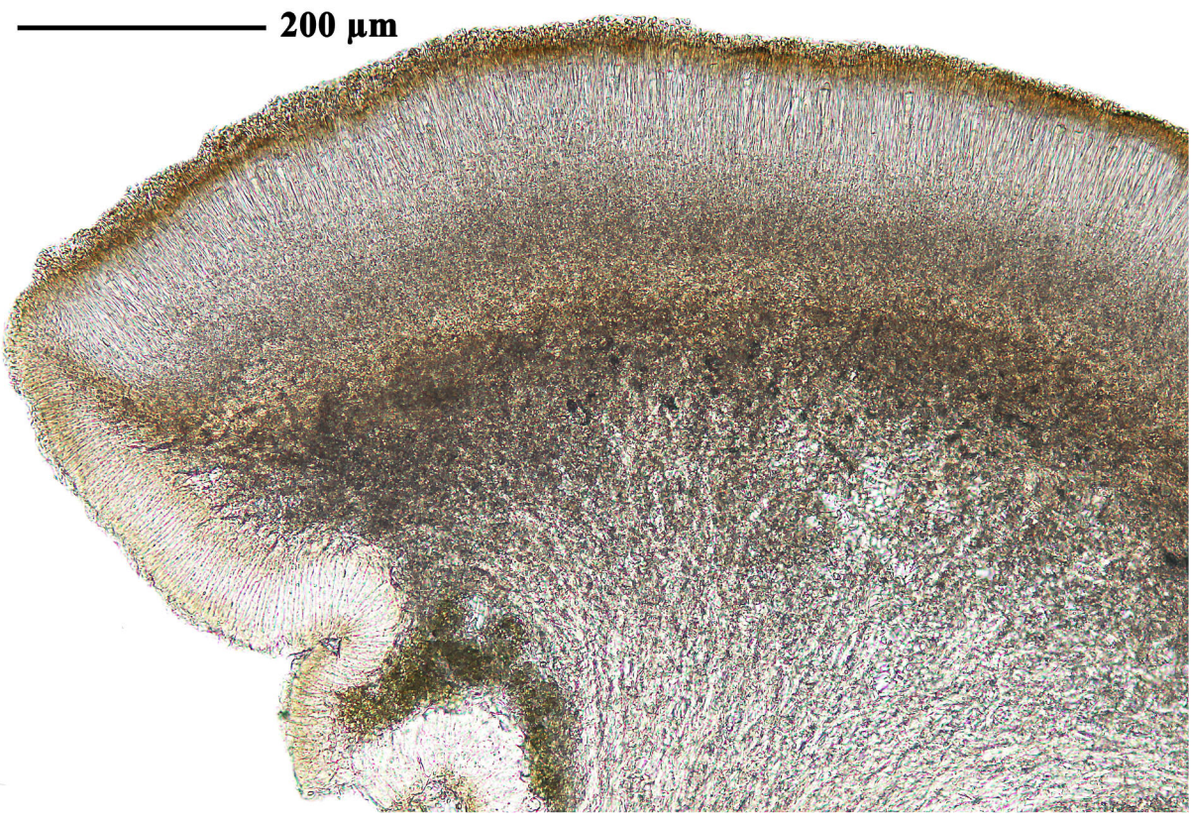


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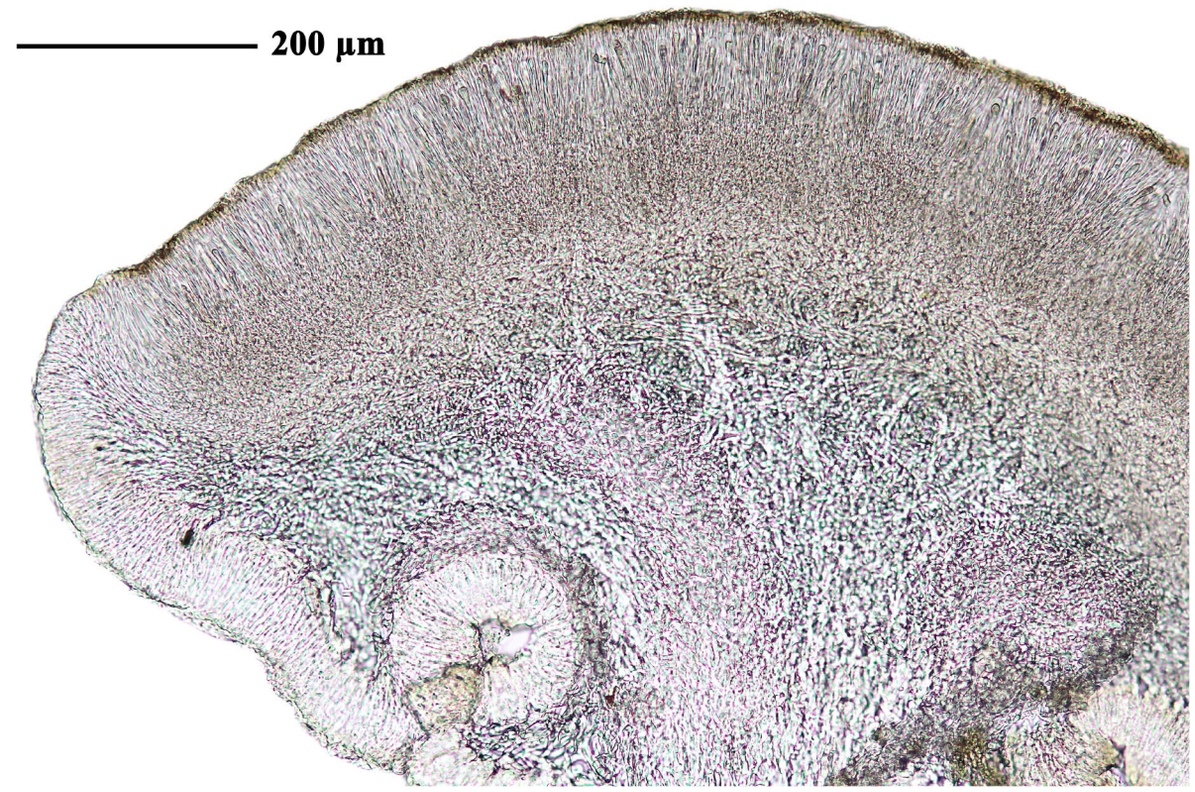


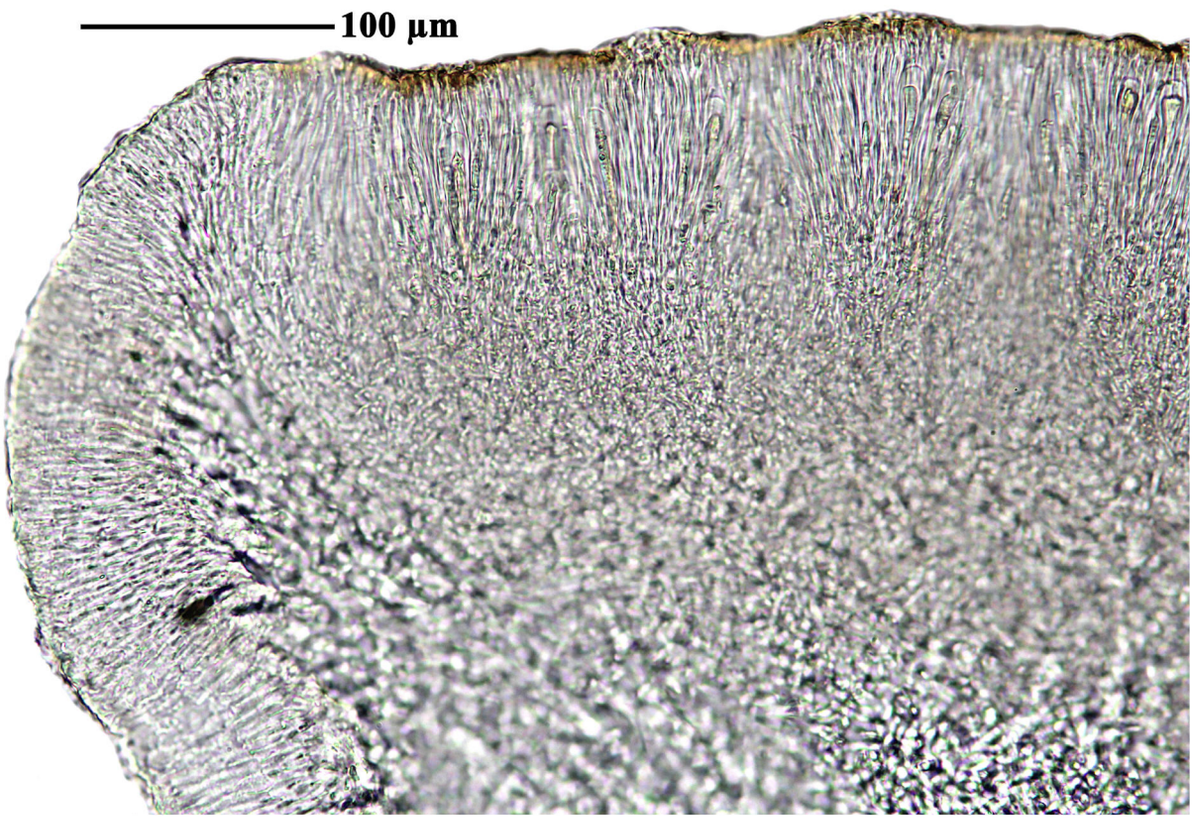
Stereocaulon ramulosum



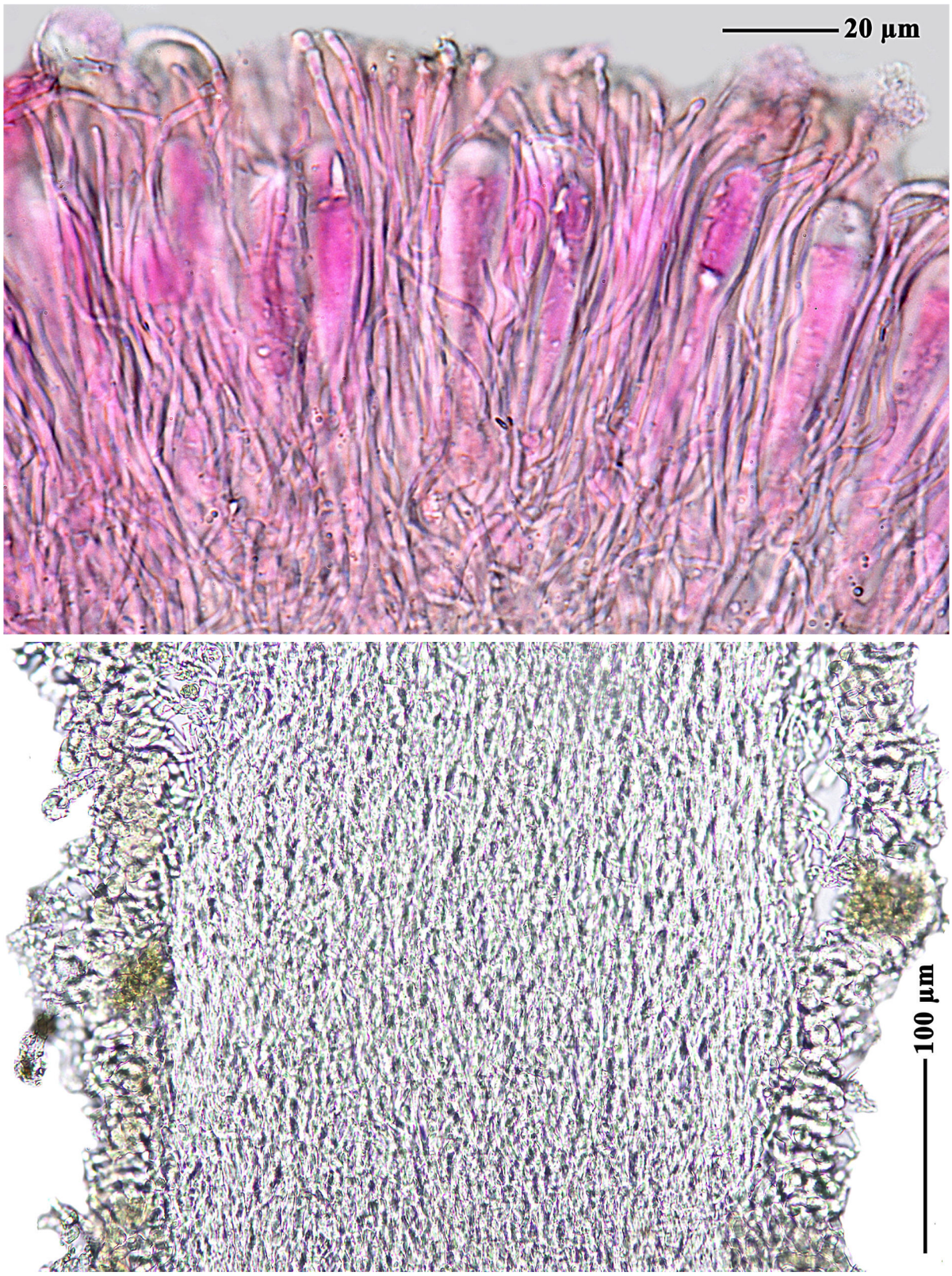


Stereocaulon ramulosum

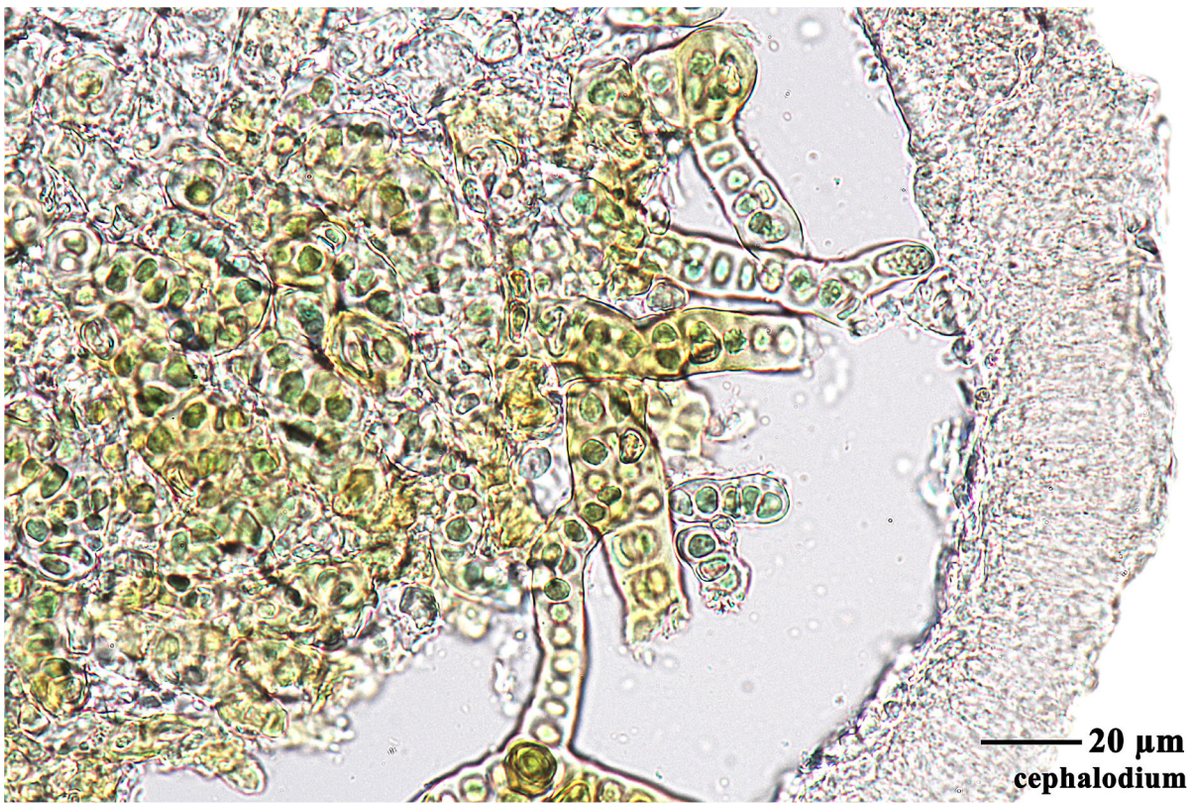


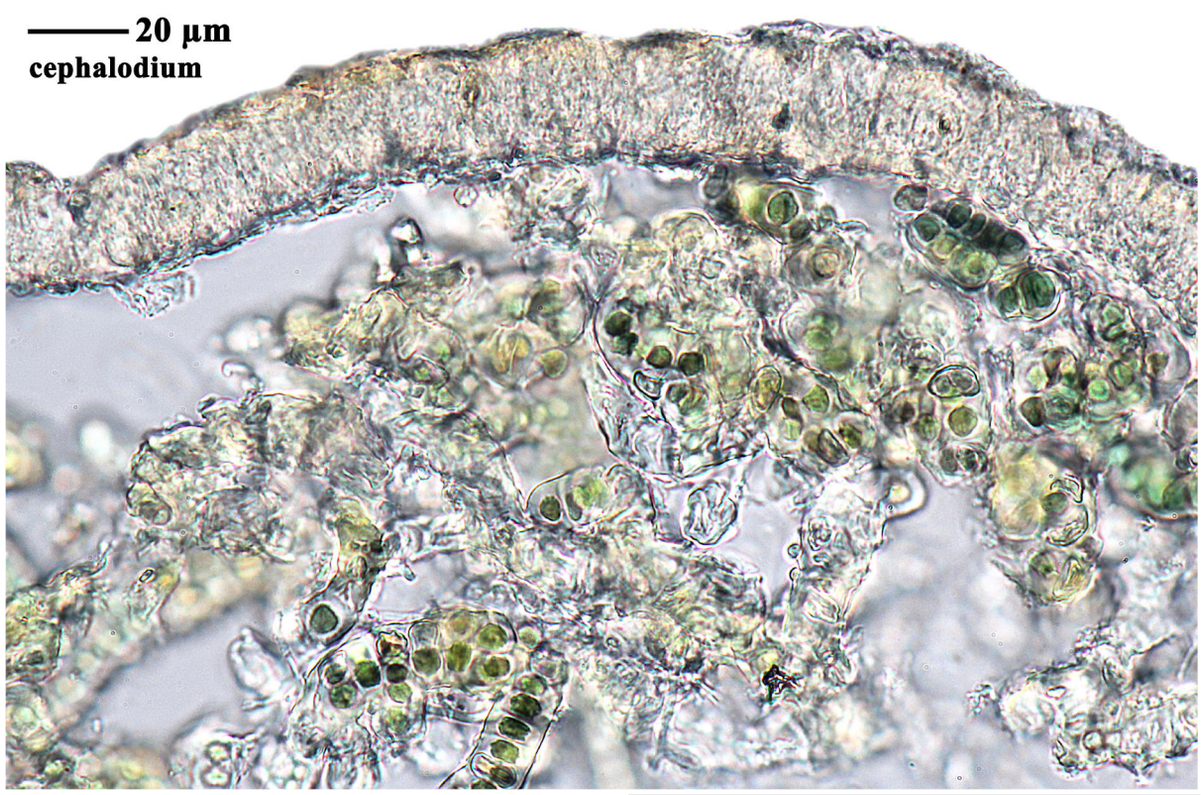


Stereocaulon ramulosum



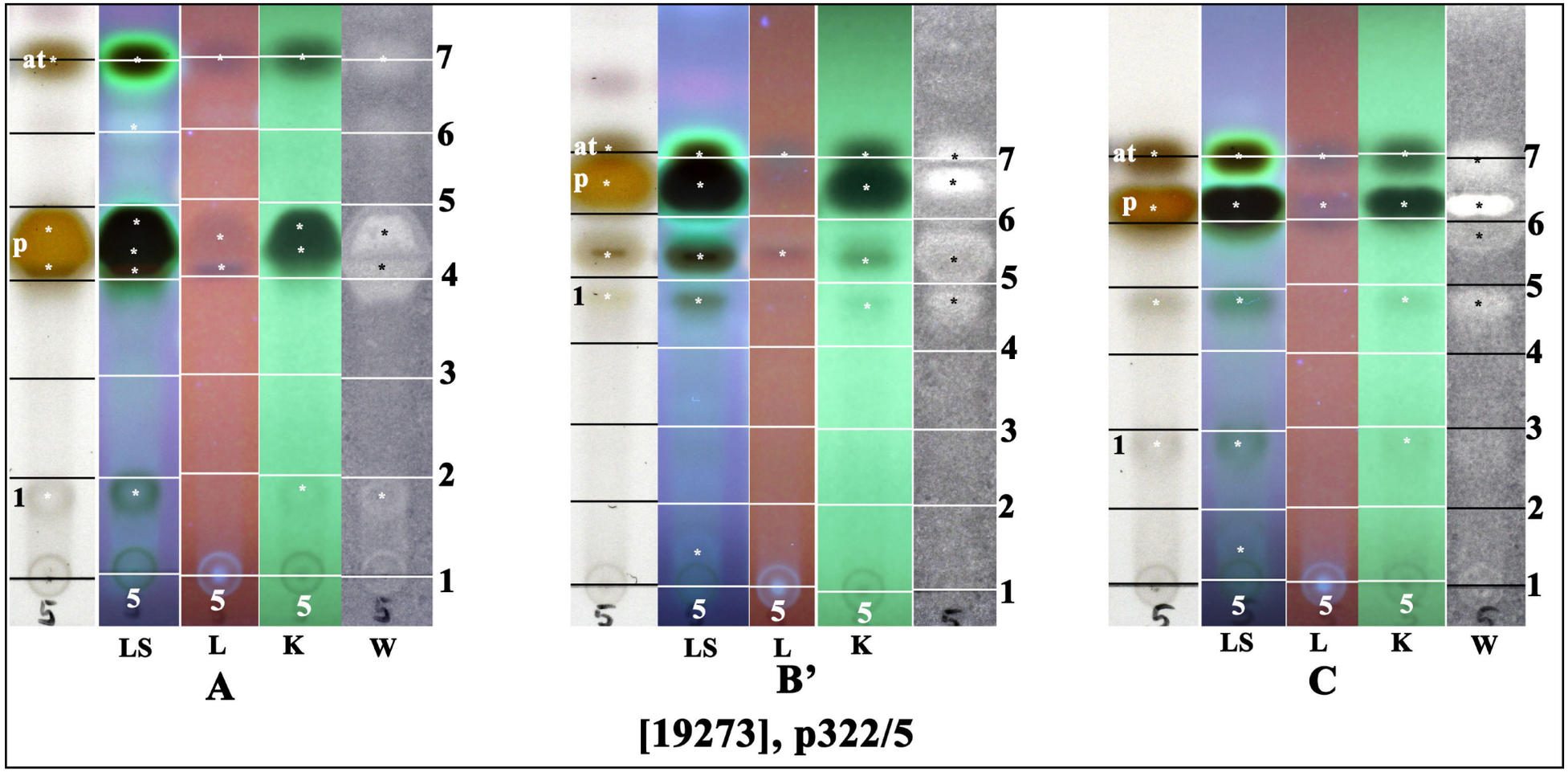
Stereocaulon ramulosum







Stereocaulon ramulosum

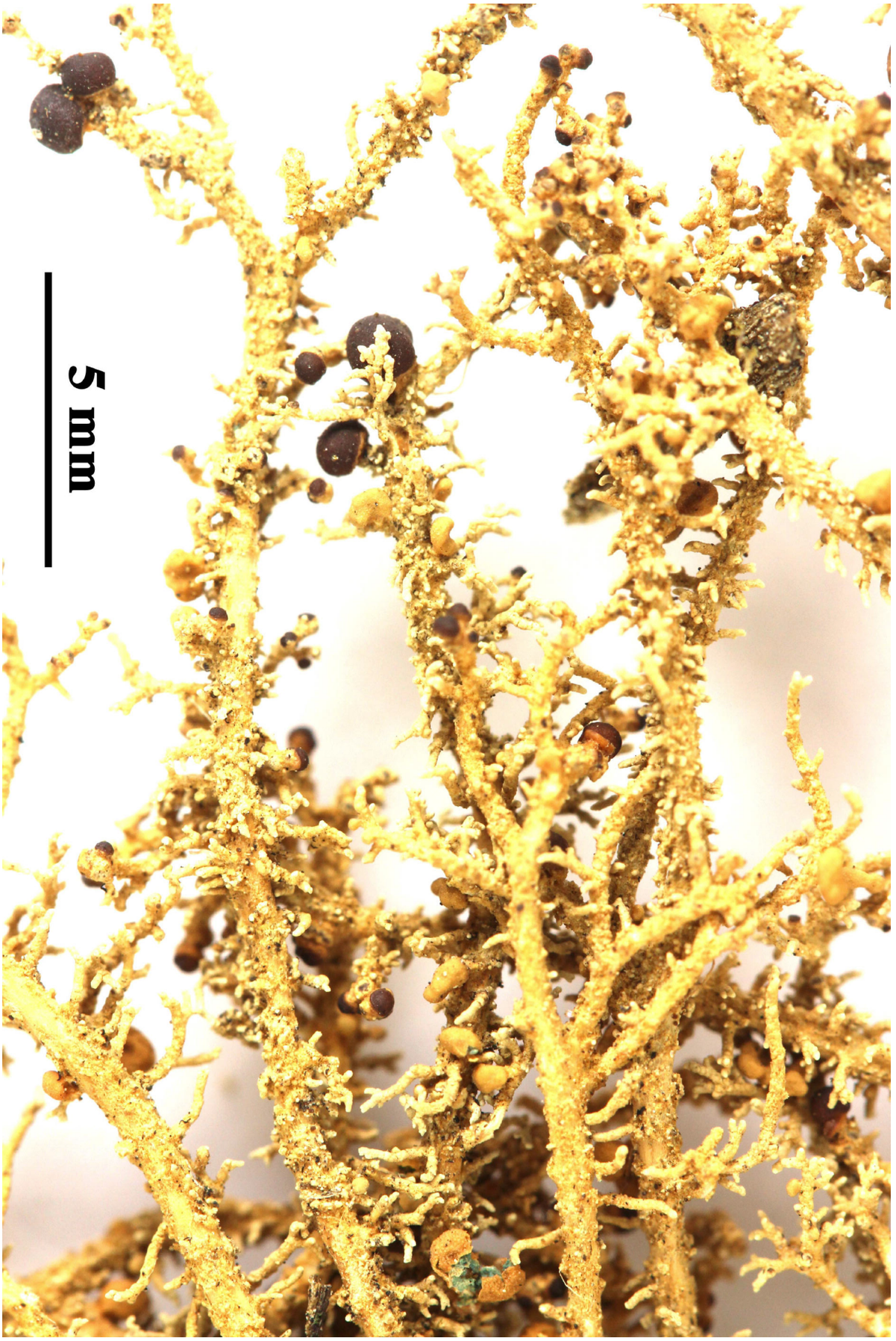


at: atranorin, p: perlatolic acid and stenosporic acid move as a single spot in all three solvents on small plates;
1: unknown

Stereocaulon ramulosum (Sw.) Räusch.

[KA350], New Zealand. North Island Manawatu Region: Palmerston North. On ground, 200m. Leg. M. Togashi, 13.10.1971, det. Y. Asahina. Ex H. Kashiwadani Lichenes Minus Cogniti Exsiccati Nr. 350.

Pseudopodetia up to 12 cm tall. Soredia and soredium-like granules absent. Phyllocladia cylindrical (= phyllocladoid branchlets). Cephalodia uniformly grey-coloured, opaque, clavate to globose, with differentiated cortex and aereated tissue (=sacculate). Apothecia common. Ascospores 7-septate, 40-90 x 4-5 µm. Chemistry: Thallus P- or P+ yellowish, protocetraric and stictic acids acid absent; containing atranorin, perlatolic acid (major), anziaic acid (trace).



Stereocaulon ramulosum



Stereocaulon ramulosum

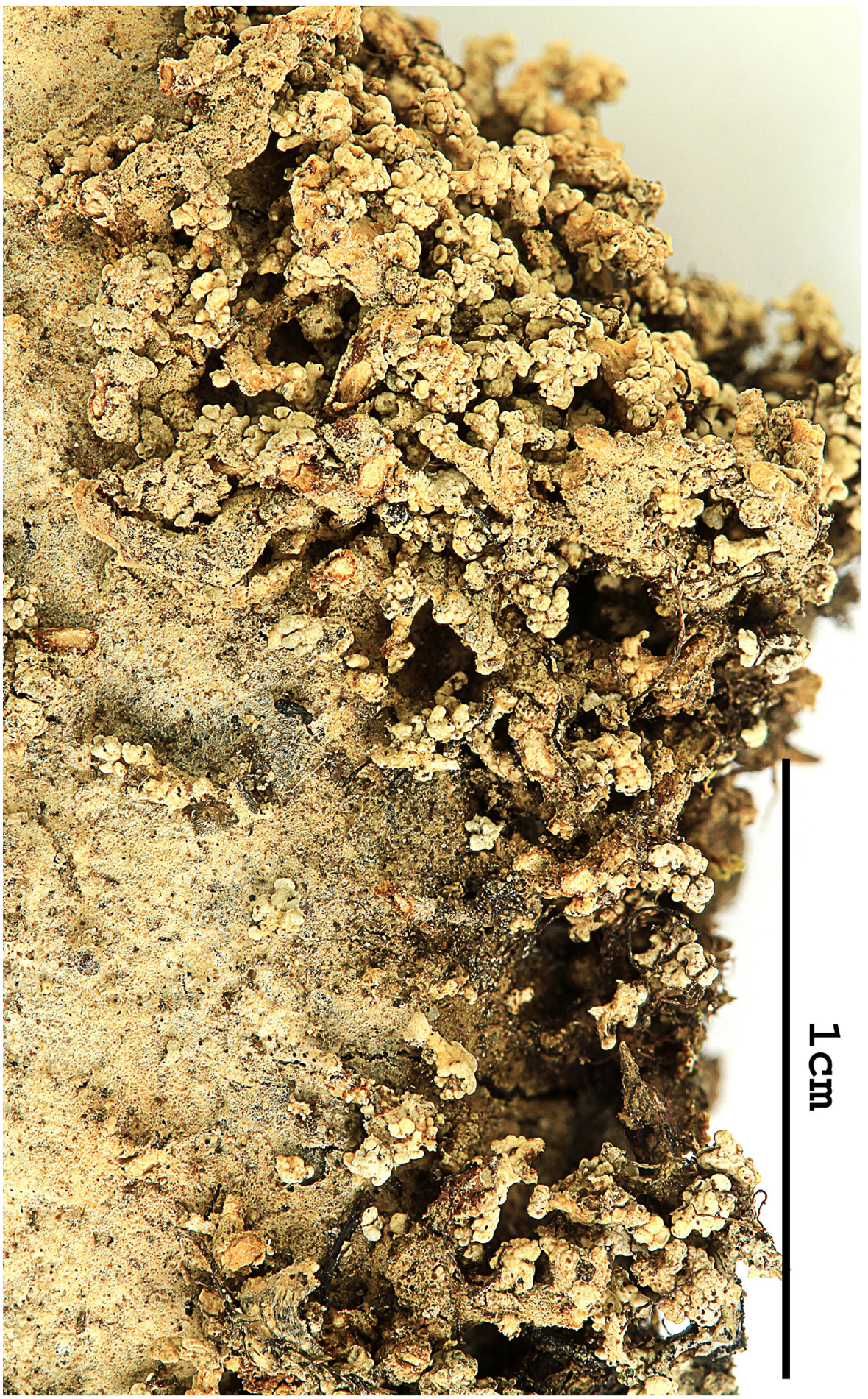
Stereocaulon rivulorum H. Magn., Göteborgs Kungl. Vetensk.-och Vitterh. Samh. handl., Ser. 4 30(no. 7): 63 (1926)

[KU691], Svalbard. Spitsbergen. Bohemanflya. On rock, 100-200 m. Leg. H. Kashiwadani (no.23262), 30.07.1985, det. H. Kashiwadani. - Ex S. KUROKAWA & H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 691.

Podetia loosely or rarely somewhat firmly adherent to the ground, erect or decumbent, forming low somewhat 1ax tufts as much as 6(-10) cm wide, 1-1.5(-2) cm high, whitish, usually with a bluish hue. Podetia cylindrical, 0.5-0.8 mm thick with a whitish or faintly rose-coloured ± thick tomentum, very irreg ularly and intricately but divaricately and somewhat sparingly branched, without distinct main-axis, unusua lly fragile, unaltered by K. Central medullary hyphae parallel, not firmly conglutinate, 2.5-3.5 µm thick, relatively 1eptodermatous, lumina 1.3-1.7 µm in diarn. The exterior hyphae form a somewhat distinct pale yellowish cylinder, 25-35(-45) µm thick, with gelatinous, more conglutinate, 6-10 µm thick hyphae, coloured pale yellowish by K. Tomentum 20-30(-50) µmthick, with arachnoid 3-4(-5) µm sized, much branched, somewhat leptodermatous hyphae, the ends of which are frequently curved. Phyllocladia glaucous-white, grain-like or partly elongate, flattened and indistinctly crenulate, small 0.2(-0.3) mm in diam., equally but not dense1y dispersed on the podetia, often leaving spaces of them visible between. Cortex continuous, pale dirty yellowish, 25-35(-45) µm, hyphae firmly conglutinate, scarcely discernible. Gonidia 8-12 µm, arranged in lumps or forming a ± continuous stratum. Medullary hyphae loosely interwoven, with smooth surface, 3 µm thick, among the gonidia 5-7 µm. Apothecia usually numerous, sometimes crowded, terminal or subterminal, disc 1-2(-3) mm across, dark brown, plane or slightly convex, for a long time with at hin visible witish margin. The lower surface plane, white, distinctly tomentose like the podetia. Outermost 60-100 µm dirty yellowish, consisting of 8-10 µm thick, ±discernible, slightly intricate, gelatinous hyphae. Central part colourless, in water only the intricate, 1.5-2 µm broad lumina visible, but inK with distinct 3-4.5 µm thick hyphae. In some individuals the centre burst asunder, in others it is filled with 20-25 µm sized greyish-yellow ±confluent lumps of granules, dissolving in HCI but not in K. Hypothecium 35 .-50 µm, colourless, J-. Hymenium 60-70 µm, uppermost 15 µm pale brown. Paraphyses ± contiguous, 1.5 µm, pale brownish capitate, 3 µm, single ones with one or two short branches towards the

apices. Asci 50-60 x 10 µm, narrowly cylindric-clavate, J+ pale blue, the very apex dark blue, hymenial gel a time not coloured red. Spores (25-)30-37 x 3-3.5 µm, cylindric-fusiform with one end narrower, 3-septate. Pycnidia immersed in the apices of the phyllocladia, brown, 0.1-0.2 mm large. Conidia 5-6 x 1-1.2 µm straight, cylindrical. Cephalodia not frequent on the podetia, in conspicuous, 0.1-0.5 mm across, tuberculiform with finely granular surface, of the same colour as the tomentum or pale brownish violet, containing *Nostoc*-algae. - On the banks of torrents in subalpine and alpine situation.

Stereocaulon rivulorum



Stereocaulon rivulorum



Stereocaulon rivulorum

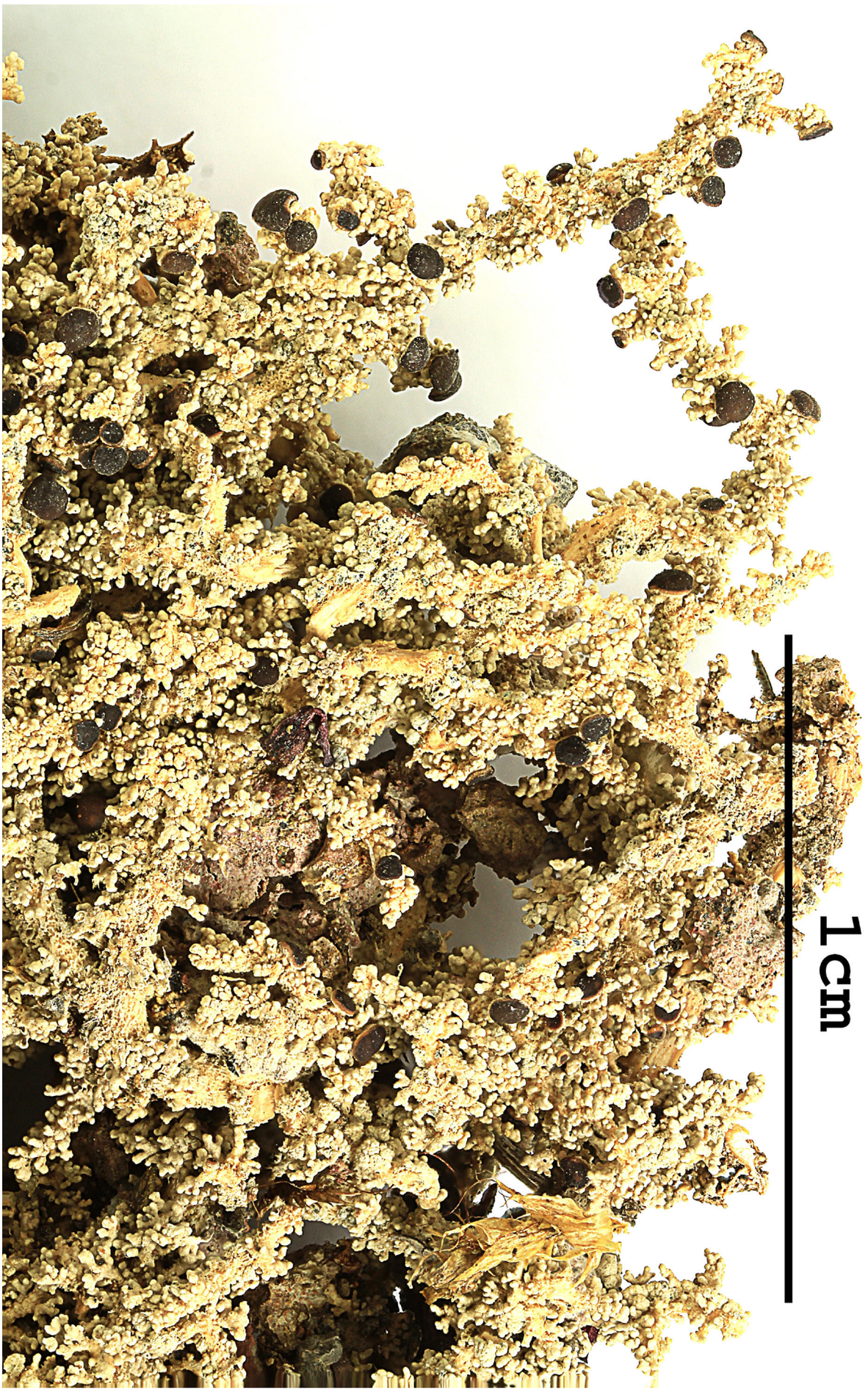


Stereocaulon rivulorum

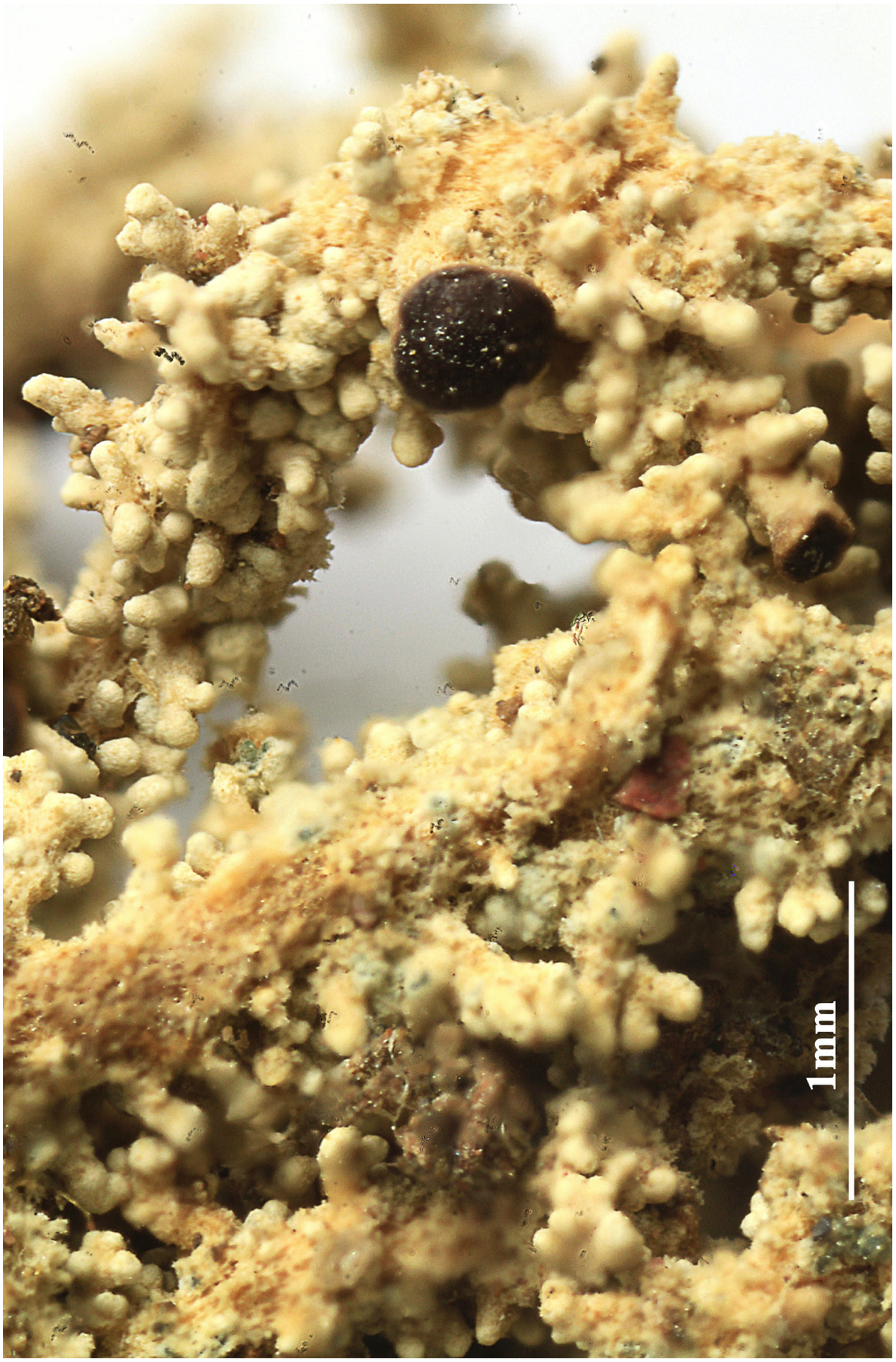
Stereocaulon sasakii Zahlbr., Feddes Repert. Spec. Nov. Regni veg. 33: 48 (1933)

[OH697], Japan, Honshu. Shinano Prov. (Nagano Pref.): Jogo-sawa, Mt. Yokodake, Yatsugate Mts. Leg. S. Kurokawa (no. 58451), 22.08.1958, det, H. Kashiwadani. - Ex Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 697.

Habitus more or less erect, not dorsiventral, moderately to well branched or prostrate, dorsiventral, forming flattened mat-like mats (var. *tomentosoides* Lamb.). Pseudopodetia not sorediate, moderately to heavely tomentose, not ligneus, rather loosel, attached, 3 cm or bigger. Phyllocladia short, not over 1 mm long, verrucose to squamulose, not cylindrical and not terete, without darker centres, P+ yellow. Cephalodia pale, verrucose to tuberculate, botryose, with poorly developed parenchymatous tissue. Apothecia small (up to 1 mm), lateral. Hypothecium not pigmented. Chemistry: atranorin, lobaric acid. - *St. sasakii* is morphological analogous to *St. tomentosum* Fr. but differs chemically in containing lobaric acid instead of dtictic acid. Also similar to *S. myriocarpum* except the phyllocladia. - Nepal, Asia, western N. America.



Stereocaulon sasakii



Stereocaulon sasakii

Stereocaulon saviczii Du Rietz, Ark. Bot. 22A(no. 13): 13 (1929)

[OH698], Japan. Honshu. Suruga Prov. (Shizuoka Pref.). Mt. Arakawa. On rock, 2800 m. Leg. M. Togashi, 11.07.1971, det. Y. Asahina. - Ex Y .OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 698.

Growing on rock or stones. Primary thallus evanescent. Pseudopodetia erect, short, 1-2 cm long, subsimple or sparringly branched. not ligneous, not sorediate, firmly attached to substratum. Phyllocladia lateral on pseudopodetia, not forming apical foliar expansions, subglobose-verruculose to cylindric-coralloid, with darker, spot-like, depressed centres or irregularly mottled with darker spots of patches, P+ yellow, K+ yellow. Cephalodia verrucose, scabrid- verruculose or botryose, with poorly developed, pseudoparenchymatous cortical layer. Apothecia becoming large, to over 3 mm, frequently present. Hypothecium brown pigmented. Spores (1-)3-4(-5)-septate, (15-)17-37 x (3-)4-6(6.5) µm. Chemistry: atranorin, lobaric acid, norstictic acid absent. - Kamtschatka, Alaska, Japan.



Stereocaulon saviczii



Stereocaulon saviczii

Stereocaulon sorediiferum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 250 (1898)

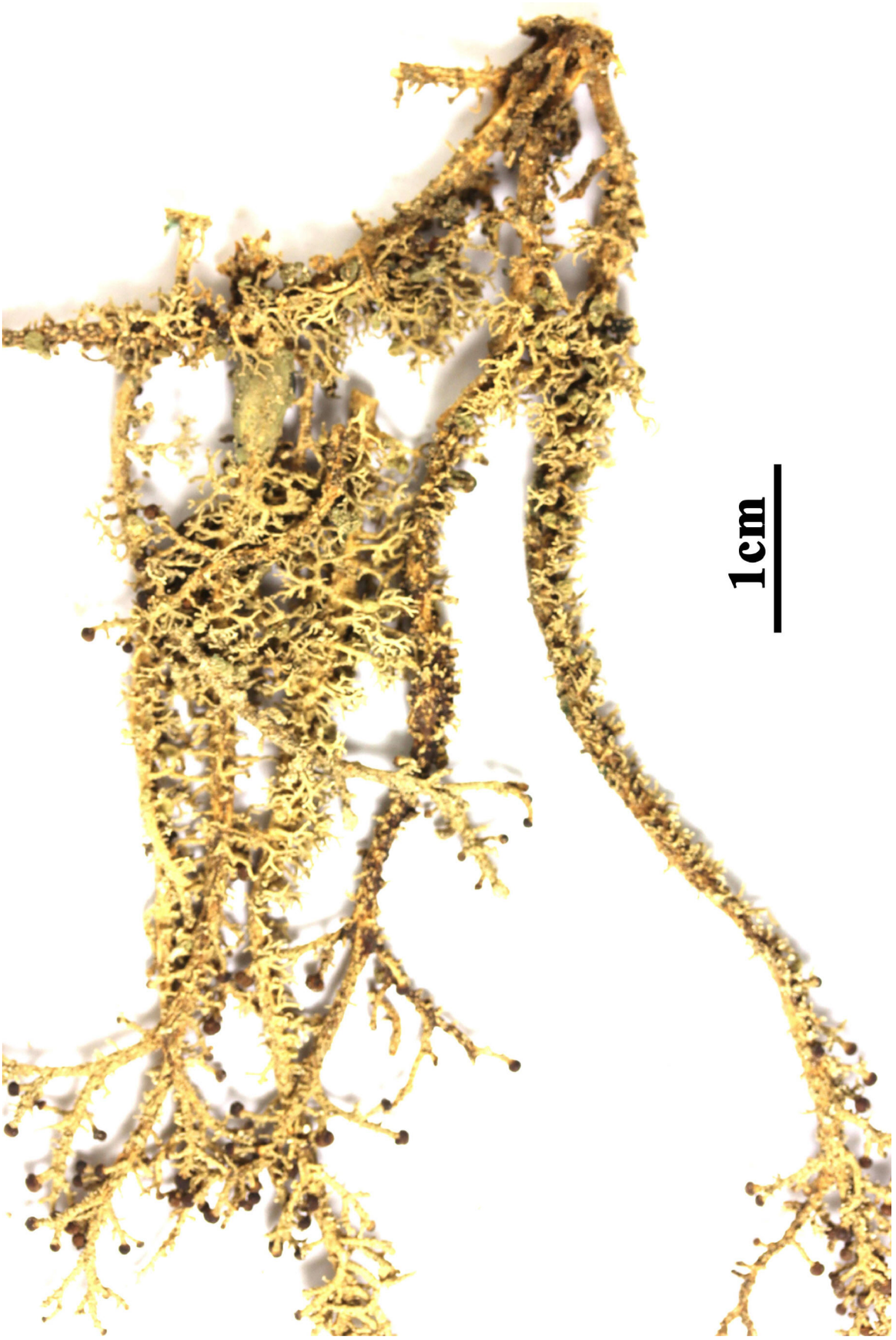
[KU397], Japan. Honshu. Prov. Kii: Iritani, Susamicho, Nishimuro-gun. Onrocks, 300 m. Leg. M. Togashi, 17.2.1974, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 397.

Pseudopodetia erect, 3-7 (-9) em high, sparingly to moderately branched, glabrous, mostly ecorticate. Phyllocladial branchlets cylindrical-coralloid, ± evenly distributed on pseudopodetia, simple or branched, most of them bearing at their ends small, white, farinose, capitiform soredia. Cephalodia lateral on main branches, sessile or shortly stalked, foveolate-sacculate, wrinkled, pale olive-gray to dark aeruginose, with gelatinous cortex containing both rounded and palisadically elongated cell-lumina, containing Scytonema (rarely Stigonema). Apothecia terminal on upper branches or on individual short lateral branches, up to I mm diam., arising in small flesh-colored clavulae, soon convex with evanescent proper margin. Excipulum about 160 µm thick. Central cone compact, hyaline, without inclusions. Hypothecium colorless or faintly sordid-isabelline. Hymenium 100-135 µmhigh, brown to dark brown above. Paraphyses discrete, slender. Spores 8 or fewer, spirally wound in ascus, vermiform-sinuose, 7-14septate, 70-1l2 x 3.0-3.5 µm. First described from Japan, Yokoska (Savatier, Herb. Mus. Paris). With one exce'ption, all the material seen, including the type specimen, contains Lobaric acid and Atranorine (phyllocladial branchlets PD + slowly faint yellow);

Distrib.: Japan (Honshu, Shikoku, Kiushiu), Formosa, China (Szechuan), Hong Kong, Philippines, Vietnam. Remarks: cephalodia sacculate. Occasionally almost or even totally lacking in the production of soredia (f. esorediosum ASAH.); such plants appear morphologically like St. massartianum HUE, but may be distinguished by their different chemistry.



Stereocaulon sorediiferum



Stereocaulon sorediiferum

Stereocaulon sorediiferum Hue, Nouv. Arch. Mus. Hist. Nat., Paris, 3 sér. 10: 250 (1898)

[KU334], Formosa. Prov. Chiayi: Mt. Tsu-Tson-San, Mt.Ali. On rocks, 2200-2600 m. Leg. S. Kurokawa (no. 475), 4.1.1964, det. I. M. Lamb. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 334.

Pseudopodetia erect, 3-7 (-9) em high, sparingly to moderately branched, glabrous, mostly ecorticate. Phyllocladial branchlets cylindrical-coralloid, ± evenly distributed on pseudopodetia, simple or branched, most of them bearing at their ends small, white, farinose, capitiform soredia. Cephalodia lateral on main branches, sessile or shortly stalked, foveolate-sacculate, wrinkled, pale olive-gray to dark aeruginose, with gelatinous cortex containing both rounded and palisadically elongated cell-lumina, containing Scytonema (rarely Stigonema). Apothecia terminal on upper branches or on individual short lateral branches, up to I mm diam., arising in small flesh-colored clavulae, soon convex with evanescent proper margin. Excipulum about 160 µm thick. Central cone compact, hyaline, without inclusions. Hypothecium colorless or faintly sordid-isabelline. Hymenium 100-135 µmhigh, brown to dark brown above. Paraphyses discrete, slender. Spores 8 or fewer, spirally wound in ascus, vermiform-sinuose, 7-14septate, 70-1l2 x 3.0-3.5 µm. First described from Japan, Yokoska (Savatier, Herb. Mus. Paris). With one exce'ption, all the material seen, including the type specimen, contains Lobaric acid and Atranorine (phyllocladial branchlets PD + slowly faint yellow);

Distrib.: Japan (Honshu, Shikoku, Kiushiu), Formosa, China (Szechuan), Hong Kong, Philippines, Vietnam. Remarks: cephalodia sacculate. Occasionally almost or even totally lacking in the production of soredia (f. esorediosum ASAH.); such plants appear morphologically like St. massartianum HUE, but may be distinguished by their different chemistry.



Stereocaulon sorediiferum



Stereocaulon sorediiferum

Stereocaulon tomentosum Fr., Sched. Crit. Lich. Suec., Fasc. 3: 20 (1825) [1824]

[KU247], Canada, British Columbia: On boulder, Black Tusk, Garibaldi Provincial Park, 880 m. Leg. S. Kurokawa (no. 8638), 31.8.1974, det. S. Kurokawa. EX S. KUROKAWA LICHENES RARIORES ET CRITICI EXSICCATI NR. 247.

Primary thallus crustose, ephemeral, usually absent in mature individuals, secondary thallus fruticose. Pseudopodetia loosely attached, prostrate to ascending, up to 4(-8) cm tall, 1-2 mm thick, clearly dorsiventral, thickly grey-tomentose especially on lower surface, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia abundant, granulose to squamulose, ash-grey, mostly rounded and flattened, often overlapping. Cephalodia inconspicuous, more or less spherical, to 0.7 mm across (usually less), embedded in the tomentum of the underside, with Nostoc. Apothecia frequent, mainly located on lateral branches, up to 0.7(-1.2) mm across, with a dark brown to blackish brown, convex disc and an indistinct margin. Proper exciple brown in outer part, colourless within; epithecium brown, K-; hymenium colourless, 45-55 µm high; paraphyses simple, 1.5-1.8 µm thick, the apical cells 3-4 µm wide, with a dark cap; hypothecium colourless. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer layer and apical dome, and a central, K/I+ darker blue tube, Porpidia-type. Ascospores 3(-6)-septate, hyaline, fusiform, 20-50 x (2.5-)3-4 µm. Pycnidia rare, dark, immersed. Conidia 1-celled, hyaline, straight, 4-5 x c. 0.8 µm. Main photobiont chlorococcoid. Spot tests: K+ yellow, C-, KC-, P+ orange, UV-. Chemistry: atranorin, stictic acid and variable amounts of norstictic acid. - Note: a mainly boreal-montane, circumpolar lichen found on mineral soil in open habitats, such as in clearings of Pinus-stands.



Stereocaulon tomentosum



Stereocaulon tomentosum

Stereocaulon staufferi I.M. Lamb, Bot. Jahrb. Syst. 86: 247 (1967)

[KU693], Papua New Guinea. Central District: Mi. Albert-Edward, summit area, 37600-3800 m. Leg. S. Kurokawa (no.9569), 27.10.1975, det. M. Mineta. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 693.

Primary thallus evanescent. Pseudopodetia robust, whitish, erect, irregularly branched, corticate, 5-15 cm high; cortex 150-180 μm thick. Phyllocladia very sparse or lacking, cylindrical-coralloid, 1-3 x 0.3mm, Cephalodia lateral, whitish, subglobose or pyriform, of the sacculate type, more or less fiattened, scrobiculate-foveolate on the surface, usually finely granular on the surface, containing *Stigonema* sp. Apothecia terminal, with pale pseudothaltine margin at least in juvenile stage, 2-3.7 mm in diameter; disc convex, reddish brown; amphithecium verrucose; hypothecium colorless; hyrnenium 130-l50 μm high; asci 70-80 × 10 μm; spores 3-5-septate, 42-75 × 2,5 μm, Pycnidia situated immediately below the apothecia, globose; pycnoconidia filiform, slightly to moderately curyed, 7.5-10× 0.8 μm. Pseudopodetia P+yellowish. Chemical substances: atranorin, perlatolic acid, and anziaic acid. This species is one of the most conspicuous and large robust species of *Stereocaulon* in Papua New Guinea. It is easily distinguished from other Papua New Guinea species of *Stereocaulon* by the corticate whitish pseudopodetia and by the whitish cephatodia with granular surface. *Stereocaulon staufferi* resernbles large indivisuals of *S. ramulosum var. pilopholoicles*, which is endemic to the Hawaiian Islands. However, it differs from the latter in the septation of spores (up to 8-septate in *S. ramulosum var, pilpholoicles*) and in the shape of juvenile apothecia. The apothecia have pale margins in juvenile stages in *S. staufferi*, while they never form pa]e margins in *S. ramulosum yar. pilopholoicles*.



Stereocaulon staufferi



Stereocaulon staufferi

Stereocaulon staufferi I.M. Lamb, Bot. Jahrb. Syst. 86: 247 (1967)

[KU496], Oapua New Guinea. Wsestern Highland District: Mt. Wilhelm. Enroute from Kombugomanbuno to the Pindaunde Lakes. Onrocks, 3400-3650 m. Leg. H. Kashiwadani (no. 11148), 3.1.1974, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 496.

Primary thallus evanescent. Pseudopodetia robust, whitish, erect, irregularly branched, corticate, 5-15 cm high; cortex 150-180 μm thick. Phyllocladia very sparse or lacking, cylindrical-coralloid, 1-3 x 0.3mm, Cephalodia lateral, whitish, subglobose or pyriform, of the sacculate type, more or less fiattened, scrobiculate-foveolate on the surface, usually finely granular on the surface, containing *Stigonema* sp. Apothecia terminal, with pale pseudothaltine margin at least in juvenile stage, 2-3.7 mm in diameter; disc convex, reddish brown; amphithecium verrucose; hypothecium colorless; hyrnenium 130-l50 μm high; asci 70-80 × 10 μm; spores 3-5-septate, 42-75 × 2,5 μm, Pycnidia situated immediately below the apothecia, globose; pycnoconidia filiform, slightly to moderately curyed, 7.5-10× 0.8 μm. Pseudopodetia P+yellowish. Chemical substances: atranorin, perlatolic acid, and anziaic acid. This species is one of the most conspicuous and large robust species of *Stereocaulon* in Papua New Guinea. It is easily distinguished from other Papua New Guinea species of *Stereocaulon* by the corticate whitish pseudopodetia and by the whitish cephatodia with granular surface. *Stereocaulon staufferi* resernbles large indivisuals of *S. ramulosum var. pilopholoicles*, which is endemic to the Hawaiian Islands. However, it differs from the latter in the septation of spores (up to 8-septate in *S. ramulosum var, pilpholoicles*) and in the shape of juvenile apothecia. The apothecia have pale margins in juvenile stages in *S. staufferi*, while they never form pa]e margins in *S. ramulosum yar. pilopholoicles*.



Stereocaulon staufferi



Stereocaulon staufferi

Stereocaulon tomentosum Fr., Sched. Crit. Lich. Suec., Fasc. 3: 20 (1825) [1824]

[LN444], Ecuador. Cotopaxi. Zwischen Pujilí und Zumbahua, westlich von Latacunga. An freistehenden Granitfelswänden. 3800 m. Leg. K. & A. Kalb 13.08.1987, det. H. Sipman. Ex K. KALB: LICHENES NEOTROPICI NR. 444.

Primary thallus crustose, ephemeral, usually absent in mature individuals, secondary thallus fruticose. Pseudopodetia loosely attached, prostrate to ascending, to 3(-8) cm tall, 1-2 mm thick, clearly dorsiventral, thickly grey-tomentose especially on lower surface, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia abundant, granulose to squamulose, ash-grey, mostly rounded and flattened, often overlapping. Cephalodia inconspicuous, more or less spherical, to 0.7 mm across (usually less), embedded in the tomentum of the underside, with *Nostoc*. Apothecia frequent, up to 0.7(-1.2) mm across, with a dark brown to blackish brown, convex disc and an indistinct margin, mainly located on lateral branches. Proper exciple brown in outer part, colourless within; epithecium brown, K-; hymenium colourless, 45-50 µm high; paraphyses simple, 1.5-1.8 µm thick, the apical cells capitate, 3-4 µm wide, with a dark cap; hypothecium colourless. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer layer and apical dome, and a central, K/I+ darker blue tube, Porpidia-type. Ascospores 3(-6)-septate, hyaline, fusiform, 20-50 x (2.5-)3-4 µm. Pycnidia rare, dark, immersed. Conidia 1-celled, hyaline, straight, 4-5 x c. 0.8 µm. Main photobiont chlorococcoid. Spot tests: K+ yellow, C-, KC-, P± faintly yellow or + orange, UV-. Chemistry: atranorin, stictic acid and variable amounts of norstictic acid. -
Remarks: distinguished by its dark gray color, flattened and dorsiventral habitus, and often dark (grayish) tomentum of the underside; strongly resembling *St. saxatile* MAGN. Fairly common and widely distributed in Europe, Russia and N. America.



Stereocaulon tomentosum



Stereocaulon tomentosum

Stereocaulon verruculigerum Hue, J. Hattori bot. Lab. 43: 267 (1977)

[OH443], Japan Izu Islands: along the trail, NW slope of Mt. Oyama, Mikura-jima island. On rock, 500 m. Leg. Y. Ohmura (no. 8446), 10.11.2011. Ex Y. Ohmura Lichenes Minus Cogniti Exsiccati Nr. 443.

Primary thallus persistent as wart-like; pseudopodetia erect, 1–2 cm tall, dorsiventral, decorticate, exposing inner layer, little branched but becoming well-branched toward apices, densely phyllocladiate, phyllocladia abundant, coralloid, cylindrical, simple to branched, up to 1–2 mm long, cephalodia common, mostly located on basal part, spherical, tubercular, gray to black, 0.5–2 mm wide. Apothecia terminal, convex, reddish brown to black, 1–2 mm wide, abundant, epihymenium brown, 50–100 μm high, hymenium hyaline, 50–100 μm high, hypothecium brown, 50–100 μm high; spore fusiform, hyaline, 3–4(–6) septate, 25–50 × 2.5–5 μm. Chemistry: K + yellow, P–pale yellow. TLC: atranorin, lobaric acid.

- Remarks: This species is very similar to *S. japonicum*, but contains stictic acid instead of lobaric acid. *S. octomerellum* is also a similar species but has short pseudopodetia (up to 1 cm long). According to the Lamb key, *S. verruculigerum* has a primary thallus but according to the Japanese key it does not. “The Macrolichen flora of South Korea” states that this species has a primary thallus [11]. It is very difficult to distinguish these species from *S. japonicum* without a TLC test.



Stereocaulon verruculigerum



Stereocaulon verruculigerum

Stereocaulon verruculigerum Hue, J. Hattori bot. Lab. 43: 267 (1977)

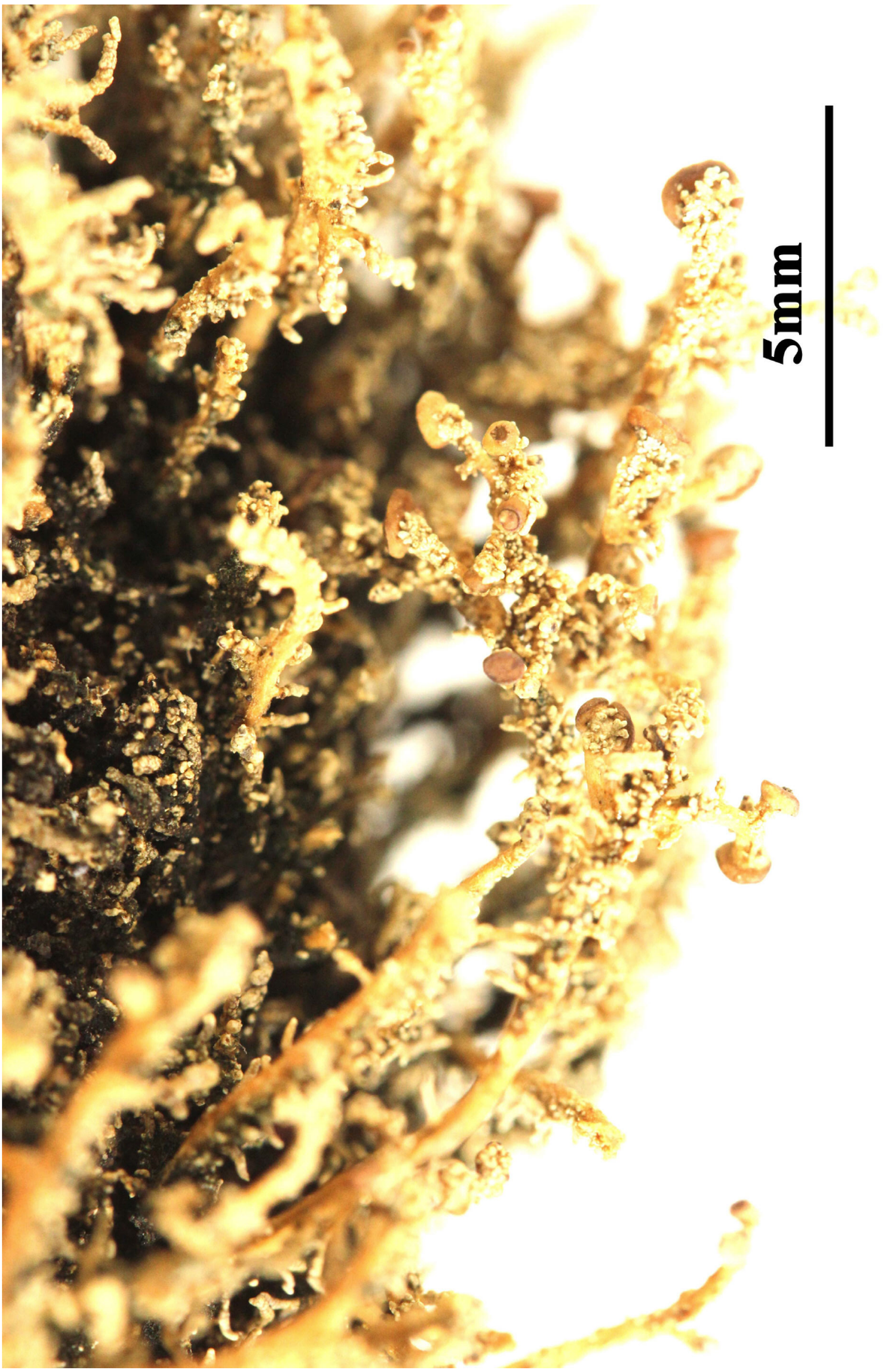
[KU597], Japan, Izu Islands: Mt. Hachijo-Fuji, Hachijo Island. On rocks (lava), 300 m. Leg. H. Kashiwadani (no. 13569),8.9.1976, det. H. Kashiwadani. EX S. KUROKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITCI EXSICCATI NR. 597.

Primary thallus persistent as wart-like; pseudopodetia erect, 1–2 cm tall, dorsiventral, decorticate, exposing inner layer, little branched but becoming well-branched toward apices, densely phyllocladiate, phyllocladia abundant, coralloid, cylindrical, simple to branched, up to 1–2 mm long, cephalodia common, mostly located on basal part, spherical, tubercular, gray to black, 0.5–2 mm wide. Apothecia terminal, convex, reddish brown to black, 1–2 mm wide, abundant, epihymenium brown, 50–100 μm high, hymenium hyaline, 50–100 μm high, hypothecium brown, 50–100 μm high; spore fusiform, hyaline, 3–4(–6) septate, 25–50 × 2.5–5 μm. Chemistry: K + yellow, P–pale yellow. TLC: atranorin, lobaric acid.

- Remarks: This species is very similar to *S. japonicum*, but contains stictic acid instead of lobaric acid. *S. octomerellum* is also a similar species but has short pseudopodetia (up to 1 cm long). According to the Lamb key, *S. verruculigerum* has a primary thallus but according to the Japanese key it does not. “The Macrolichen flora of South Korea” states that this species has a primary thallus [11]. It is very difficult to distinguish these species from *S. japonicum* without a TLC test.



Stereocaulon verruculigerum



Stereocaulon verruculigerum

Stereocaulon verruculigerum Hue, J. Hattori bot. Lab. 43: 267 (1977)

[6185], Philippinen, Mindanao, Provinz Cotabato, Mt. Apo, tropischer Bergregenwald zwischen dem Lake Venado und dem Peak des Mt. Apo, ca. 07°00'-06°59' N, 125°16.17'-125°20' E, 2200-2800 m. Leg. F. Schumm & U. Schwartz, 11.08.1999, det. H. Sipman, 2000. EX HERBARIO F. SCHUMM NR.6185.

Primary thallus for a long time persistent. Pseudopodetia erect, not dorsiventral. Cephalodia without well developed cortical layer. Phyllocladia lateral, terete-cylindrical. Hypothecium brown. Ascospores 25-55 x 4-5 µm, 3-5 septate. µm long. Chemistry: K+ yellowish, P- to pale yellow, atranorin, lobaric acid.



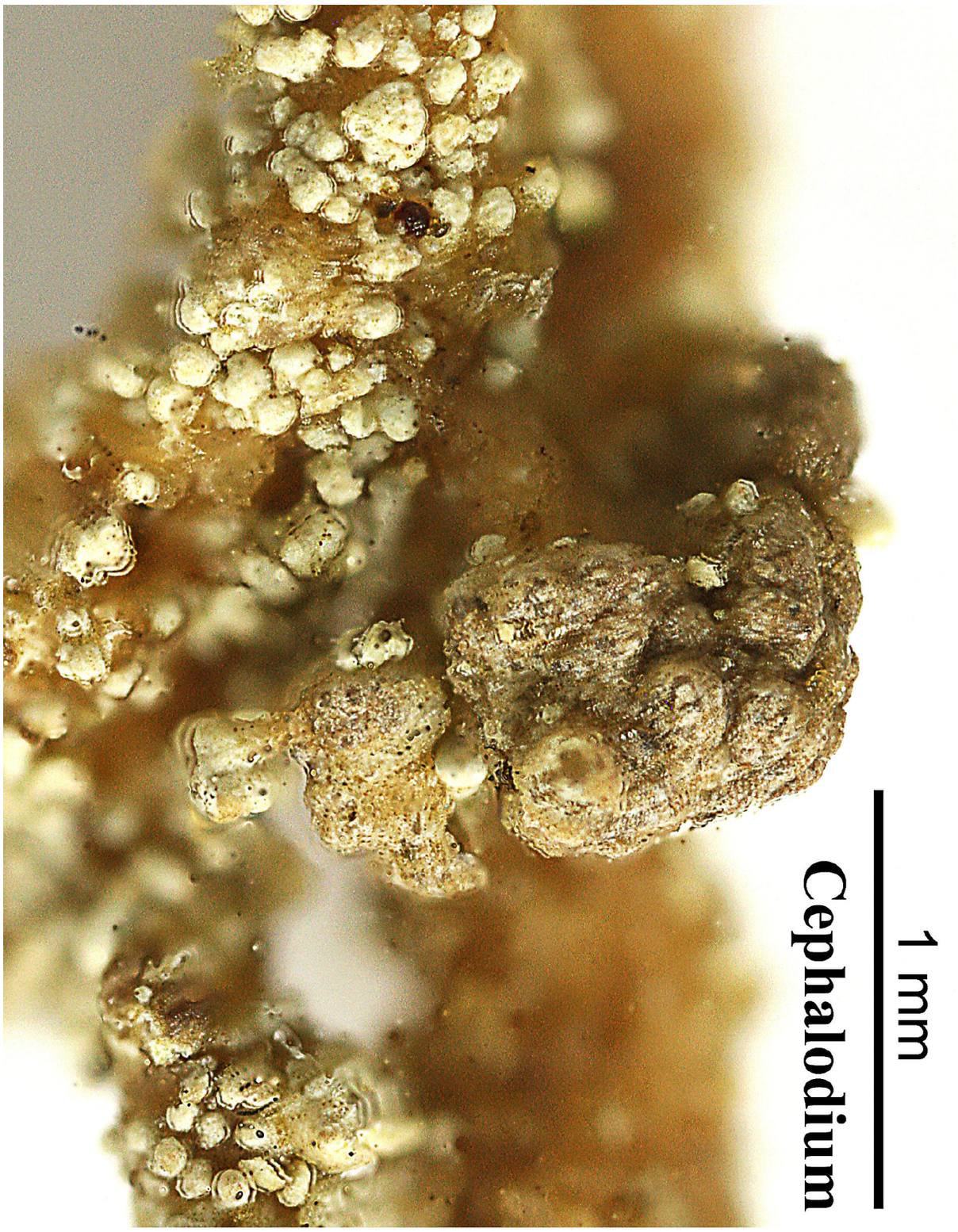
Stereocaulon verruculigerum



Stereocaulon verruculigerum



Stereocaulon verruculigerum



Stereocaulon verruculigerum

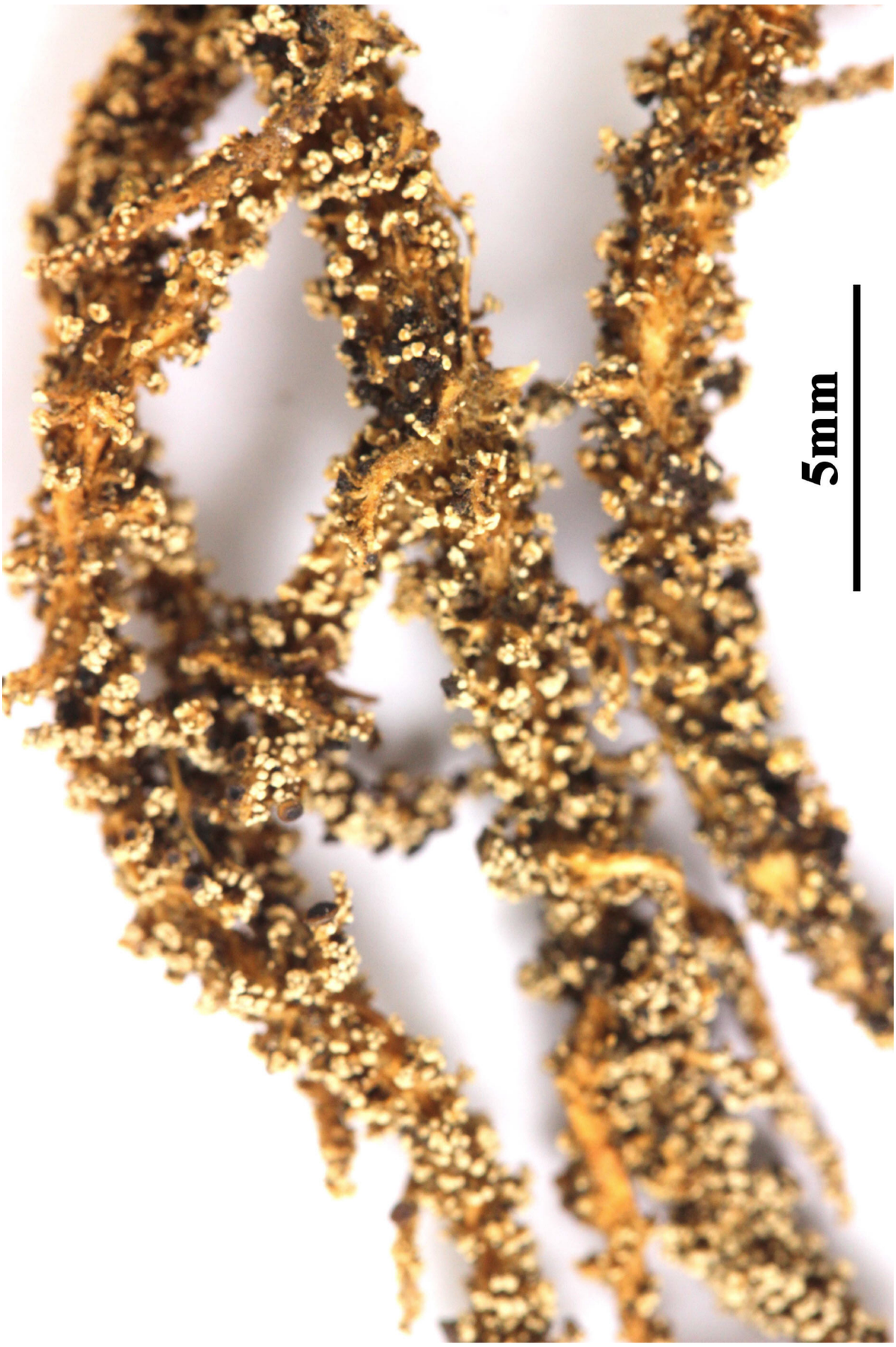
Stereocaulon vesuvianum Pers., Ann. Wetter. Gesellsch. Ges. Naturk. 2(1): 19 (1810)

[KU444], Japan. Honshu. Prov. Shinano: Kurosawaguchi 6-gome, Mt. Ontake. On rocks, 1900 m. Leg. Y. Asahina, 21.8.1954, det. Y. Asahina. Ex S. Kurokawa and H. Kashiwadani Lichnes Rariores Et Critici Exsiccati Nr. 444.

Primary thallus crustose, ephemeral, usually absent in mature individuals, secondary thallus fruticose, forming pillows or extended mats on the rock. Pseudopodetia 1-4(-7) cm tall, firmly attached, erect to decumbent, rigid, lacking tomentum but with a more or less felty surface, whitish or greyish, darker at base, simple or branched in upper part, esorediate, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia often almost entirely covering the pseudopodetia, small, often verrucose, the largest ones usually peltate, flattened or concave, usually not confluent, at least some of them with a dark olive-coloured central part and paler margins. Cephalodia rare, verruculose, dark olive brown, containing Stigonema. Apothecia rare, 0.5-1 mm across, located on lateral branches, with a dark brown disc. Proper exciple brown in outer part, colourless within; epithecium brown, K-; hymenium colourless; paraphyses mostly simple, 1.5-1.8 µm thick at mid-level, the apical cells up to 4.5 µm wide, with a dark cap; hypothecium colourless. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer layer and apical dome, and a central, K/I+ darker blue tube, Porpidia-type. Ascospores 3-6-septate, hyaline, fusiform but thicker at one end, 26-38 x 3-3.5 µm. Pycnidia rather rare. Conidia 1-celled, hyaline, straight or curved, 8-12 x 0.6-0.8 µm. Main photobiont chlorococcoid. Spot tests: thallus K+ yellow (rarely K+ red), C-, KC-, P+ orange, UV-. Chemistry: atranorin and variable amounts of stictic and sometimes norstictic acids. - Note: on volcanic rocks, exceptionally also on wood; abundant on the Vesuvium and the Etna Volcanoes, but much rarer elsewhere in Italy.



Stereocaulon vesuvianum

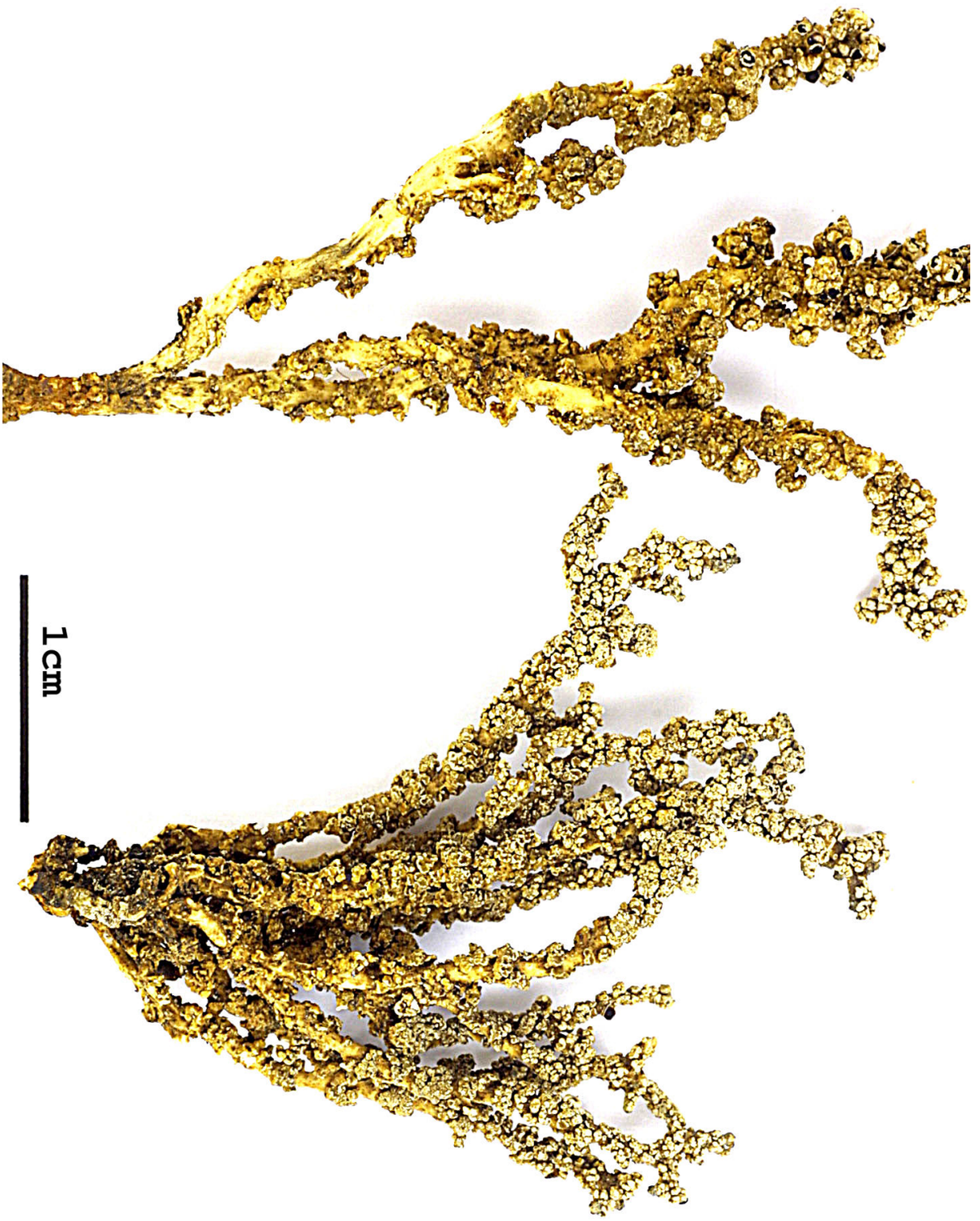


Stereocaulon vesuvianum

Stereocaulon vesuvianum Pers., Ann. Wetter. Gesellsch. Ges. Naturk. 2(1): 19 (1810)

[2564], Kanarische Inseln, Gran Canaria: bestandsbildend an rauhen Lawawänden im Stereocauletum vesuvianum Klem., 1200 m, NO-NW, pH 6,8, Blockströme im Nebelgürtel zwischen Cueva Corcho und Pinos de Galdar. Leg G. Follmann & G.Kunkel, 09.1968. Ex G. FOLLMANN: LICHENES EXSCICCATI SELECTI A MUSEO BOTANICO BEROLINENSI EDITI NR. 76. - IN HERBARIO F, SCHUMM NR.2564

Primary thallus crustose, ephemeral, usually absent in mature individuals, secondary thallus fruticose, forming pillows or extended mats on the rock. Pseudopodetia 1-4(-7) cm tall, firmly attached, erect to decumbent, rigid, lacking tomentum but with a more or less felty surface, whitish or greyish, darker at the base, simple or branched in upper part, esorediate, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia often almost entirely covering the pseudopodetia, small, often verrucose, the largest ones usually peltate, flattened or concave, usually not confluent, at least some of them with a dark olive-coloured central part and paler margins. Cephalodia rare, verruculose, dark olive brown, containing Stigonema. Apothecia rare, 0.5-1 mm across, located on lateral branches, with a dark brown disc. Proper exciple brown in outer part, colourless within; epithecium brown, K-; hymenium colourless; paraphyses mostly simple, 1.5-1.8 µm thick, the apical cells capitate, up to 4.5 µm wide, with a dark cap; hypothecium colourless. Asci 8-spored, cylindrical-clavate, with a K/I+ blue outer layer and apical dome, and a central, K/I+ darker blue tube, Porpidia-type. Ascospores 3-6-septate, hyaline, fusiform but thicker at one end, 26-38 x 3-3.5 µm. Pycnidia rather rare. Conidia 1-celled, hyaline, straight or curved, 8-12 x 0.6-0.8 µm. Main photobiont chlorococcoid. Spot tests: thallus K+ yellow (rarely K+ red), C-, KC-, P+ orange, UV-. Chemistry: atranorin and variable amounts of stictic and norstictic acids.



Stereocaulon vesuvianum

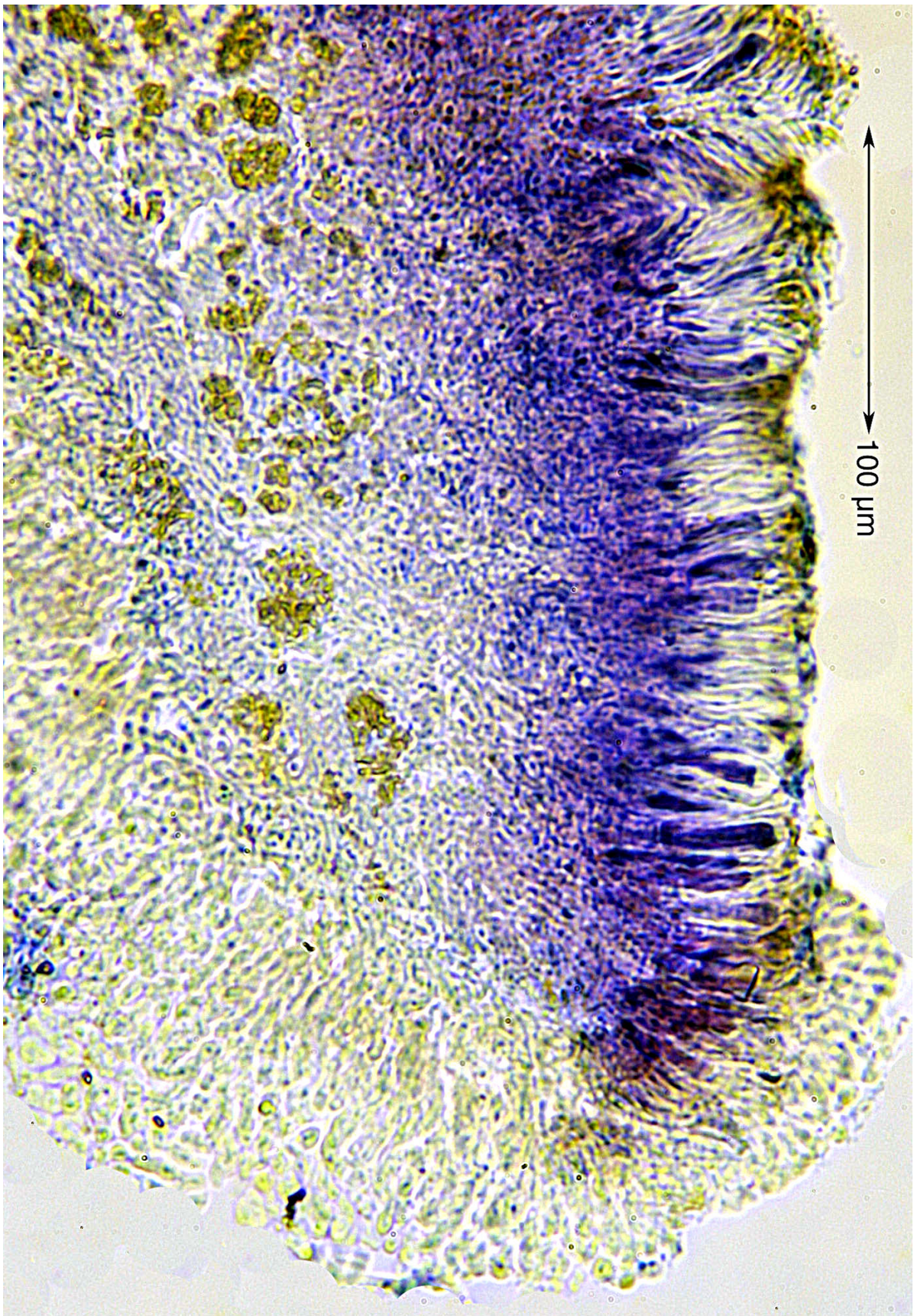


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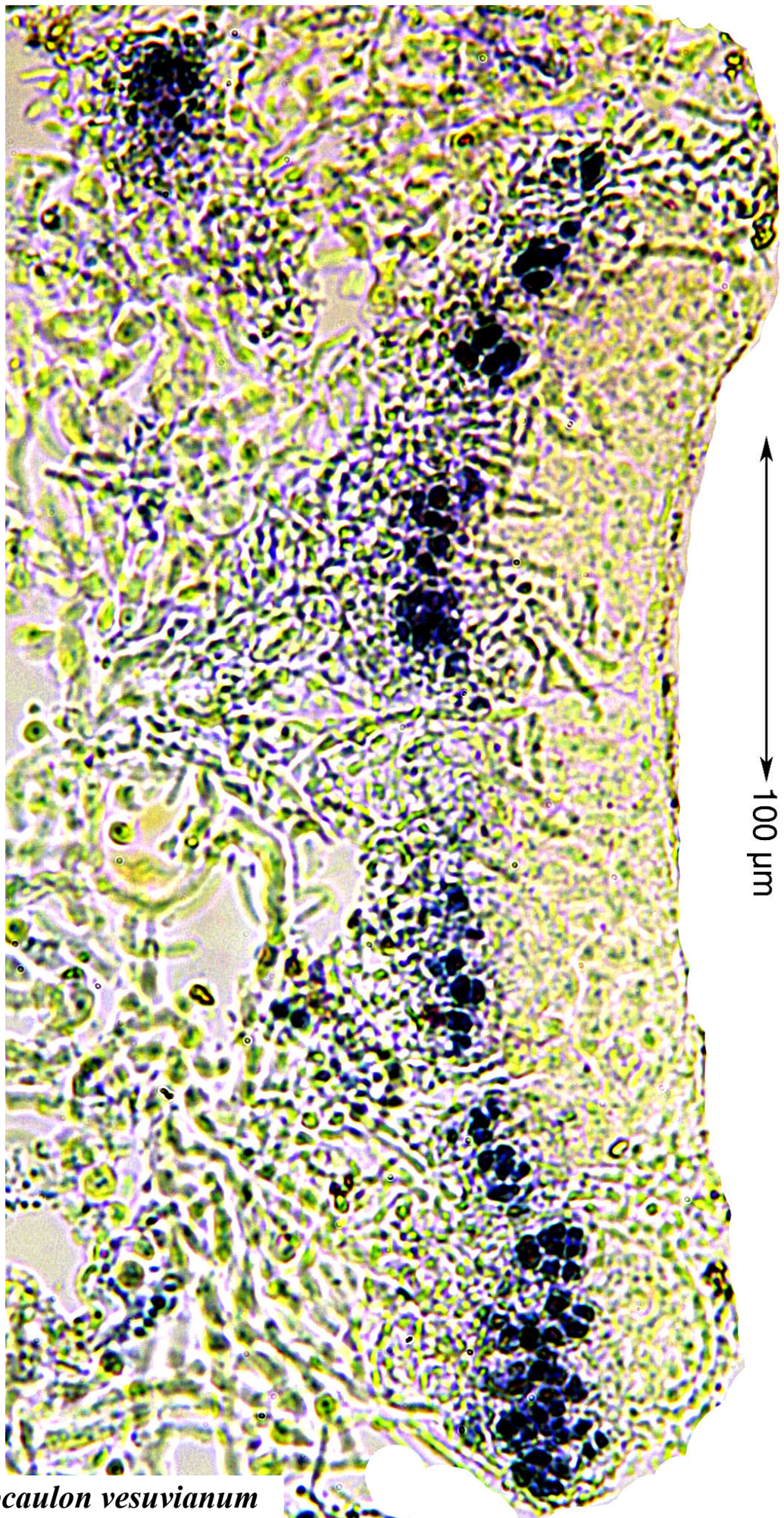




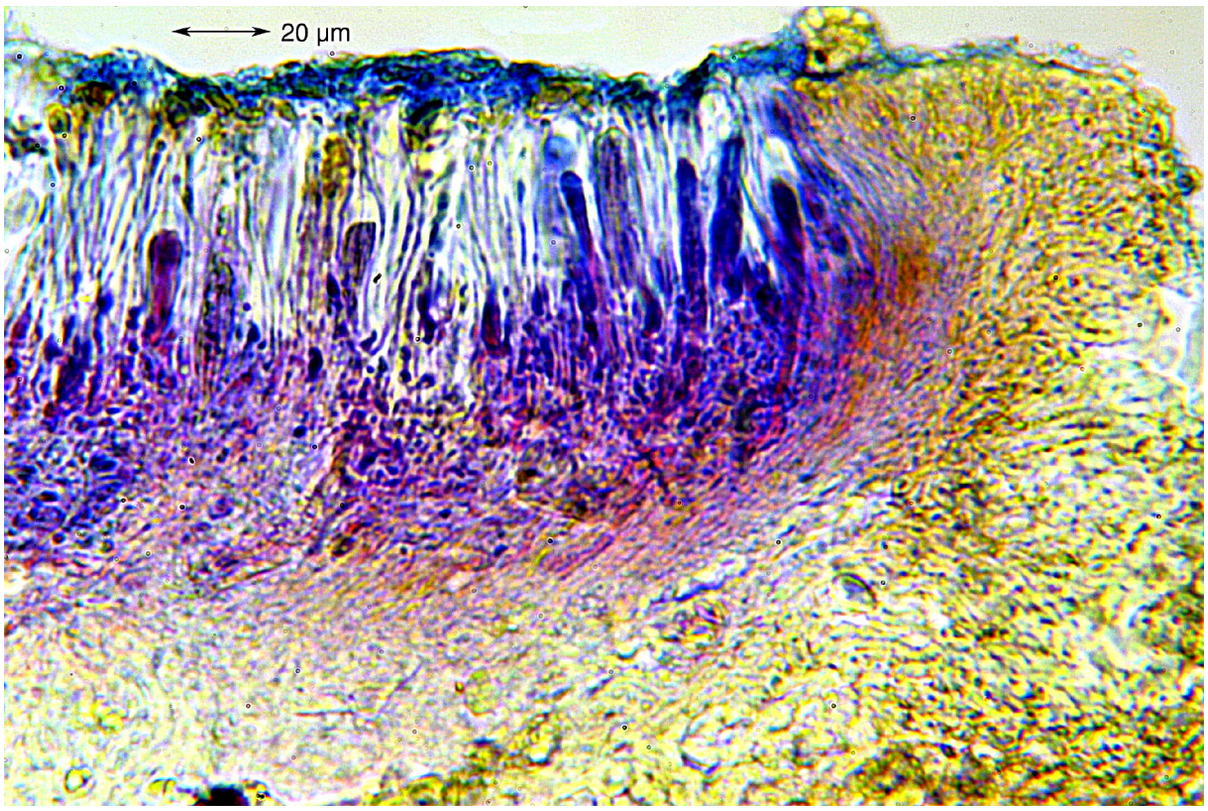
Stereocaulon vesuvianum

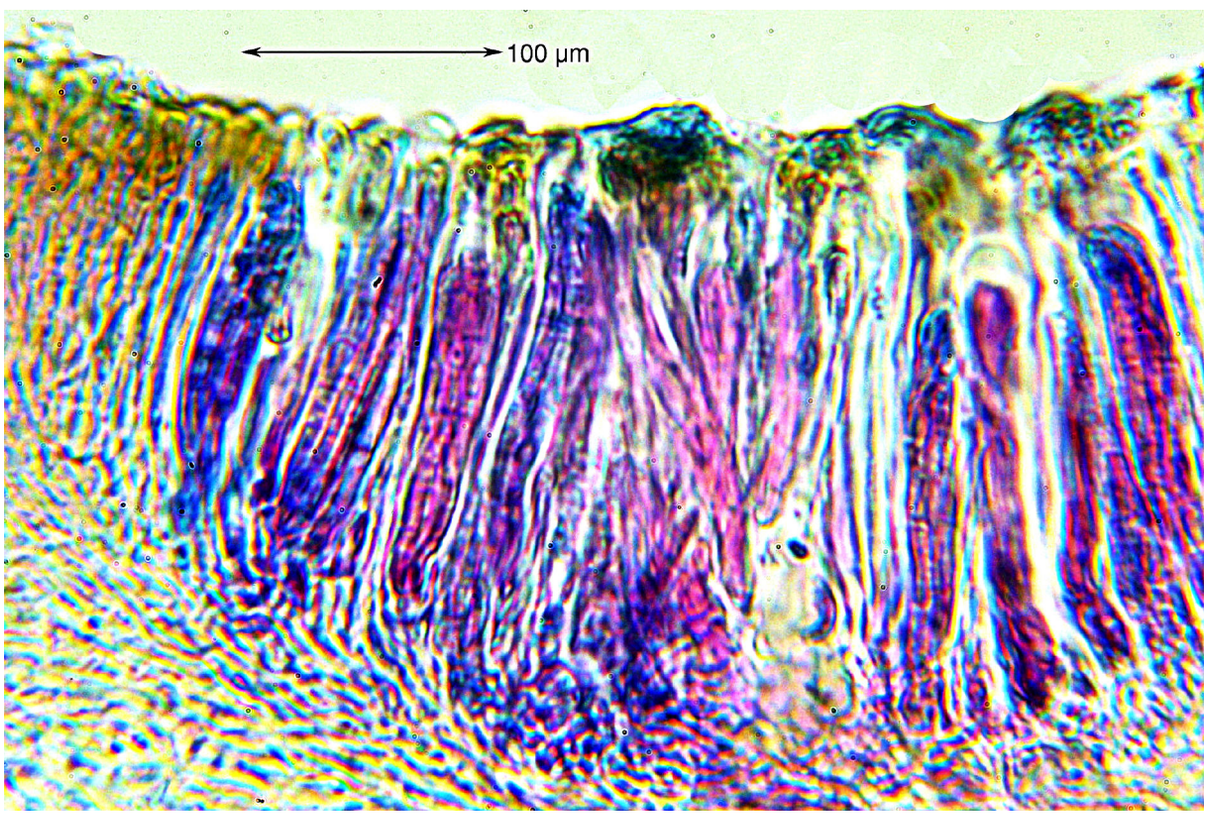


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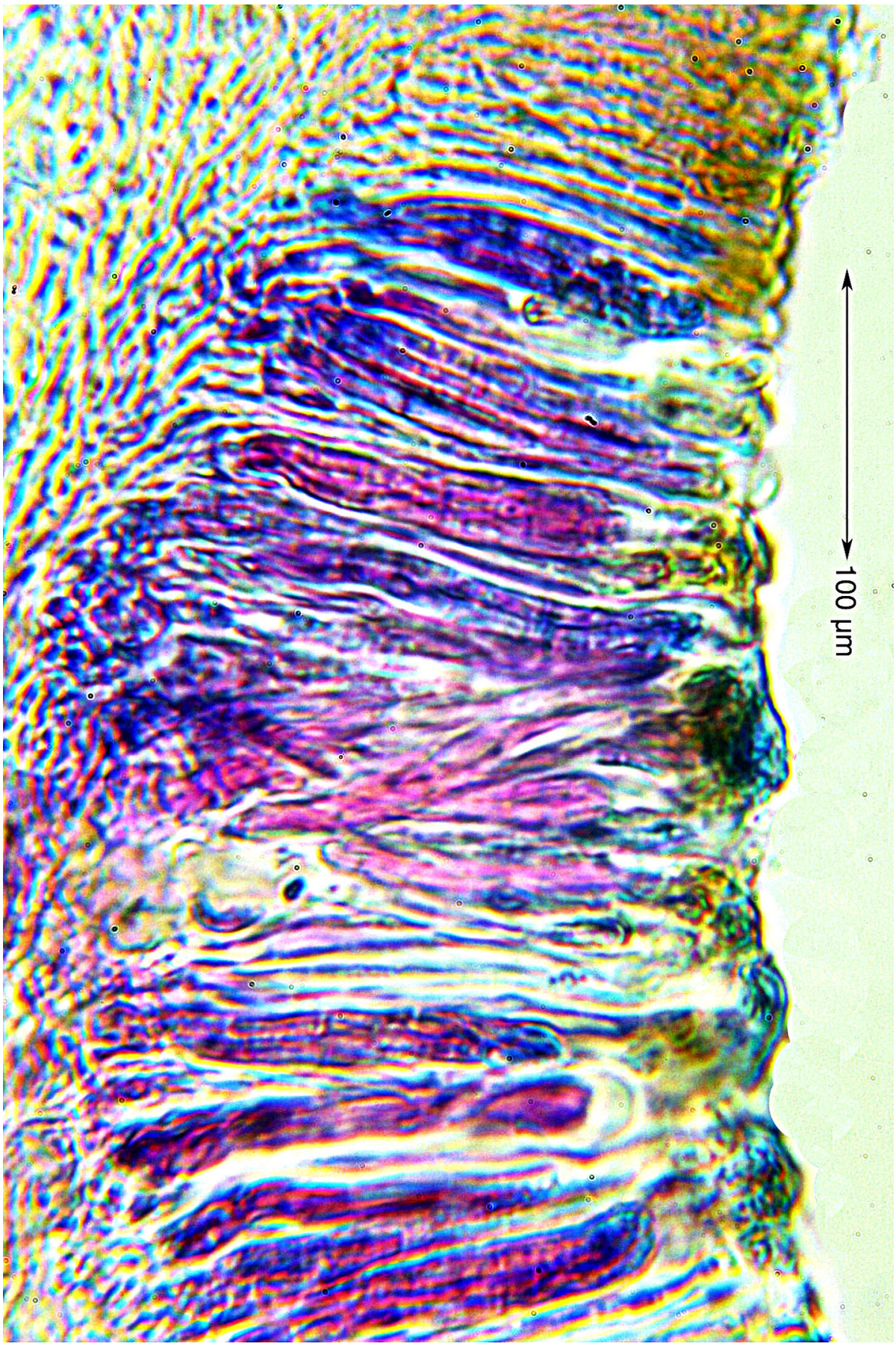


Stereocaulon vesuvianum

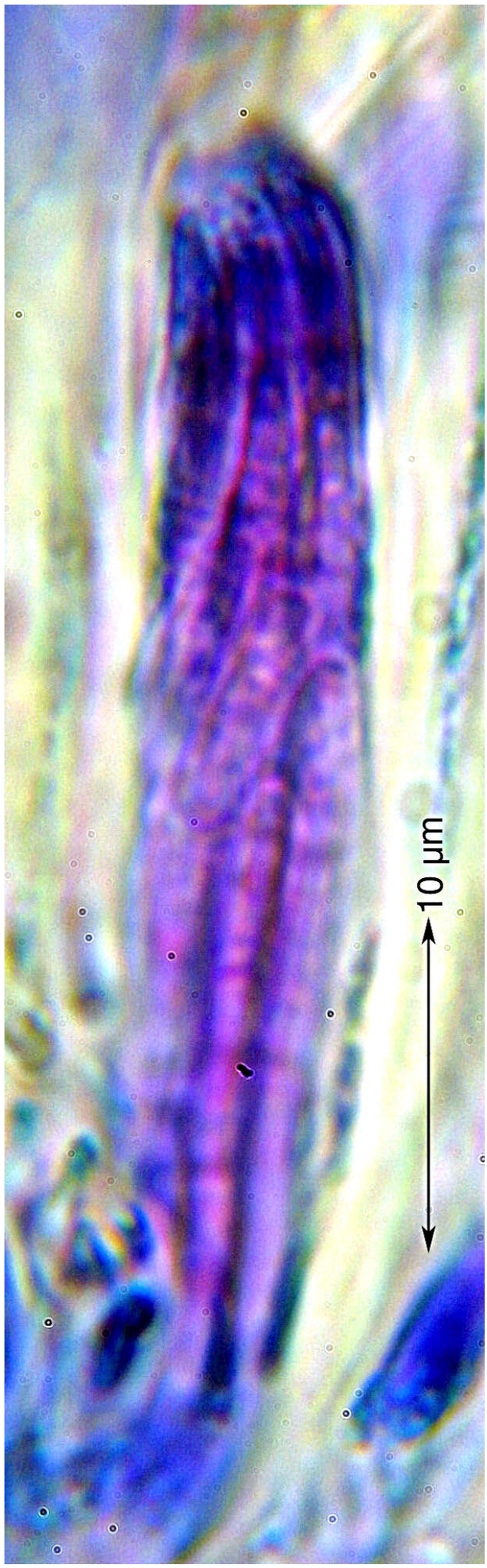




Stereocaulon vesuvianum



Stereocaulon vesuvianum

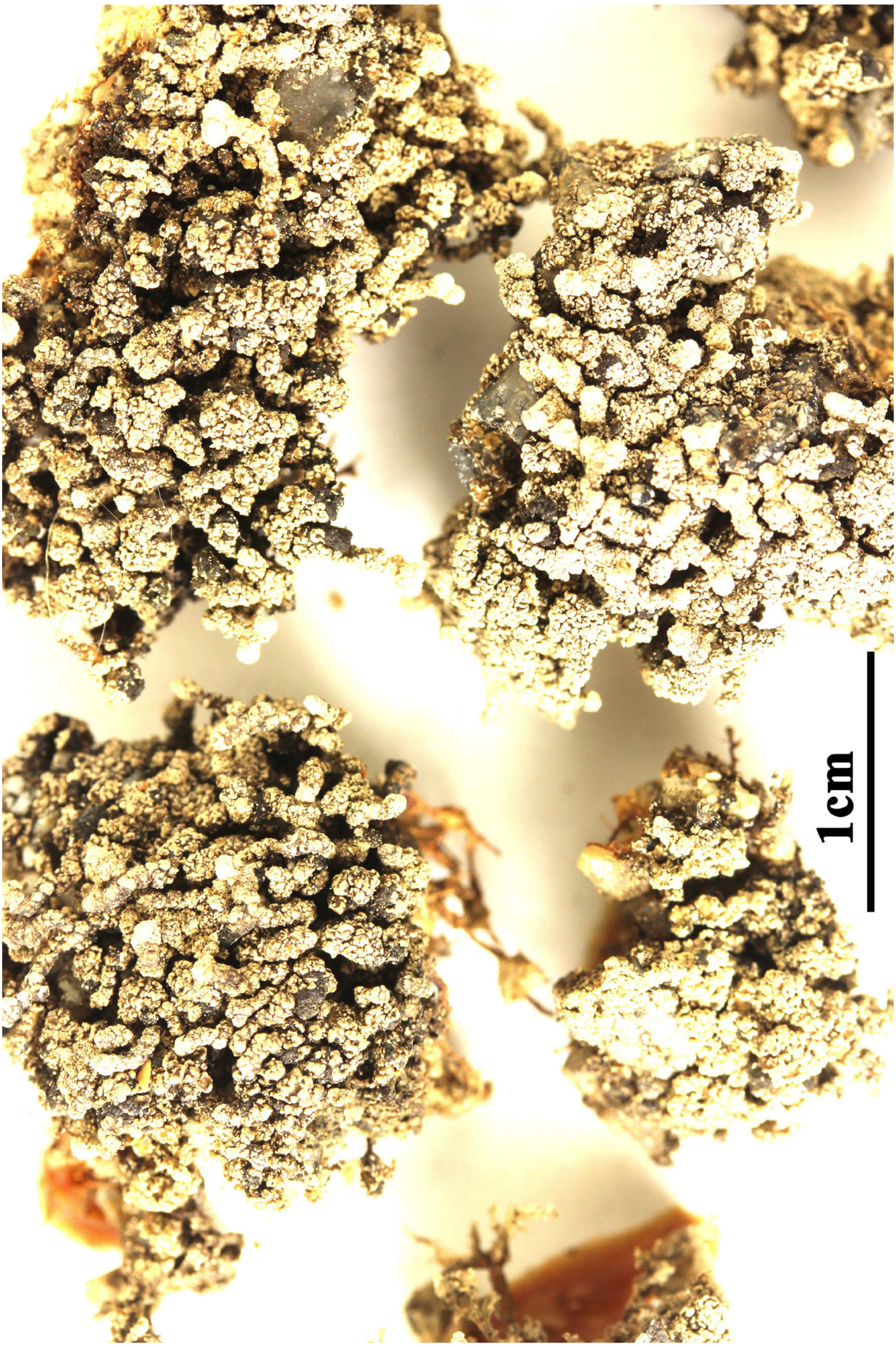


Stereocaulon vesuvianum

Stereocaulon vesuvianum* var. *nodulosum (Wallr.) I.M. Lamb, in Poelt, Best. europ. Flecht. (Vaduz): 633 (1969)
= *Patellaria paschalis var. nodulosa* Wallr. 1831
= *Stereocaulon vesuvianum* Pers., Ann. Wetter. Gesellsch. Ges. Naturk. 2(1): 19 (1810)

[KU541], Japan. Honshu. Prov. Musashi: Mt. Sampo, Kobushidake Mts., Chichibu-gun. On rocks(granite), 2480 m. Leg. H. Shibuichi (no. 5215), 25.8.1976, det. H. Kashiwadani. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 541.

Primary thallus crustose, ephemeral, usually absent in mature individuals, secondary thallus fruticose. Pseudopodetia loosely clustered, 1-4 cm tall, firmly attached, more or less caespitose, erect to decumbent, completely glabrous, whitish or greyish, dark at the base, branched in upper part, most often sorediate, with a solid cartilaginous axis of parallel hyphae surrounded by a lax medulla. Phyllocladia in most cases almost entirely covering the pseudopodetia, small, often verrucose, the largest ones peltate, flattened or concave, at least some of them with a dark olive-coloured central part and paler margins, partly confluent, forming plate-like squamules. Soralia globose, mostly terminal. Cephalodia rare, verruculose, dark olive brown, containing Stigonema. Apothecia very rare, 0.5.1 mm across, on lateral branches, with a dark brown disc. Paraphyses simple, slightly thickened above, with a dark cap; hymenium and hypothecium colourless. Asci 8-spored, clavate to cylindrical, Porpidia-type. Ascospores 3-6-septate, hyaline, fusiform. Spot tests: thallus K+ yellow (rarely K+ yellow turning red), C-, KC-, P+ orange, UV-. Chemistry: atranorin, plus variable amounts of stictic and sometimes norstictic acids. - Note: a name used for morphs with glabrous podetia and partly confluent phyllocladia forming plate-like squamules, sorediate or not, most often found on metal-rich rocks; reported from both Hemispheres, including Europe, but not always distinguished; probably more widespread in the Alps.



Stereocaulon vesuvianum* var. *nodulosum

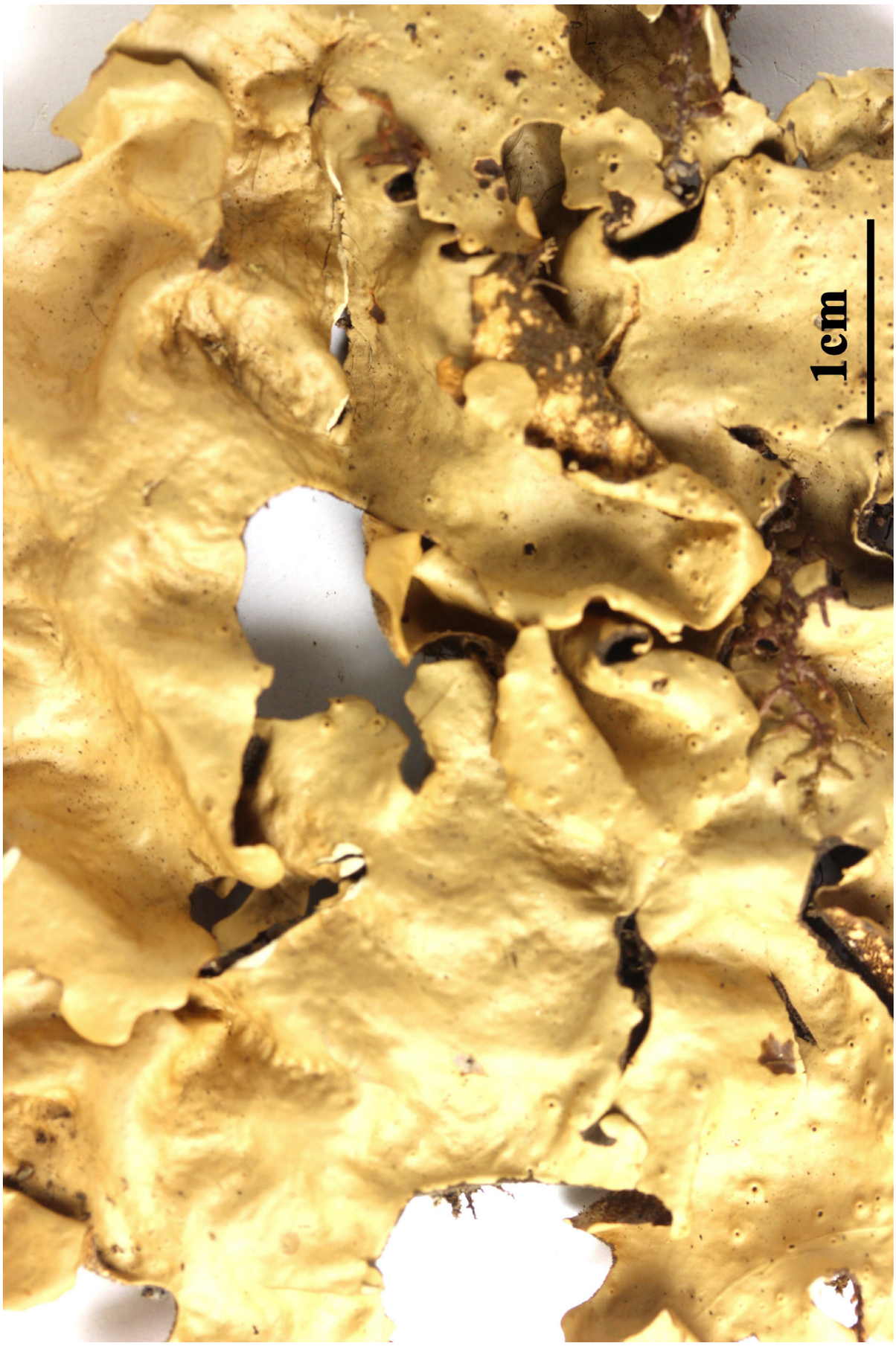


Stereocaulon vesuvianum* var. *nodulosum

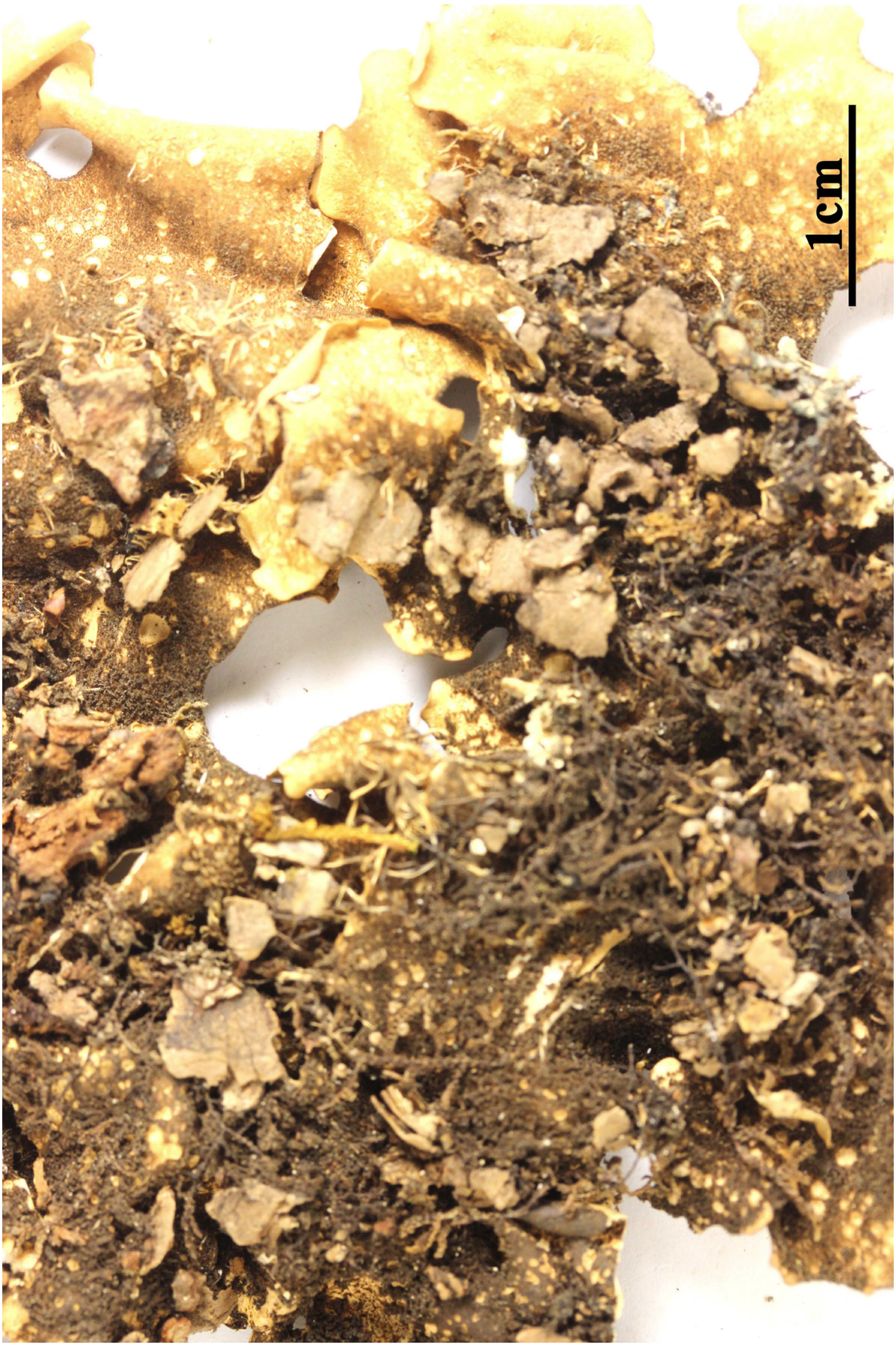
Sticta nylanderiana Zahlbr., Cat. Lich. Univers. 3: 356 (1925)
= *Dendriscosticta platyphylla* (Trevis.) B. Moncada & Lücking, in Moncada, Lücking & Betancourt-Macuase, Lichenologist 45(2): 222 (2013)

[KU335], Japan. Honshu. Prov. Kii: Mt. Ohdaigahara. On bark of *Fagus crenata*, 1500 m. Leg. M. Togashi, 13.8.1961, det. Y. Asahina. Ex S. Kurokawa and H. Kashiwadani Lichenes Rariores Et Critici Exsiccati Nr. 335.

Thallus lobate, green to grayish-green, non-stipitate, polyphyllous frond, loosely attached, 5~20 cm wide. Lobes irregularly branching, 0.5 to 1.5 cm wide, rounded to truncate apex, without isidia, soredia, or phyllidia. Upper surface smooth, somewhat glossy, without maculae. Medulla white, 60~200 µm thick, loosely interwoven. Photobiont layer 15~70 µm thick with green algae. Lower surface pale to dark brown, densely tomentose in the middle, glabrous at the margins. Cyphellae round, shallowly excavate with non-prominent margins. Apothecia somewhat rare, 0.6-3 mm in diameter; disc brown, matt, epruinose; margins entire; proper exciple well-developed, smooth to dentate, without photobiont cells. Ascospores fusiform-ellipsoidal to linear, 40~60 × 4~6 µm, 5~7 septate, colorless. Pycnidia laminal, crowded on thallus margin. Conidia 3.0~5.0 × 1~1.5 µm, bacilliform Chemistry: Cortex K−, C−, KC−, P−; medulla K−, C−, KC+ (rose to red), P−. TLC: gyrophoric acid, congyrophoric acid, pseudocyphellarin A. Remarks: *S. nylanderiana* is characterized by the presence of glabrous, shiny upper surface without soredia, isidia, or lobules, rounded cyphellae without non-prominent margins, and gyrophoric acid in the medulla. This species is similar to *S. yatabeana* in external appearance, but the latter species differs in having small cortical hairs on the upper surface and not having gyrophoric acid in the medulla. - Ecology and distribution: S. nylanderiana is a common species on barks at higher elevations around 900 1,700 m in South Korea. According to Takahashi this species is more widely distributed in Japan. This species has also been found in other and Southeast Asian countries including Bhutan, Nepal, Thailand, and Tibet.



Sticta nylanderiana



Sticta nylanderiana

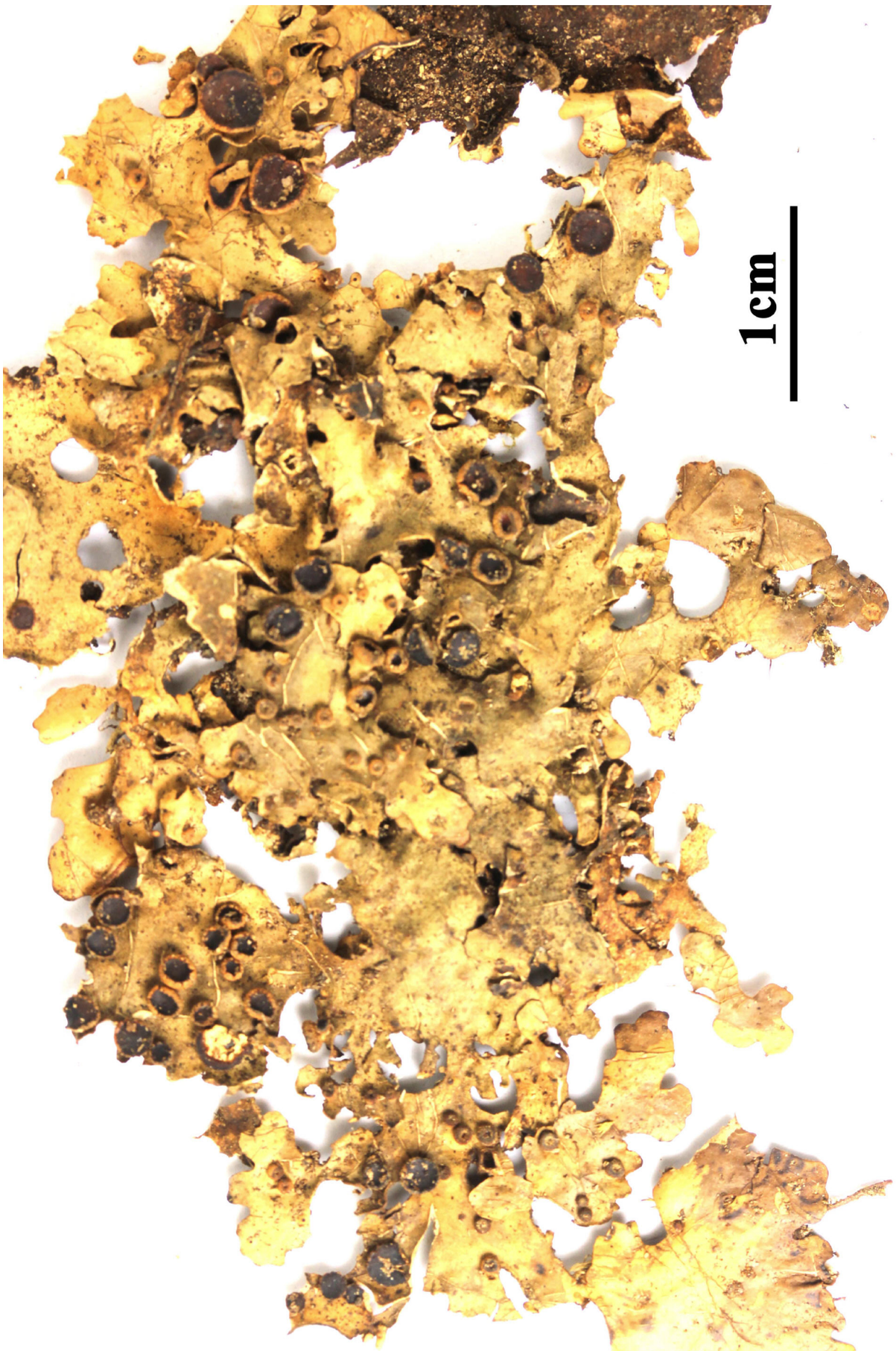


Sticta nylanderiana

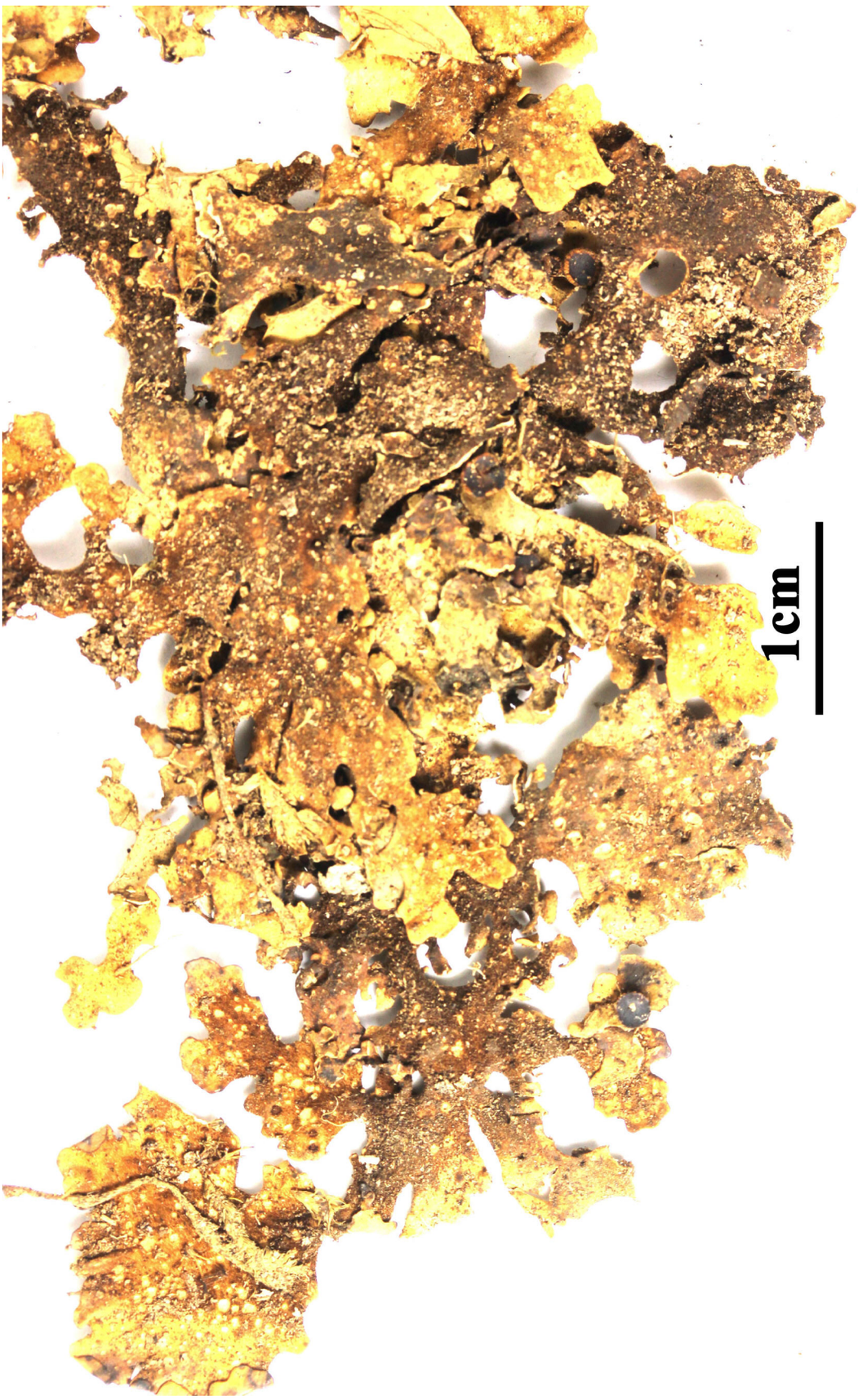
Sticta nylanderiana Zahlbr., Cat. Lich. Univers. 3: 356 (1925)
= *Dendriscosticta platyphylla* (Trevis.) B. Moncada & Lücking, in Moncada, Lücking & Betancourt-Macuase, Lichenologist 45(2): 222 (2013)

[OH390], Japan. Honshu. Peov. Shinano (Pref. Nagano): en route from Tsuga-ike to Ochikura, Hakuba-mura, Kitaazumi-gun. Leg. Y Asahina,5.8.1957, det. A. Asahina. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR.390-

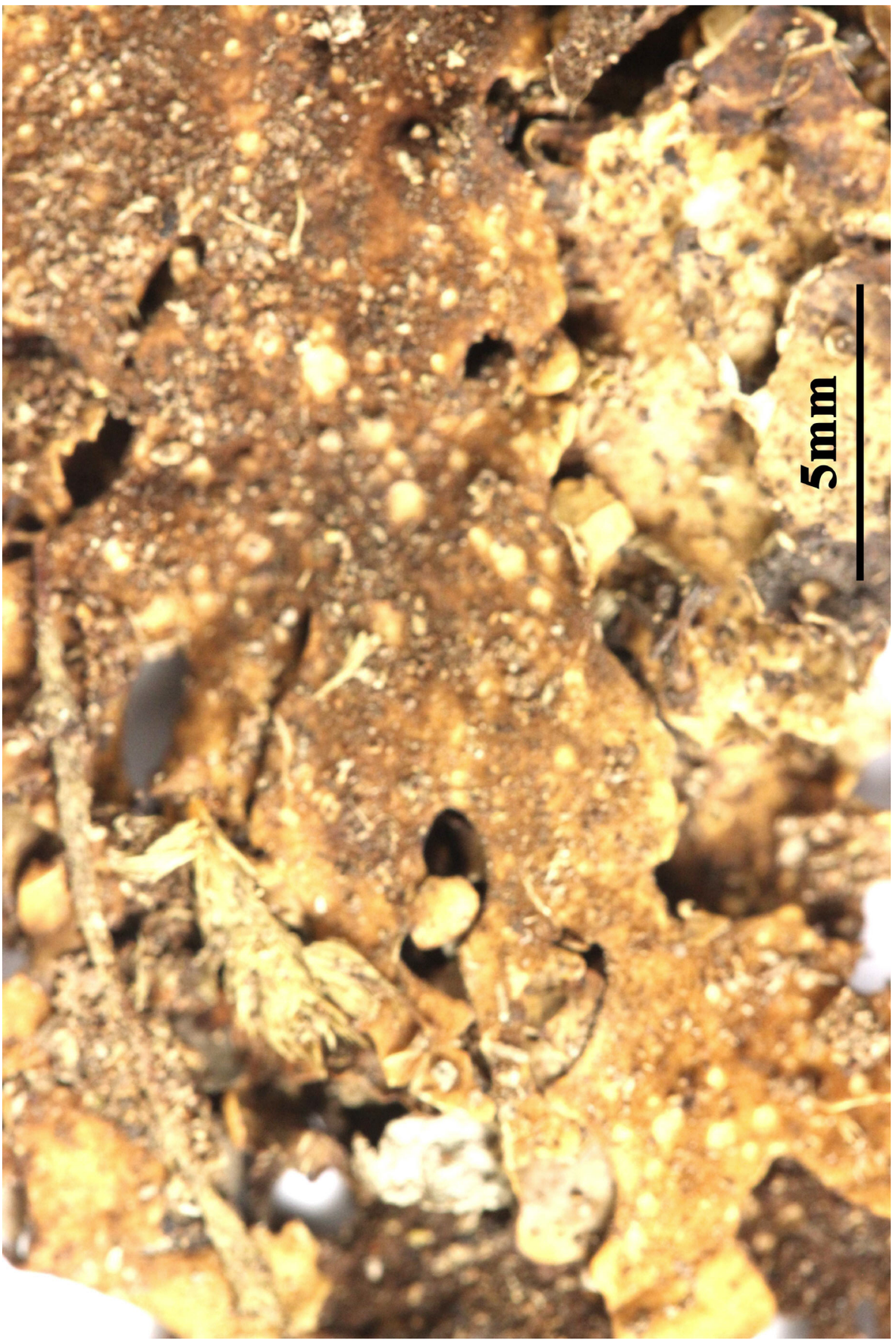
Thallus lobate, green to grayish-green, non-stipitate, polyphyllous frond, loosely attached, 5~20 cm wide. Lobes irregularly branching, 0.5 to 1.5 cm wide, rounded to truncate apex, without isidia, soredia, or phyllidia. Upper surface smooth, somewhat glossy, without maculae. Medulla white, 60~200 µm thick, loosely interwoven. Photobiont layer 15~70 µm thick with green algae. Lower surface pale to dark brown, densely tomentose in the middle, glabrous at the margins. Cyphellae round, shallowly excavate with non-prominent margins. Apothecia somewhat rare, 0.6-3 mm in diameter; disc brown, matt, epruinose; margins entire; proper exciple well-developed, smooth to dentate, without photobiont cells. Ascospores fusiform-ellipsoidal to linear, 40~60 × 4~6 µm, 5~7 septate, colorless. Pycnidia laminal, crowded on thallus margin. Conidia 3.0~5.0 × 1~1.5 µm, bacilliform Chemistry: Cortex K−, C−, KC−, P−; medulla K−, C−, KC+ (rose to red), P−. TLC: gyrophoric acid, congyrophoric acid, pseudocyphellarin A. Remarks: *S. nylanderiana* is characterized by the presence of glabrous, shiny upper surface without soredia, isidia, or lobules, rounded cyphellae without non-prominent margins, and gyrophoric acid in the medulla. This species is similar to *S. yatabeana* in external appearance, but the latter species differs in having small cortical hairs on the upper surface and not having gyrophoric acid in the medulla. - Ecology and distribution: S. nylanderiana is a common species on barks at higher elevations around 900 1,700 m in South Korea. According to Takahashi this species is more widely distributed in Japan. This species has also been found in other and Southeast Asian countries including Bhutan, Nepal, Thailand, and Tibet.



Sticta nylanderiana



Sticta nylanderiana

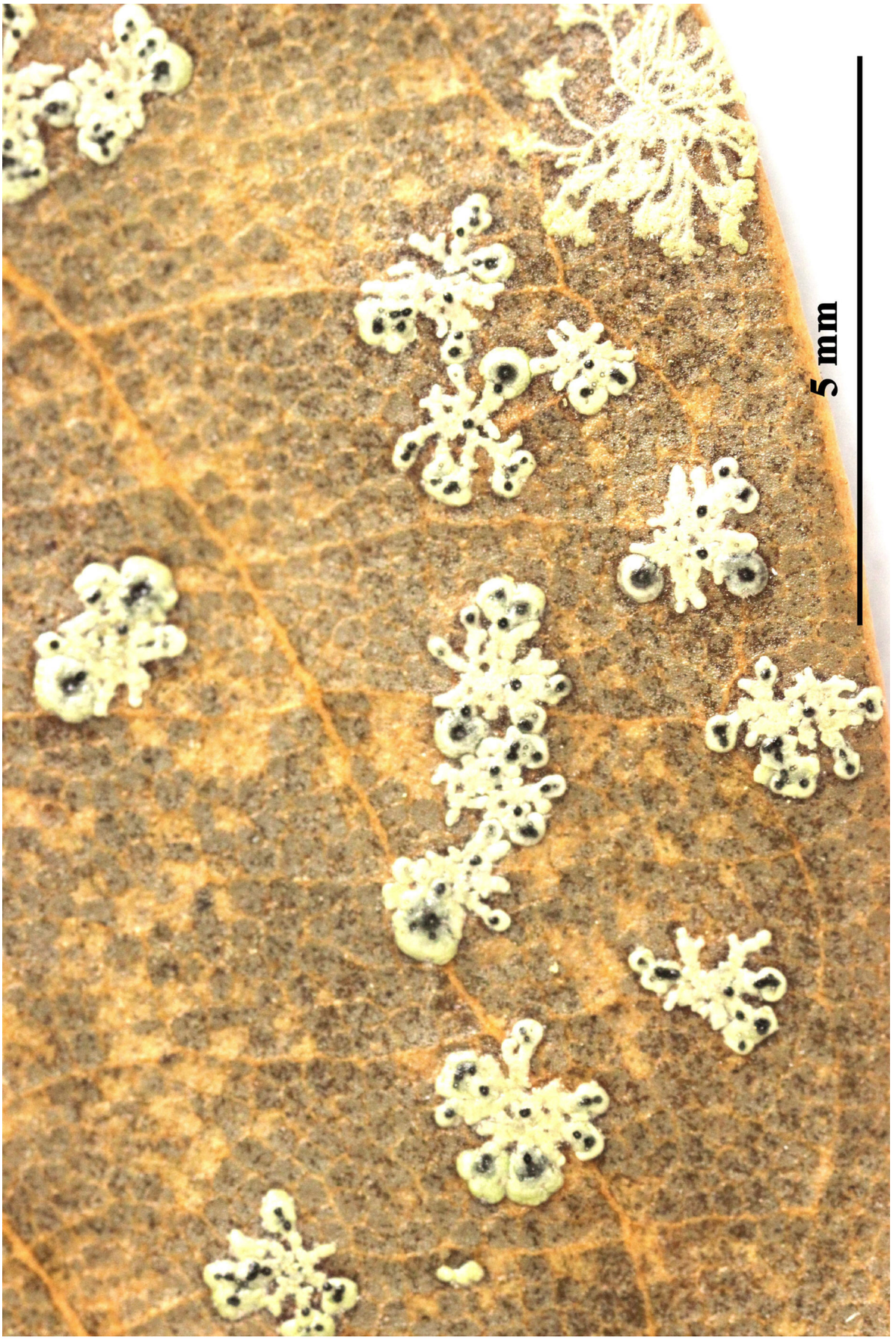


Sticta nylanderiana

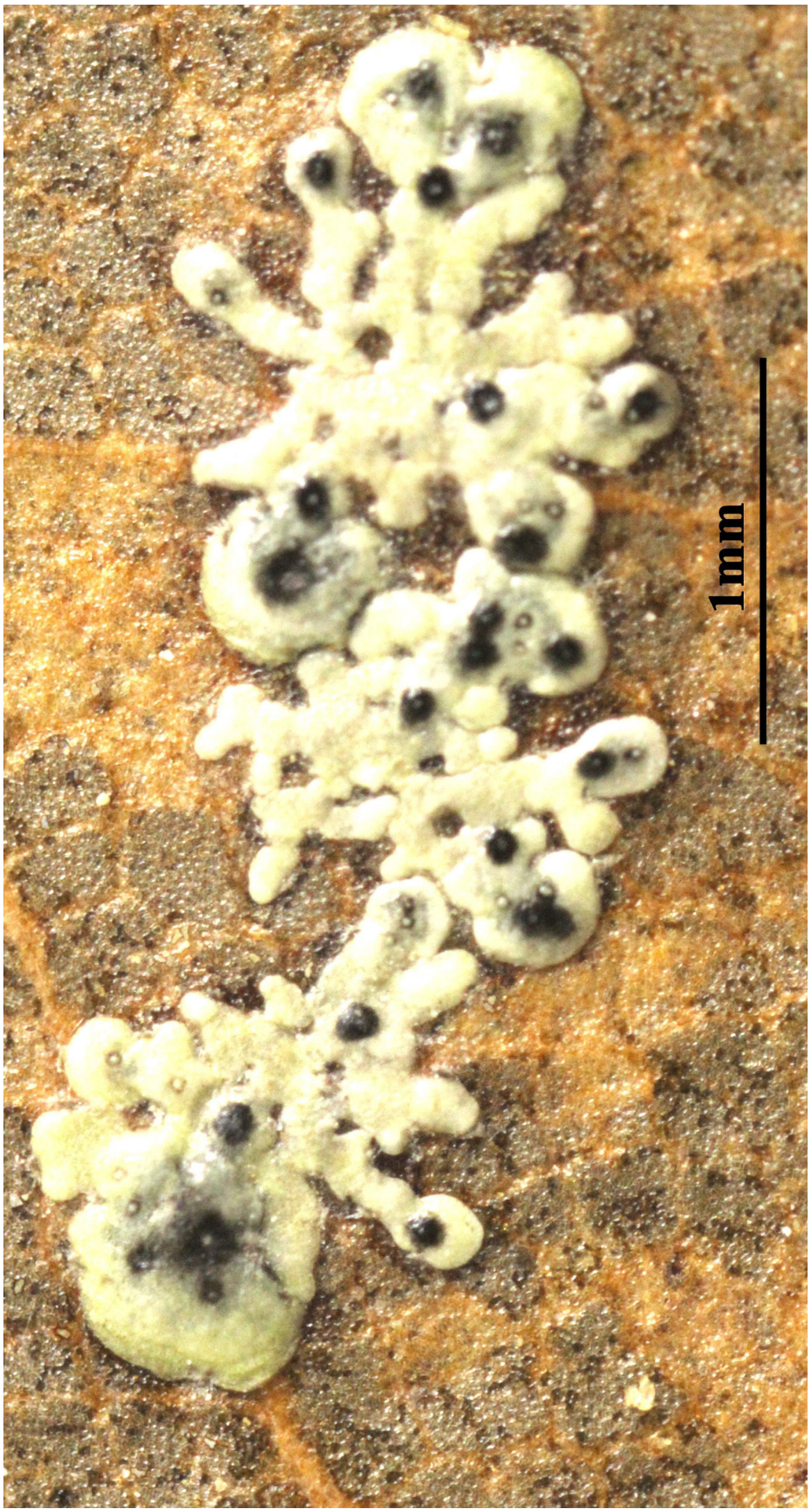
Strigula elegans (Fée) Müll. Arg., Flora, Regensburg 63(3): 41 (1880)
= *Phyllocharis elegans* Fée 1825
= *Strigula smaragdula* Fr., Linnaea 5: 550 (1830)

[YO21], Japan. Kusubaru, Nichian. Prov. Hyuga, Kyushu. On leaves of Machilus thunbergii and Quercus, 20 m. Leg. M. Mizurani & I. Yoshimura (no. 7104), det. I. Yoshimura. Ex I. Yoshimura Lichenes Japonici Exsiccati Nr. 21.

Thallus subcuticular, continuous or dispersed into rounded to irregular, partly confluent patches, 5–25 mm across and 20–80 µm thick, with entire to crenulate or lobulate margins, sometimes whole thallus lobate laciniate, bright green. Photobiont a species of Cephaleuros, cells angular-rounded, 5–15 x 4–10 µm, in irregular plates forming 1 to several layers. Perithecia immersed-erumpent, covered by algiferous, thallus tissue mostly up to ostiolum, hemispherical, 0.3–0.6 mm diam. and 120–180 µm high, dark green but uppermost part often black. Excipulum prosoplectenchymatous, 5–15 µm thick, colorless to brown. Involucrellum carbonaceous, 20–30 µm thick, black. Paraphyses unbranched. Asci obclavate, 60–80 x 8–12 µm. Ascospores biseriate, fusiform, 1-septate, with distinct constriction at septum, 14–24 x 4–6 µm, 3–4 times as long as broad. Pycnidia semi-immersed, wart-shaped, those producing macroconidia 0.1–0.15 mm, those producing microconidia 0.05–0.1 mm diam., black. Macroconidia bacillar, 1-septate, 12–20 x 3–4 µm. Microconidia fusiform, non-septate, 4–5 x 1.5–2 µm. Chemistry: no substances detected by TLC. Distribution and Ecology. Pantropical. Together with *Porina epiphylla, Gyalectidium filicinum*, and *Byssoloma leucoblepharum*, one of the most common foliicolous lichens, but unlike those species with a much wider, ecological amplitude. Found at all elevations and in all microsite types, although, especially with its pycnidial stage, most frequent in exposed, drier situations.



Strigula elegans



Strigula elegans

Strigula smaragdula Fr., Linnaea 5: 550 (1830)

[OH473], Taiwan. Miaoli Co.: Mt. Kusan.tao Shan (24°22' N, 120°48' E). On leaves of broad leaf evergreen tree, 828 m. Leg. Y. Ohmura (no. 7627), 7.10.2010, det. Y. Ohmura. Ex Y. Ohmura Lichenes Minus Cogniti Exsiccati Nr. 473.

Thallus bright green, subcuticular, continuous or dispersed into rounded, partly confluent patches, 5–25 mm across. Perithecia 0.3–0.5 mm, half immersed, covered by thallus tissue, only uppermost part black. Excipulum black. Ascospores hyaline, 1-septate but with additional pseudoseptae, 14–24 × 4–6 μm.



Strigula smaragdula

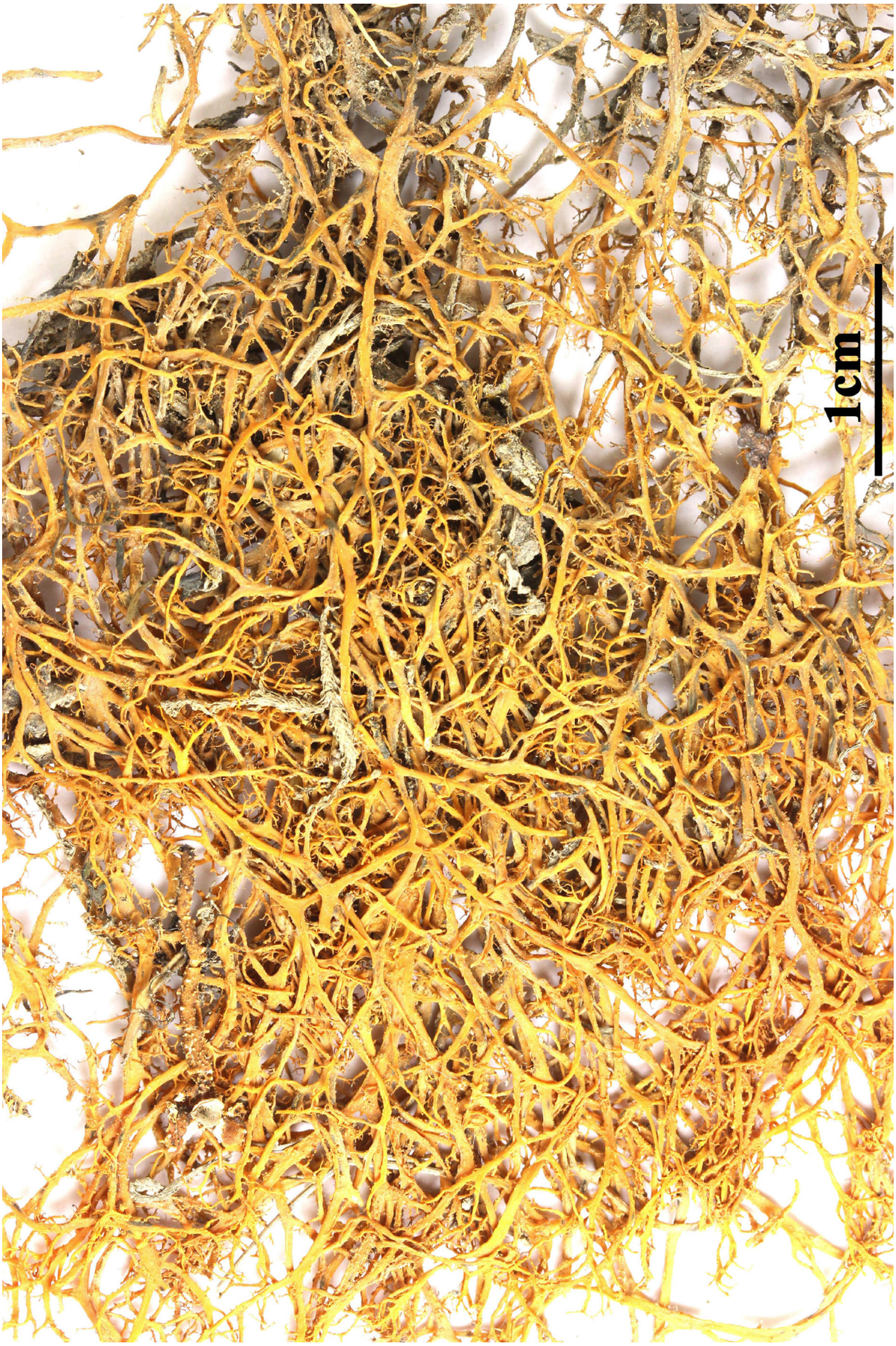


Strigula smaragdula

Teloschistes flavicans (Sw.) Norman, Conat. Praem. Gen. Lich.: 17 (1852)
= *Lichen flavicans* Sw. 1788

[OH521], Peru. Dept. Cuzco. Prov. Quispicanchis: between Marcapata and Achubamba, along the road fromMarcapata to Qincemille; in wet forest in "Ceja de Selva" zone. On twigs of tree, 2600 m-2800 m. Leg. H. Kashiwadani (no. 21650), 13.8.1984, det. G. Almborn. EX Y. OHMURA LICHENES MINUS COGNITI ESICCATI NR. 521.

Thallus fruticose, attached by a basal holdfast, almost filamentous, up to 12 cm long, tufted to pendent, more or less dichotomously and richly branched. Branches corticate, rigid, entangled, up to 2 mm wide, narrowing to 0.05-0.2 mm at tips, terete to angular or somewhat flattened (especially the main ones) yellow-orange to reddish orange, with farinose to granular, yellow soredia arranged in orbicular to elongated, at least at the beginning raised soralia; fibrils and hairs absent or scarce. Cortex of longitudinally arranged hyphae; medulla interrupted by cortical strands. Apothecia extremely rare, lecanorine, 1-4 mm across, with an orange disc and a thin, usually smooth, rarely sparingly ciliate thalline margin. Epithecium orange, K+ purple-red; hymenium and hypothecium colourless. Asci 8-spored, Teloschistes-type. Ascospores 2-celled polarilocular, hyaline, oblong to narrowly ellipsoid, (10-)12-18(-20) x 6-11 µm. Pycnidia immersed to slightly projecting, orange. Conidia simple, hyaline, bifusiform, 2.7-3.7 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: thallus and soredia K+ purple-red, C-, KC-, P-. Chemistry: parietin and caloploicin (major), teloschistin, fallacinal, parietinic acid, vicanicin and isofulgidin (minor), occasionally also emodin. - Note: a tropical to Mediterranean-Atlantic lichen found on branches, bryophytes and siliceous rocks in a few warm-humid stands of Tyrrhenian Italy, mostly near the coast in areas with frequent fog.



Teloschistes flavicans

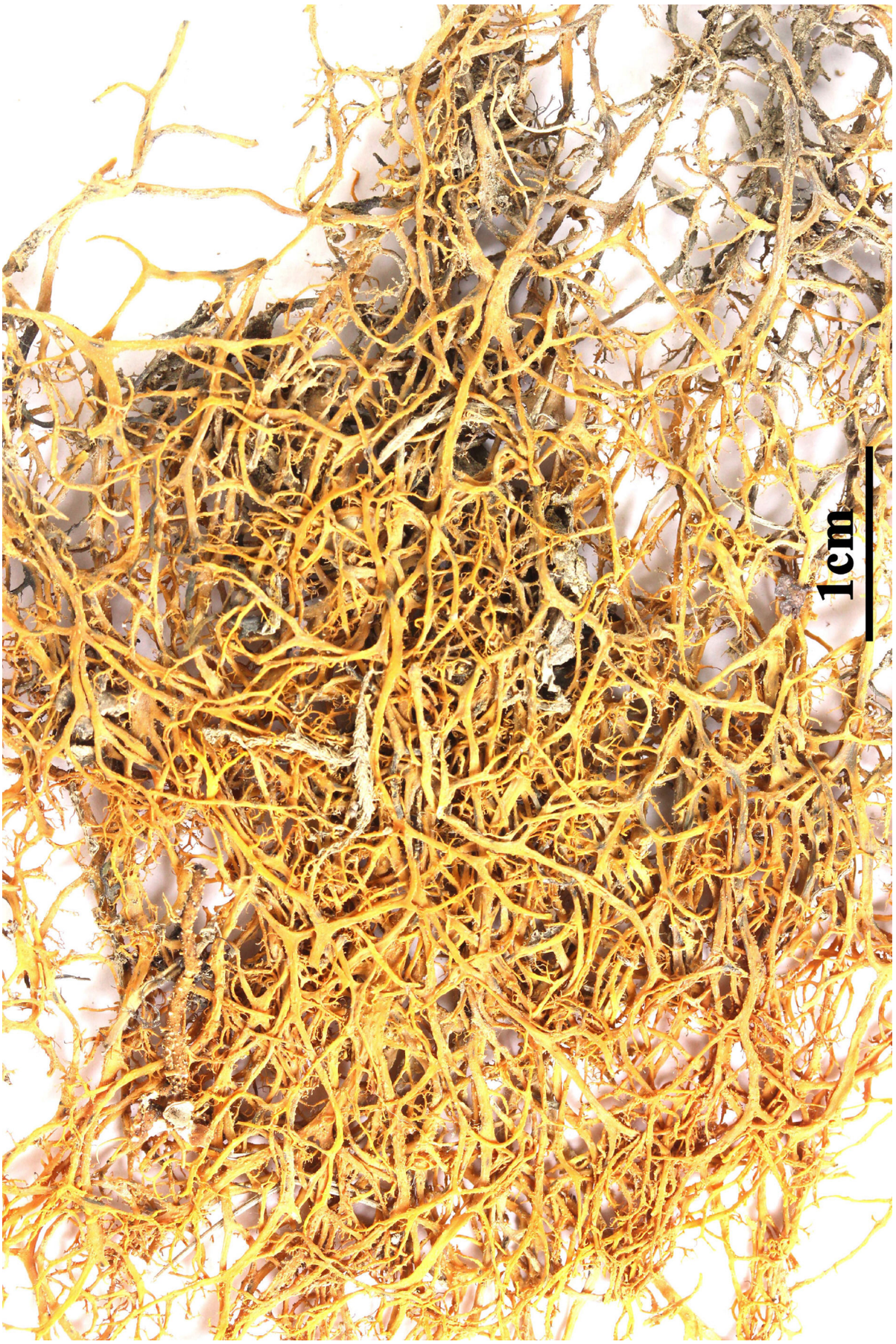


Teloschistes flavicans

Teloschistes flavicans (Sw.) Norman, Conat. Praem. Gen. Lich.: 17 (1852)
= *Lichen flavicans* Sw. 1788

[OH547], Peru. Deot. Cuzco. Prov. Paucartambo; Abra Acjanaco, near Paucartambo; in upper part of "Ceja de Selva" zone. On rock,3400-3500m. Leg. H. Kashiwadani (no. 22040), 15.9.1984, det. H. Kashiwadani. EX Y. OHMURA LICHENES MINUS COGNITI EXSICCATI NR. 437.

Thallus fruticose, attached by a basal holdfast, almost filamentous, up to 12 cm long, tufted to pendent, more or less dichotomously and richly branched. Branches corticate, rigid, entangled, up to 2 mm wide, narrowing to 0.05-0.2 mm at tips, terete to angular or somewhat flattened (especially the main ones) yellow-orange to reddish orange, with farinose to granular, yellow soredia arranged in orbicular to elongated, at least at the beginning raised soralia; fibrils and hairs absent or scarce. Cortex of longitudinally arranged hyphae; medulla interrupted by cortical strands. Apothecia extremely rare, lecanorine, 1-4 mm across, with an orange disc and a thin, usually smooth, rarely sparingly ciliate thalline margin. Epithecium orange, K+ purple-red; hymenium and hypothecium colourless. Asci 8-spored, Teloschistes-type. Ascospores 2-celled polarilocular, hyaline, oblong to narrowly ellipsoid, (10-)12-18(-20) x 6-11 µm. Pycnidia immersed to slightly projecting, orange. Conidia simple, hyaline, bifusiform, 2.7-3.7 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: thallus and soredia K+ purple-red, C-, KC-, P-. Chemistry: parietin and caloploicin (major), teloschistin, fallacinal, parietinic acid, vicanicin and isofulgidin (minor), occasionally also emodin. - Note: a tropical to Mediterranean-Atlantic lichen found on branches, bryophytes and siliceous rocks in a few warm-humid stands of Tyrrhenian Italy, mostly near the coast in areas with frequent fog.



Teloschistes flavicans

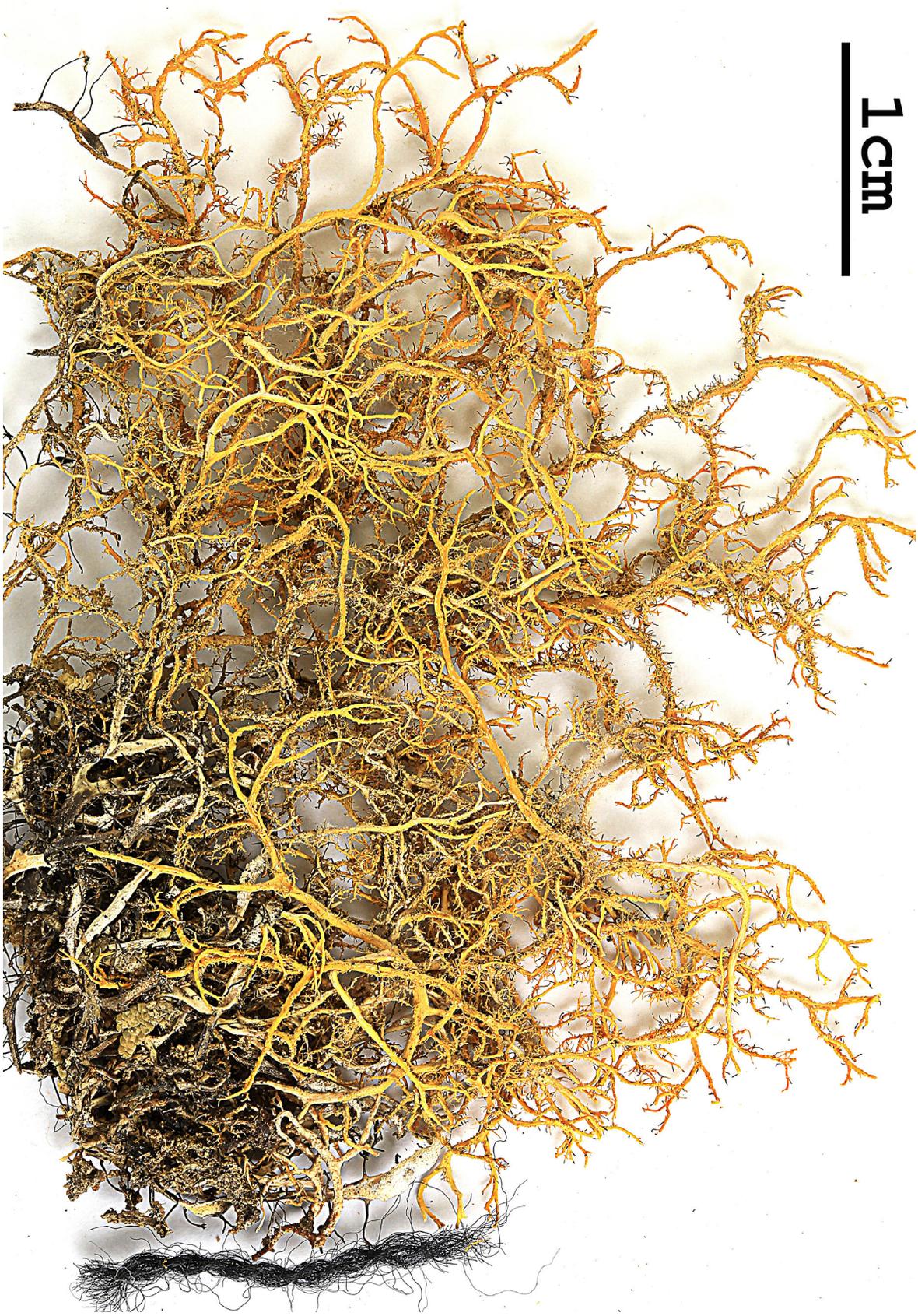


Teloschistes flavicans

Teloschistes flavicans (Sw.) Norman, Conat. Praem. Gen. Lich.: 17 (1852)

[LN38]Brazil. Rio de Janeiro: Serra da Mantiqueira; Itatiaia, between Registro do Picú and Agulhas Negras, growing on granit boulders over moss, 1900 m, 22°20’ S, 44°45’ W, 20. VII. 1978, leg. K. Kalb & G. Plöbst. EX K. KALB: LICHENES NEOTROPICI NR 38 -Chemistry: parietin (Schmp.), anal.: S. Huneck.

Thallus fruticose, attached by a basal holdfast, almost filamentous, up to 12 cm long, tufted to pendent, more or less dichotomously and richly branched. Branches corticate, rigid, entangled, up to 2 mm wide, narrowing to 0.05-0.2 mm at the tips, terete to angular or somewhat flattened (especially the main ones) yellow-orange to reddish orange, with farinose to granular, yellow soredia arranged in orbicular to elongated, at least at the beginning raised soralia; fibrils and hairs absent or scarce. Cortex of longitudinally arranged hyphae; medulla interrupted by cortical strands. Apothecia extremely rare, lecanorine, 1-4 mm across, with an orange disc and a thin, usually smooth, rarely sparingly ciliate thalline margin. Epithecium orange, K+ red; hymenium and hypothecium colourless. Asci 8-spored, Teloschistes-type. Ascospores 2-celled polarilocular, hyaline, oblong to narrowly ellipsoid, (10-)12-18(-20) x 6-11 µm. Pycnidia immersed to slightly projecting, orange. Conidia simple, hyaline, bifusiform, 2.7-3.7 x 1-1.5 µm. Photobiont chlorococcoid. Spot tests: thallus and soredia K+ red, C-, KC-, P-. Chemistry: parietin and caloploicin (major), teloschistin, fallacinal, parietinic acid, vicanicin and isofulgidin (minor), occasionally also emodin. - Note: a tropical to Mediterranean-Atlantic lichen found on branches, bryophytes and siliceous rocks in a few warm-humid stands of Tyrrhenian Italy, mostly near the coast in areas with frequent fog.



Teloschistes flavicans



Teloschistes flavicans

Thamnolia juncea R. Sant., Symb. bot. upsal. 34(no. 1): 396 (2004)

[KA371], Papua New Guinea. Central District: Mt. Albert-Edward, rn route from tent side (3000 m) to summit, 3100 m. Leg. S. Kurokawa (no.9399), 25.10.1975, det. H. Kashiwadani. EX H. KASHIWADANI LICHENES MINUS COGNITI EXSICCATI NR.371.



Thamnolia juncea



Thamnolia juncea

Thamnolia vermicularis (Sw.) Schaer., Enum. critic. lich. europ. (Bern): 243 (1850)
= *Lichen vermicularis* Sw. 1781

[KU650], Japan. Honshu. Prov. Etchu: Mt. Yarigatake, Shirouma Mts., Shimo-Shinkawa-gun. On soil, 2800 m. Leg. H. Shibuichi (no. 7121) & K. Yoshida, 5.8.1983, det. H. Kashiwadani. EX S. KUROIKAWA AND H. KASHIWADANI LICHENES RARIORES ET CRITICI EXSICCATI NR. 650.

Thallus fruticose, pure white, remaining white in the herbarium, erect or decumbent, often forming tufts. Thallus units 1-2(-3) mm thick (rarely to 8 mm), worm-like, usually to 5 (rarely to 10) cm tall, more or less cylindrical, with pointed apices, smooth, non squamulose, simple or rarely sparingly branched in upper part. Cortex of longitudinally arranged hyphae; medulla thin, soon becoming hollow. Apothecia not known. Pycnidia poorly evident, immersed, initially covered by cortical tissue, flask-shaped to broadly globose, the wall colourless throughout, uni- or rarely bilocular, densely filled with long, parallel conidiophores comprising erect chains of intercalary conidiogenous cells with bayonet-like processes near the upper cell septum. Conidia bacilliform, slightly tapering at one end, 3-5 x 1-2 μm. Photobiont chlorococcoid. Spot tests: K+ yellowish, C-, KC-, P+ yellow, UV+ yellowish white. Chemistry: baeomycesic and squamatic acids. - Note: an arctic-alpine, circumpolar lichen found in open, wind-exposed Alpine tundras.



Thamnolia vermicularis



Thamnolia vermicularis

Thamnolia vermicularis (Sw.) Schaer., Enum. critic. lich. europ. (Bern): 243 (1850)
= *Lichen vermicularis* Sw. 1781

[19283], Australia, Victoria, Basalt Hill, Alpine National Park, Bogong High Plains, 20 km south-east of Mt. Beauty, 36°53' S, 147°18' E, 1650 m, growing on soil and debris in exposed alpine grasslands with basalt outcrops and southerly aspect. Leg. J. A. Elix (no. 40391) & H. Streimann, 17.02.1994. - thamnolic, decarboxythamnolic, by TLC, anal. J.A. Elix. EX J. A. ELIX. LICHENES AUSTRALASICI EXSICCATI NO. 298. - IN HERBARIO F. SCHUMM NR. 19283 (own HPTLC: p323/6: thamnolic, decarboxythamnolic acids.

Thallus fruticose, pure white, becoming pinkish in the herbarium and staining the herbarium paper, erect or decumbent, often forming tufts. Thallus units 1-2(-3) mm thick (rarely to 8 mm), worm-like, usually to 5 (rarely to 10) cm tall, more or less cylindrical, with pointed apices, smooth, non squamulose, simple or rarely sparingly branched in upper part. Cortex of longitudinally arranged hyphae; medulla thin, soon becoming hollow. Apothecia not known. Pycnidia poorly evident, immersed, initially covered by cortical tissue, flask-shaped to broadly globose, the wall colourless throughout, uni- or rarely bilocular, densely filled with long, parallel conidiophores comprising erect chains of intercalary conidiogenous cells with bayonet-like processes near the upper cell septum. Conidia bacilliform, slightly tapering at one end, 3-5 x 1-2 µm. Photobiont chlorococcoid. Spot tests: K+ bright yellow, C-, KC-, P+ orange, UV . Chemistry: thamnolic acid. - Note: an arctic-alpine, circum- and bipolar lichen found on wind-exposed Alpine tundras, both on calcareous and siliceous substrata, widespread throughout the Alps.

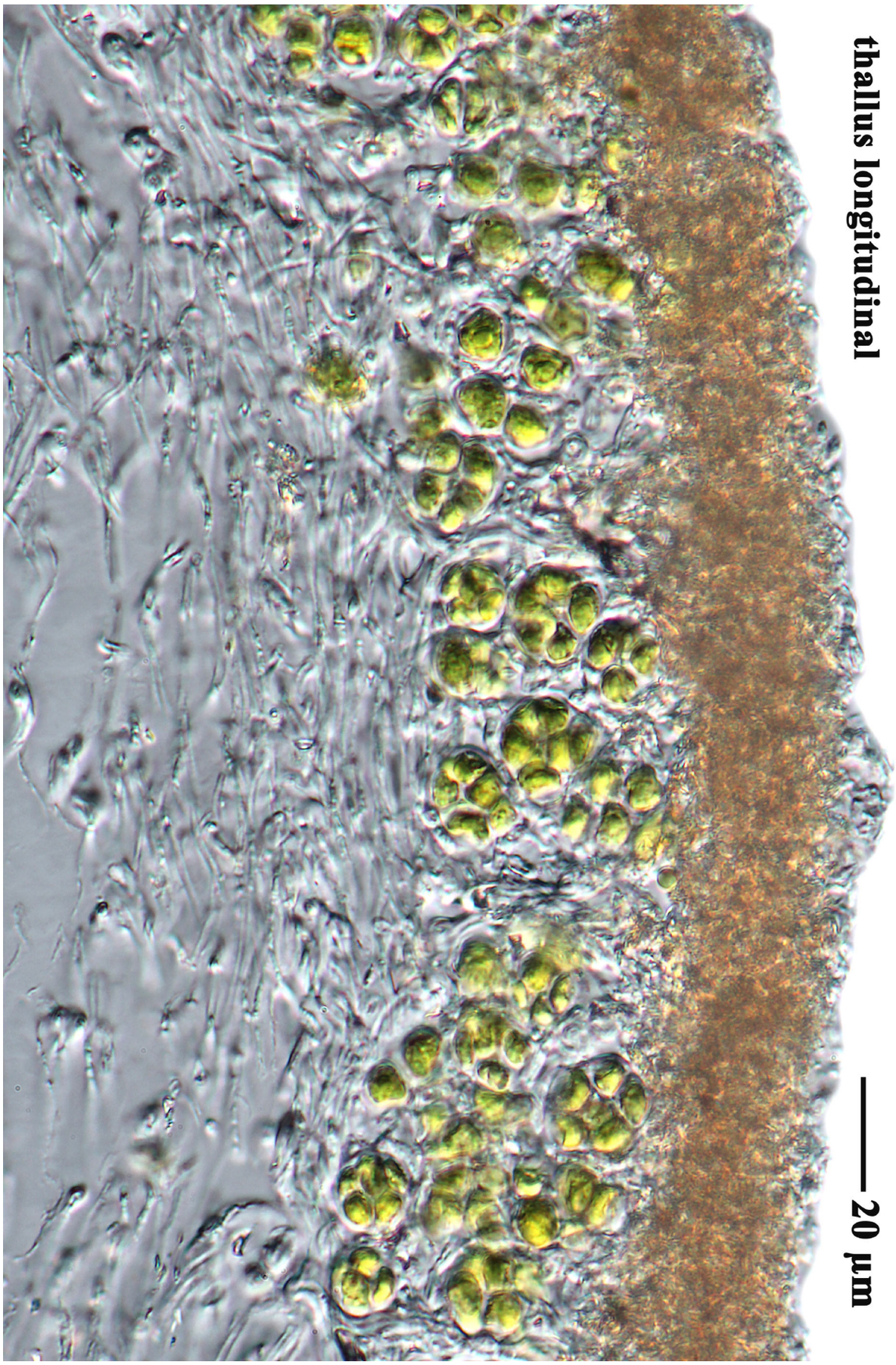


Thamnolia vermicularis

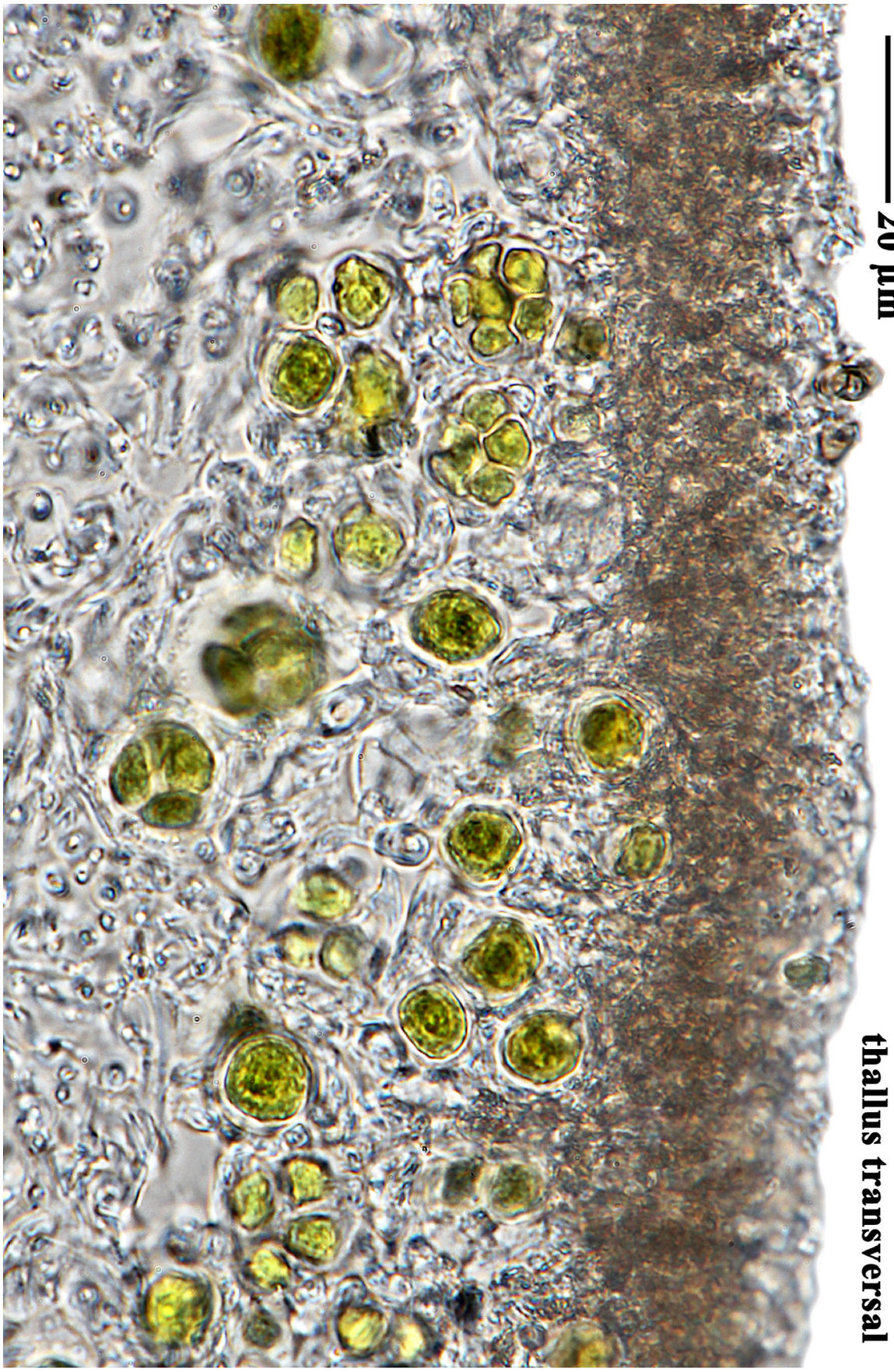


Thamnolia vermicularis

Thamnolia vermicularis



Thamnolia vermicularis



Thamnolia vermicularis

[19283], p323/6

Thamnolia vermicularis

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