

F. Schumm (2025):

Images of various Lichens Vol. 16

Menegazzia

Examination methods:

All samples come from the author's private herbarium in Wangen. The macroscopic photos were taken with the "Canon Macro Photo Lens MP-E 65 mm" lens on a tripod and the "Canon 600D" camera. The microscopic sections were made with the "Microm HM 560" cryotome and stained with phenol-lactic acid-aniline blue. The "Olympus BX 51" was used as a microscope and also the "Canon 600D"

The numbers in [...] are the numbers of the bags in the lichen herbarium F. Schumm in Wangen out of which the images are taken. For the pictures I preferred to use specimens from my private herbarium out of the known exsiccatae from Elix, Follmann, Kalb, Kashiwadani, Kurokawa, Ohmura, Vezda.

For the descriptions I used: There one can find also keys inside.

Elix, J. A., Bawigan, P. A. & Schumm, F. (2005): A new species of *Menegazzia*) and new records of Parmeliaceae from Papua New Guinea and the Philippines. - Australasian Lichenology 56, 20-24.

Galloway, D. J. (2007): Flora of New Zealand Lichens. - Manaaki Whenua Press.

James, P.W. & Galloway, D. J. (1992): *Menegazzia*. - in Flora of Australia Vol 54.

Kantvilas, G. & Jarman, S. J. (2001): Lichens of rainforest in Tasmania and south-eastern Australia. - Australian Biological Resources Study Nr. 8.

Santesson, R. (1942): THE South American *Menegazzia*. - ARKIV FöR BOTANIK BAND 30 A, no 11.

I often used also the excellent descriptions that are provided in Prof. Nimis *ITALIC* 8.0 under the URL:

<https://italic.units.it/>

the Australian Lichenslist

https://www.anbg.gov.au/abrs/lichenlist/lichenchecklist_e_o.html

Consortium of Lichen Herbaria
<https://lichenportal.org/portal/>

Felix Schumm, 05.2025

Menegazzia circumsorediata R. Sant., Ark. Bot. 30A(no. 11): 14 (1942)

[VZ1830], Nova Zelandia. South Island: Marlborough, 7 km ad sept.-occid. versus a Kalkoura, Kowahi Bush, Schoolhouse Road, 42°23' austr., 173°37' orient., 5 m. Ad truncum *Leptospermi ericoides*. Leg. st det. L. Tibell (no. 10796), 04.02.1981. EX A. V&ZDA: LICHENES SELECTI EXSICCATI NR. 1830.

Thallus foliaceus, fistulosus, usque 5 cm latus, irregulariter divisus, sat rigidus, superne glaucus vel cinereus, laevis, nitidulus, foraminibus rotundis, usque 0.5 mm latis, in parte media loborum sparse instructus, subtus (et interdum ad latera loborum) nigrescens, nudus, nitidulus, minute scrobiculatus, non perforatus, Foramina circumecirea sorediosa et thallus in parte loborum inferiorum soredia maniciformibus instructus. Isidia evanescentia. Apothecia usque 2 mm lata, leviter pedicellata, pedicello thallo concolore, solido, receptaculo thallo concolore, leviter ruculoso. Discus fuscus, epruinosis, leviter concavus, margine 0.2-0.3 mm ecrassus, leviter crenulatus et sorediatus. Pycnoconidangia desunt. Descript. anatom. Thallus circumeirca corticatus, cortice superiore chondroideo, leviter lutescente vel incolorato, circ. 20 µm crasso, ex hyphis intricatis pachydermatis formato, cortice inferiore fusco vel fusco-nigricante, 10—15 µm crasso, strato gonidiali angusto, 40-50 µm alto, continuo, conidiis flavo-virescentibus, globosis, diam. 7-10 µm, medulla alba, 150-900 + 100—150 µm crassa, ex hyphis granularibus pachydermatis, 3-5 µm crassis, parce ramosis, minus densis formata. Medulla apotheciorum alba. Hymenium 100-150 µm altum, superne fuscescens, ceterum incoloratum, J + caeruleum (praecipue asei). Paraphyses chondroideo-conglutinatae, filiformes, strictiusculae, sparse ramosae, circ. 1.5 µm crassae, apice clavatoincrassatae, clavo usque 4 µm crasso. Asci ovals, 2-spori, membrana incrassata. Sporae incoloratae, simplices, ovals vel ovoideae, 15-56 x 20-32 µm, membrana 4-5 µm n crassa. Hypothecium circ. 50 µm crassum. React. Thallus K-, C-, KC-, P-; medulla K+ flavescens, C-, KC+ rubescens (dein incolor), Pd+ rubescens; soredia cum medulla convenientia sed multo intensius colorata. Known localities. New Zealand.



Menegazzia circumsorediata



Menegazzia circumsorediata

Menegazzia confusa P. James, in Kantvilas & James, Lichenologist 19(1): 26 (1987)

[19073], Australia, Victoria, Goomirk Rocks, Errinundra Flora Reserve, 14 km south of Bendoc, 37°17' S, 148°53' E, 1200 m, growing on dead *Acacia* in cool temperate forest on moderate slope dominated by *Podocarpus*, *Pittosporum* and *Telopea*. Leg. J. A. Elix (21840) & H. Streimann, 29.03.1988. Chemistry atranorin, chloroatranorin, caperatic acid by TLC, HPLC, anal. J. Johnston & G.A. Jenkins. Ex J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI No. 161. - Own HPTLC p298/9.

Menegazzia platytremae affinis. Thallus rosulatus, ad 5 cm diam, ut virgas saepe amplexans, lobis 1-5-3-5 latis, supra ± rugosus, pallide griseus. Apothecia frequentia, saepe crebro, 4-5 mm diam. Sporis 2 per ascum, 40-52 x 26-31 µm, epithecio granulosis. Atranorinum in cortice, acidum caperaticum in medulla continens (medulla PD —, K —, C —, KC —). - *Menegazzia confusa* is distinguished from the closely related *M. platytrema* by the generally more crowded apothecia, the shorter and more congested lobes and, in particular, the presence of the fatty acid, caperatic acid, in the medulla. *M. platytrema* contains the stictic acid aggregate, and the medulla is thus PD+ yellow-orange, K+ yellow-orange, C —, KC +orange. Both species are characteristic of dry, sclerophyllous, open, bush country and forest margins; whereas *M. platytrema* is frequent and widespread in Australia, *M. confusa* is mainly confined to Tasmania and Victoria where it is always rather local.



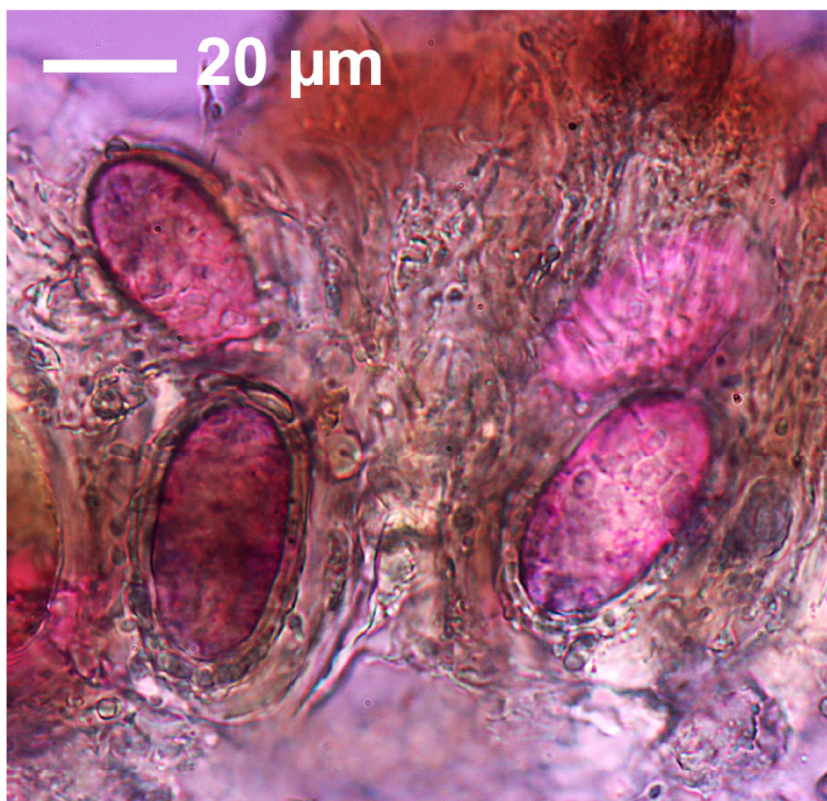
Menegazzia confusa



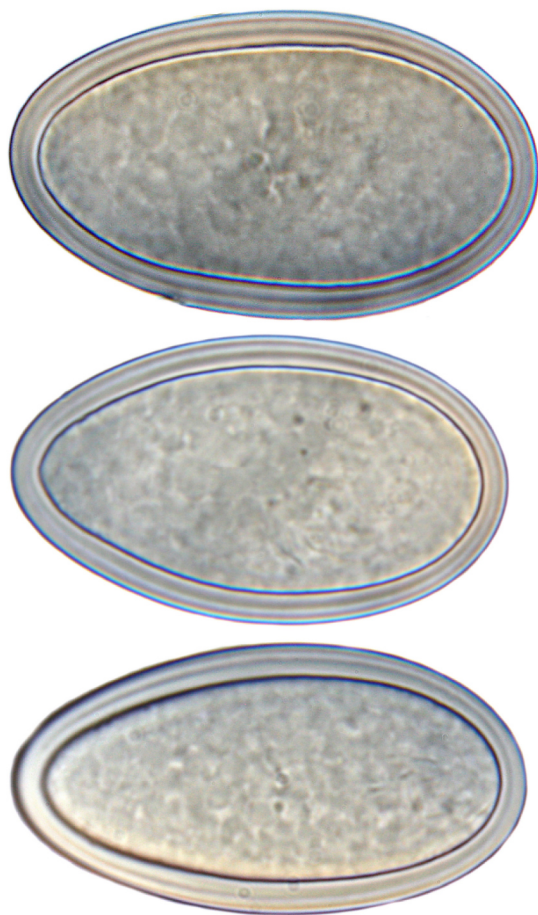
Menegazzia confusa



Menegazzia confusa

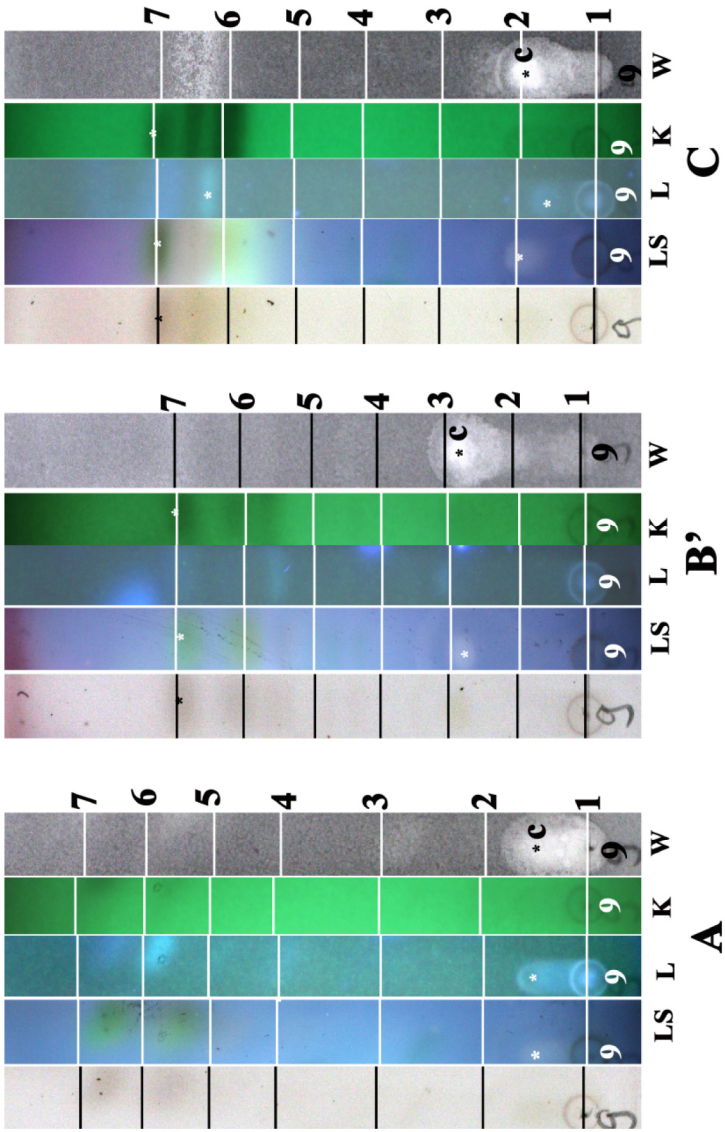


Menegazzia confusa



— 10 μm

Menegazzia confusa



[19073], p298/9

Menegazzia confusa

Menegazzia conica P. James, in James & Galloway, Flora of Australia, Vol. 54. Lichens – Introduction, Lecanorales 1 (Canberra): 312 (1992)

[20903], Australia, New South Wales, 72 km E of Armidale, New England National Park, Weeping Rock Track, 30°29'30" S, 152°24'25" E, 1400 m, *Nothofagus-Elaeocarpus* dominated forest, on twigs of *Nothofagus*. Leg. J. A. Elix (no 33887), 17.08.1993, det. J.A. Elix. -TLC: atranorin (min), fumarprotocetraric acid (maj), quaesitic acid (min). EX LICHENOTHECA GRAECENSIS NR. 465.

Thallus firmly attached, 1–3 (–10) cm wide. Lobes numerous, ±radiating at margin, 1.5–2.5 mm wide, contiguous throughout or sometimes partly discrete, hollow, inflated, becoming compacted and ridged in older parts of thallus and often overlapping, not or sparingly blackened laterally; margins ±even or with short, toe-like laterals. Upper surface matt or partially shining, without blotches or soredia, pale grey to green-grey, not suffused brownish. Upper side of cavity whitish to pale brown, dark brown below. Perforations frequent throughout, 0.5–1.5 mm wide, rounded or ±oval by compression, somewhat gaping when old; margin often raised, sometimes conical. Apothecia abundant, laminal, rarely submarginal, 2–3 mm wide, obconical, sessile to pedicellate; disc epruinose, red-brown; exciple smooth, later nodulose to crenulate. Ascospores 2 per ascus, 48–55 × 28–35 µm; wall to 3 µm thick. Pycnidia rare; ostiole blackened. Conidia 4.5–7 × 0.5 µm. CHEMISTRY: cortex K+ yellow (atranorin); medulla K-, KC-, C-, P+ rust red (fumarprotocetraric acid).



Menegazzia conica



Menegazzia conica

Menegazzia fertilis P. James, in James & Galloway, Flora of Australia, Vol. 54. Lichens – Introduction, Lecanorales 1 (Canberra): 312 (1992)

[16072], Australia, New South Wales, Monga National Park (temperate rain forest), between Braidwood and Batemans Bay, 35.59778° S, 149.91732° E, 745 m, on bark. Leg. F. Schumm & E. Stocker-Wörgötter, 09.11.2009, det. F. Schumm. Chemistry p368/1: atranorin, norstictic acid, stictic acid (major), menegazziaic acid, cryptostictic acid, constictic acid, UNKNOWN in L bei 7. Medulla white, P+ orange, K+ yellow. Spores 41 x 27 µm, 2/ascus.

Thallus closely attached, 3-5 cm wide. Lobes numerous, radiating and contiguous to perimeter, sparingly imbricate with closely appressed secondary lobes, 1-2.5 mm wide, tinged brownish toward apices. Upper surface pale grey, not or slightly blackened at sides but older parts often blotched-blackened especially at centre, dull, often finely corrugate, without soredia. Cavity jet black, greyish above towards lobe ends. Perforations numerous, gaping, 0.5-1 mm wide margin flat or ±depressed. Apothecia numerous, discrete or occasionally ±contiguous and clustered, flat, to 3 mm wide, sessile, thin; disc ±flat, epruinose, pale brown to pale red-brown. Ascospores 2 per ascus, 50-60 x 25-35 µm, wall c. 3 µm thick. Chemistry: medulla K+ orange, C-, KC+ orange, P+ orange; stictic, norstictic (trace), constictic, menegazziaic acids and accessory compounds.- Most closely related to *M. platyrema*, but has narrower lobes and a more closely appressed thallus with lobes radiating and remaining distinct throughout. Apothecia are notable flat and peltate with a thin, persistent exciple. This species is possible the fertile counterpart of *M. subpertusa*.



Menegazzia fertilis



Menegazzia fertilis



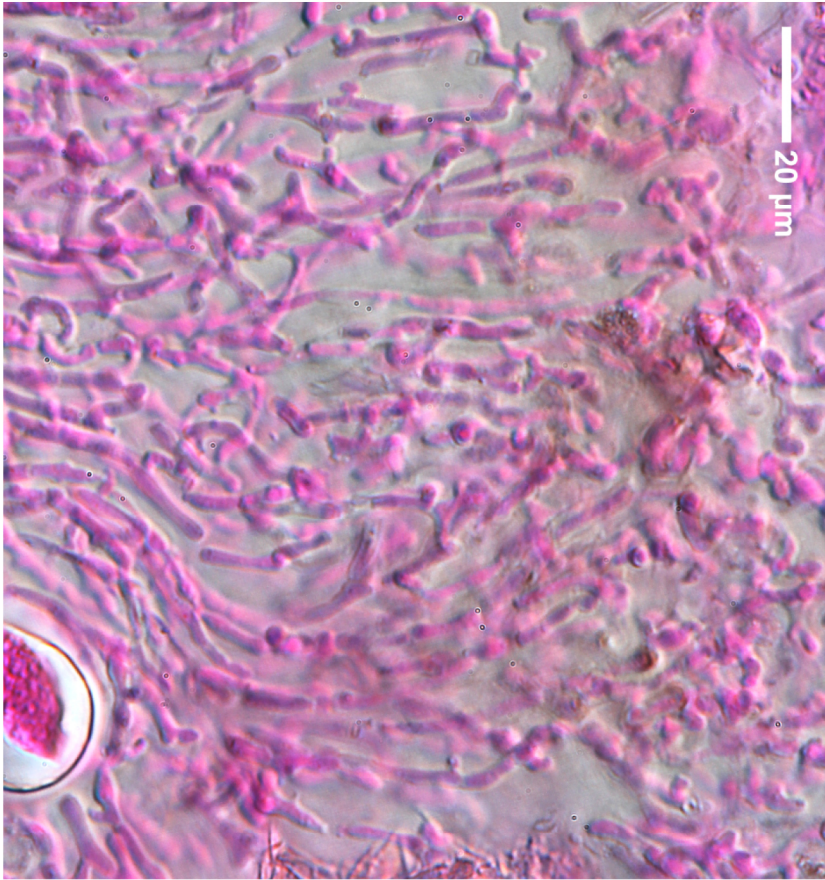
Menegazzia fertilis



Menegazzia fertilis



Menegazzia fertilis

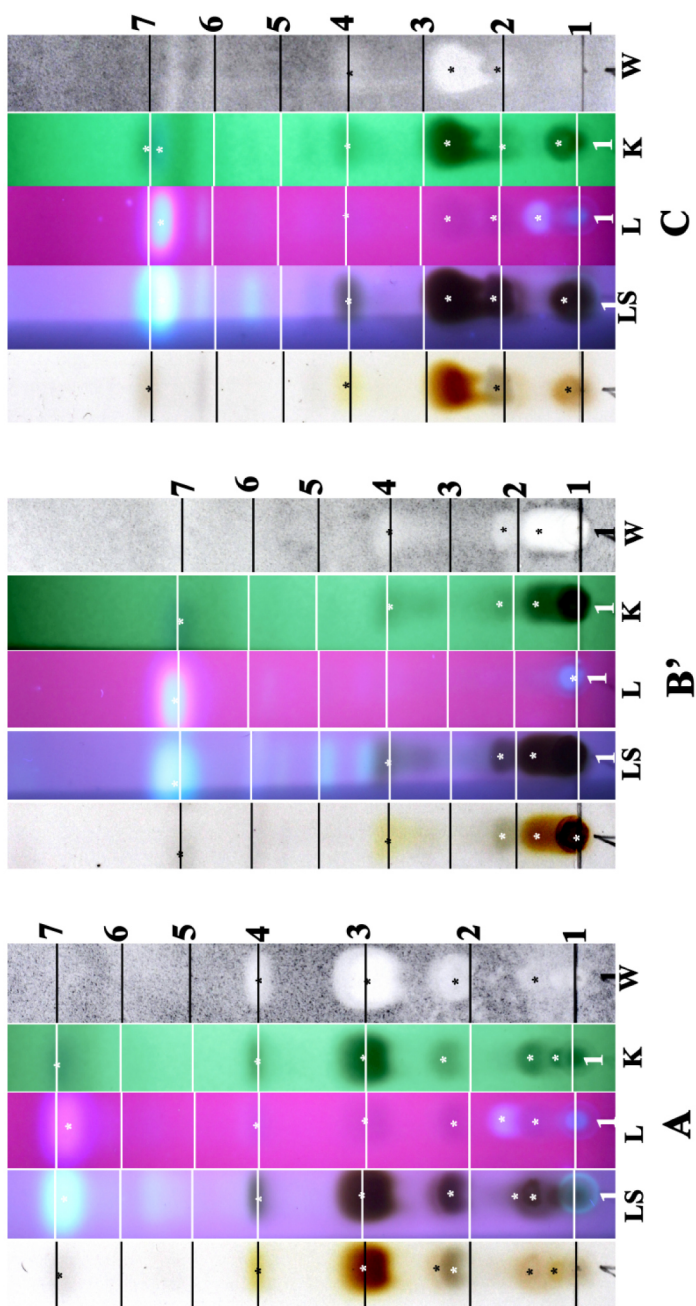


Menegazzia fertilis



— 20 μm

Menegazzia fertilis



[16072], p368/1

Menegazzia fertilis

Menegazzia foraminulosa (Kremp.) Bitter, Hedwigia 40: 172 (1901)
= *Parmelia foraminulosa* Kremp. 1876

[19074]. New Zealand, South Island, Canterbury, eastern entrance to Arthurs Pass National Park, growing on trunk of *Nothofagus fusca* in open *Nothofagus* woodland, 670 m. Leg. J. A. Elix (nr 19023) & J. Johnston, 4.03.1985. Chemistry: atranorin, chloroatranorin, stictic acid (major), echinocarpic acid (minor), constictic acid (minor), menegazzaic acid (tr), norstictic acid (tr), conechinocarpic acid (tr), unknown pigments (trace) by TLC, anal. J. Johnston. EX J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI NO. 185. Own HPTLC p299/1: stictic acid.

Description: Flora (1985: 283). Chemistry: Medulla K+ orange, C—, KC+ orange, Pd+ orange; containing atranorin, chloroatranorin (cortex), stictic (major), constictic, menegazziaic (tr.), norstictic (tr.), echinocarpic (minor) and conechinocarpic (tr.) acids, with four or more UV+ orange to yellow pigments and one UV + orange-red pigment. Endemic. - *Menegazzia foraminulosa* is distinguished from other species in the genus by having ochre-yellow pigmentation of the tomentum on the upper side of the internal cavity; stictic and echinocarpic acids and pigments in the medulla; 8-spored asci; and swollen, pigmented apical cells in the paraphyses. The faintly white-maculate lobe ends that are flattened are also characteristic for the species. *M. caliginosa* is its soresediate counterpart.

From Krempelhuber (1876): Neue Beiträge zur Flechtenflora Neu-Seelands. - Zoologisch Botanische Gesellschaft in Wien, XXVI Band.
Parmelia foraminulosa Krph.: Thallus pallido-sulphureus, irregulariter multifidus, laciniis breviusculis, plus minus angustis, plerumque bullato-ventricosis, rarius planiusculis, congestis, supra glabris vel tenuiter rugulosis et crebro foraminibus majusculis pertusis, subtus nigris et ad lateres nigro-marginatis; apothecia sessulia, majuscula (lat. usque ad 5.0 mm), cupuliformia, disco concavo (rarius plano), fusco, margine thallino in statu juvenili turgrdulo, maturo tenui et leviter erenulato cincto; sporae 2-4/ascus, ellipsodeae, simplices, incolores, 36-48 x 15-24 µm.



Menegazzia foraminulosa



Menegazzia foraminulosa



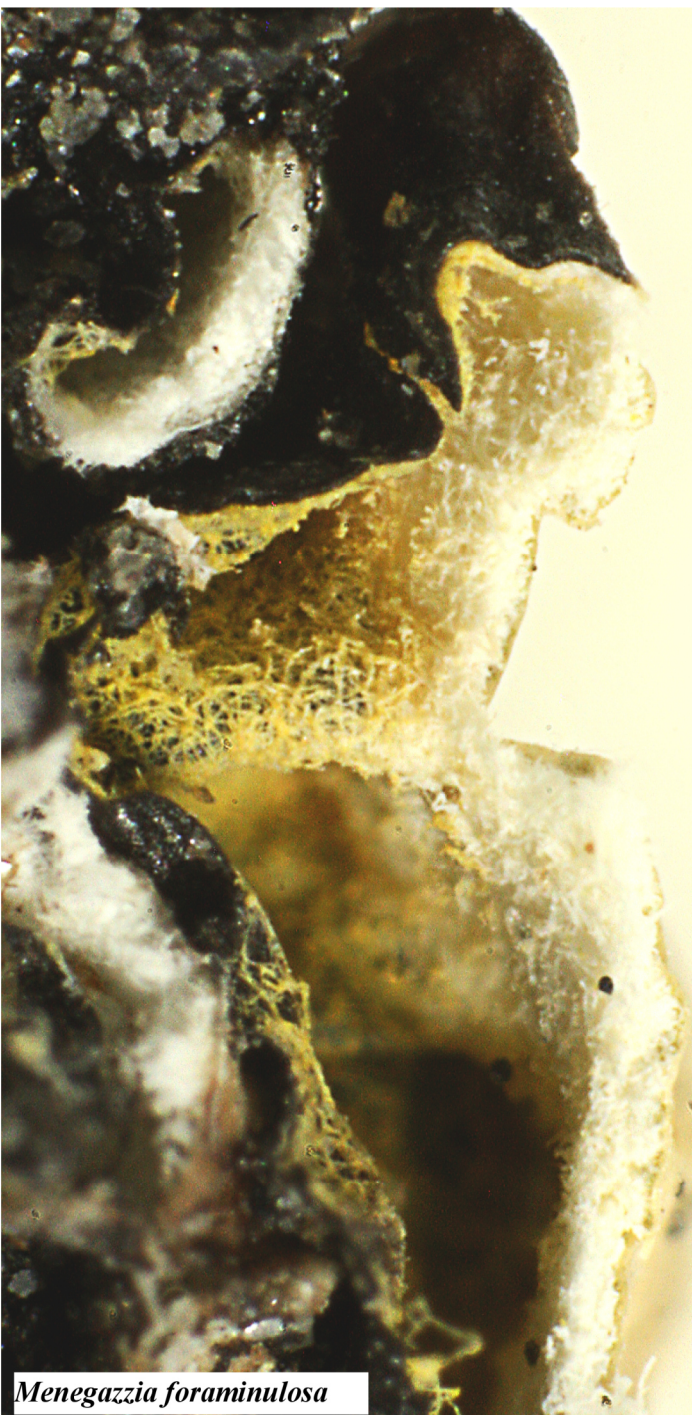
Menegazzia foraminulosa



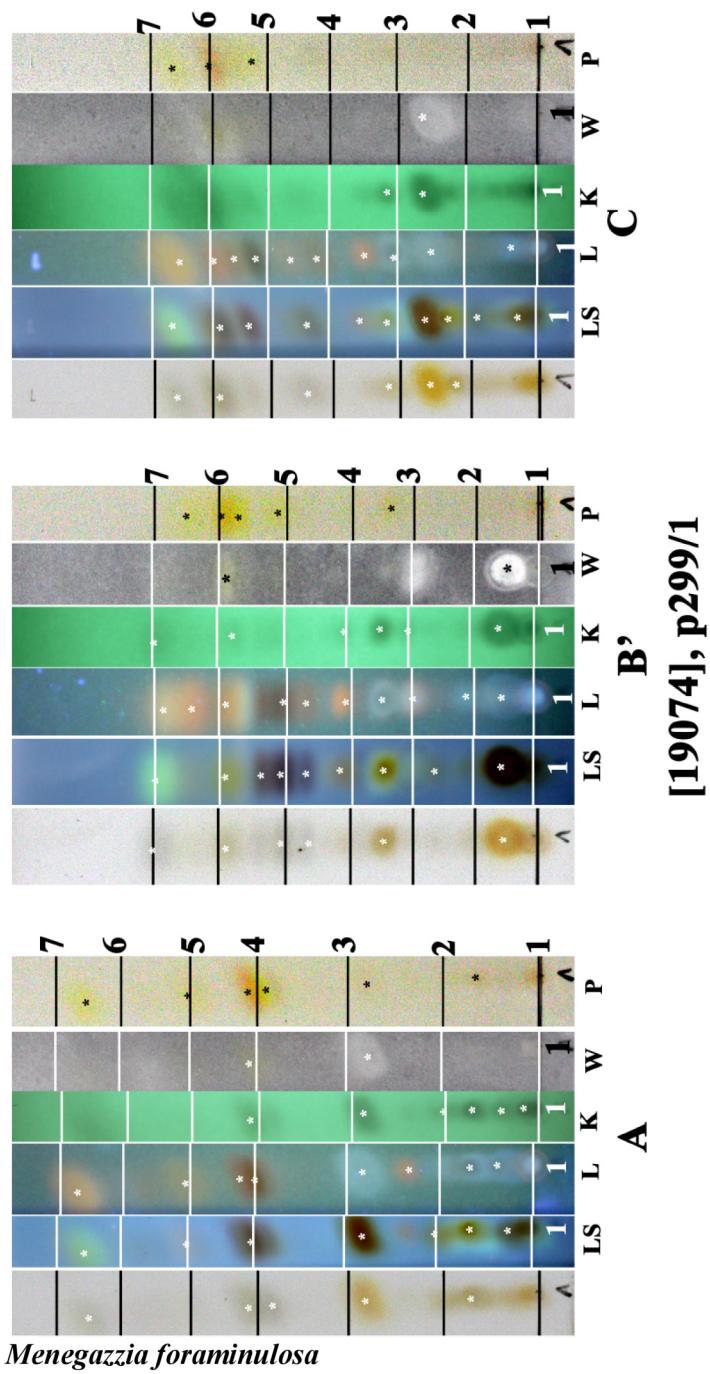
Menegazzia foraminulosa

1 mm

internal cavity



Menegazzia foraminulosa



Menegazzia globulifera R. Sant., Ark. Bot. 30A(no. 11): 30 (1942)

[VZ1831], Nova Zelandia. South Island: Canterbury, Bealy Spur ptope Arthur's pass, secundus viam Grasmere Hut, 43°01' austr., 171°35' orient., 800- 1000 m. Ad ramulos *Dacrydii bidwillii*, in regione subalpina. Leg. et det. L. Tibell (no. 10128(, 17.12.1980. EX A. V&ZDA: LICHENES SELECTI EXSICCATI NR. 1831.

Thallus circ. 2 em latus, subdichotome vel irregulariter divisus, sat mollis, fistulosus, superne stramineus vel luteolus, laevis, nitidulus, foraminibus rotundis usque 0.5 mm latis sat sparse pertusus, subtus (et interdum superne ad latera loborum) niger vel fusco-niger, nudus et laevis, nitidulus. non perforatus, ad apices fuscescens. Lobi circ. 1 mm lati, in sectionetransversali elliptici, ad apicem rotundati. Thallus isidiis destitutus, sorediis superficialibus, primo punctiformibus, dein maunificormibus et ultimo vesiculiformibus instructus. Apothecia et pyreniconidangia desunt. Descript. anatom. Thallus circumeirea corticatus, cortice supertore chondroideo, fulvescente vel plus minusve incolorato, 30-35 μ m crasso, ex hyphis pachydermaticis formato, cortice inferiore fusco vel fusco-nisricante, circ. 15 μ m crasso. Stratum gonidiale 40—50 μ m altum, gonidiis flavo-virescentibus, &—10 μ m diam., stratum medullare album, erassitudine valde irregulari, (50—100 μ m), ex hyphis pachydermatieis, granulosis, 4-8 μ m crassis, parce ramosis, minus densis formatum. React. Thallus K-, C-, KC+ flav., P-; medulla K-, C+ rub., KC+ rub.. P-; soredia K+ leviter fulv., C+ intense rub., KC+ rub., Pd-. *M. globulifera* is very well characterized by its soredia vesiculiformia, cf. above.

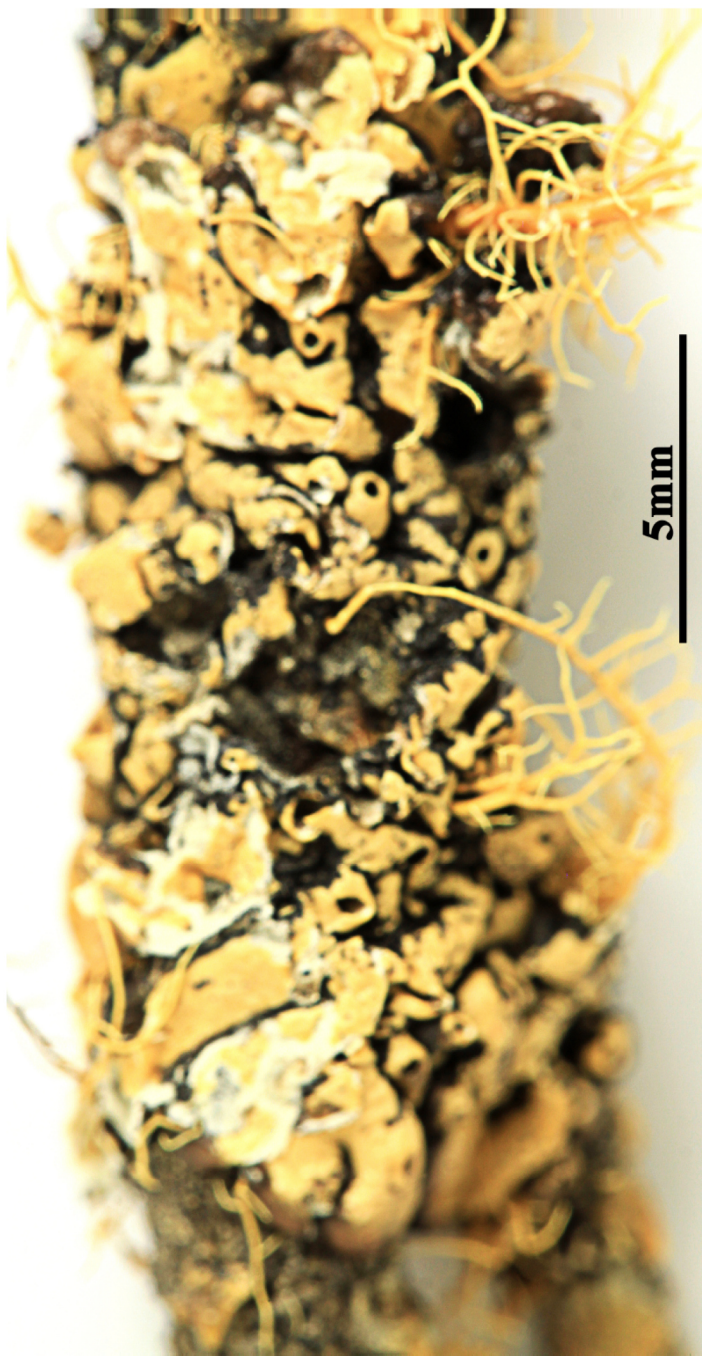
Habitat. Corticolous on *Nothofagus* in the deciduous N, antarctica and N. *pmilio* forests.



Menegazzia globulifera

Menegazzia globulifera



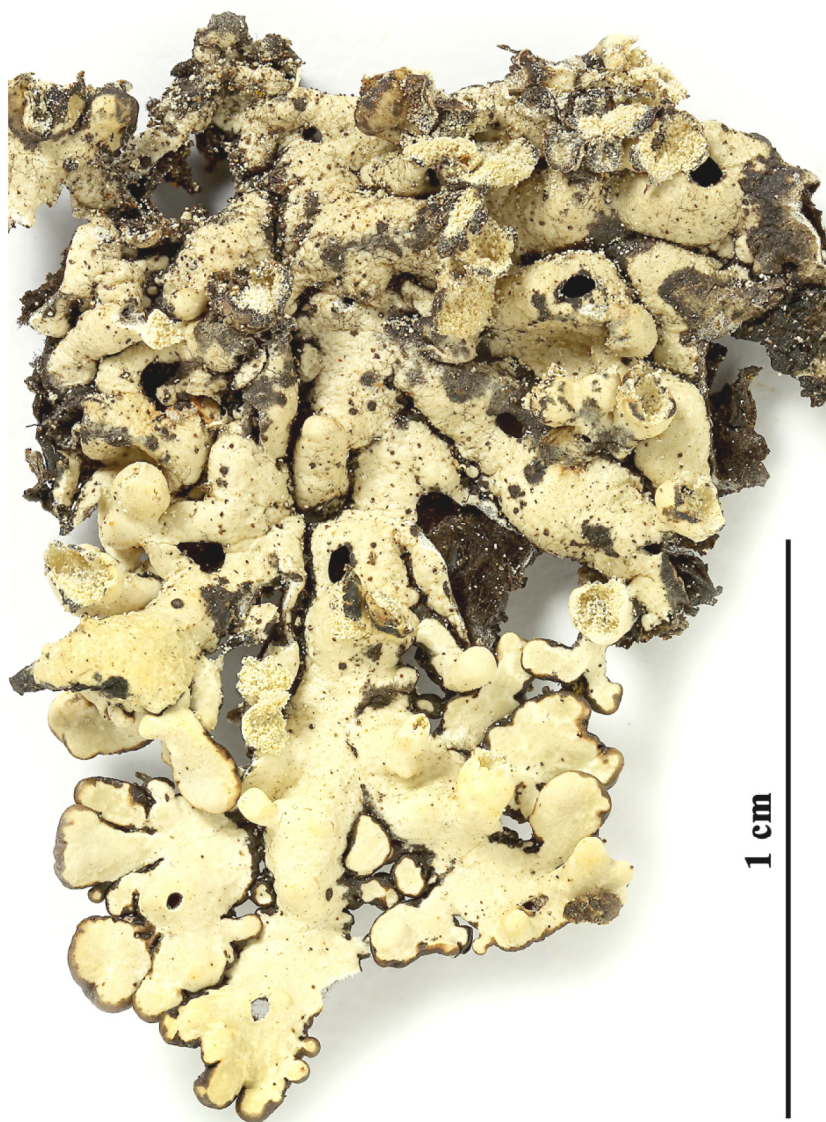


Menegazzia globulifera

Menegazzia grandis P. James, in James & Galloway, Flora of Australia, Vol. 54. Lichens – Introduction, Lecanorales 1 (Canberra): 313 (1992)

[15753], Australia, Western Australia, between Manjimup and Mt. Baker, Lake Muir, 34.44142° S, 116.64809° E, 186 m, on bark. Leg. F. Schumm & E. Stocker-Wörgötter, 23.10.2009, det. F. Schumm. Chemistry p368/9: atranorin, norstictic acid, stictic acid (maj), menegazziaic acid, cryptostictic acid, constictic acid. Mit becherförmigen Soralen.

Thallus loosely appressed, to 25 cm wide. Lobes convex-undulate, smooth, shining, pale grey or grey-green, ±laterally blackened, without blotches; central lobes short, interlocking, occasionally overlapping; marginal lobes radiating, elongate, subdichotomously branched, contiguous, 3–5 mm wide. Cavity whitish above, black-grey below with pale indumentum. Perforations to 3 mm wide, rather few, gaping; margin depressed, rounded or oval. Lower surface shining, pleated and rumpled, black, brownish at margins. Soralia sparse, on oldest parts of thallus, arising from ±elevated vesicles or tears in upper cortex; vesicles rupturing at apex, flared and flanged, recurved, with fine, granular pale soredia. Apothecia and pycnidia unknown. CHEMISTRY: K⁺ yellow (atranorin); medulla K⁺ orange, P⁺ orange containing stictic, constictic, ±norstictic and cryptostictic acids and two pigments; menegazziaic acid absent.



Menegazzia grandis



Menegazzia grandis



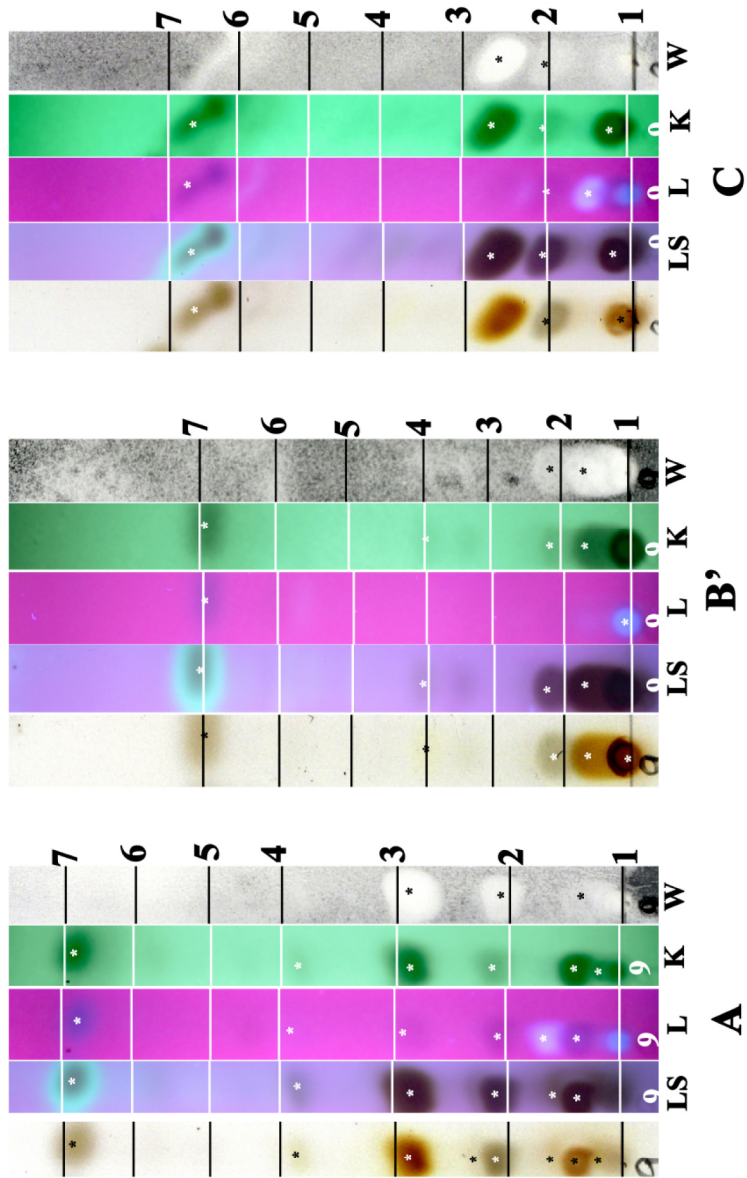
Menegazzia grandis



Menegazzia grandis



Menegazzia grandis



[15753], p368/9

Menegazzia grandis

[5486], Philippinen, Mindanao, Provinz Cotabato, Mt. Apo, Sumpfgebiet am Westufer des Lake Venado, lichtoffen, Bergregenregion, halbschattig, 2210 m, 7°00.155' N, 125°16.179' E; an Rinde. Leg. Uwe Schwarz 20.03.1999, det. J.A. A. Elix. Chemistry atranorin (minor), stictic acid (major), constictic acid (minor), cryptostictic acid (trace), peristictic acid (trace), menegazzaic acid (minor) anal. J. A. [Elix, solvent C, 23.05.2000.

Thallus corticolous, adnate to loosely adnate, up to 6 cm wide, often forming rosettes or sometimes irregularly spreading. Lobes hollow, sublinear-elongate, fragile, contiguous for the most part, more rarely partially discrete, $\pm$ overlapping in older parts of the thallus, subdichotomously to subirregularly branched, 1-2 mm wide; apices sometimes subpalmate; margins $\pm$ lobulate, lobules sublinear, 0.1-0.6 mm wide, up to 1 mm long, perforate or not. Upper surface grey or grey-green, often with blackish margins, flat to convex, dull to shiny, perforate, dactylate; dactyls inflated, isidioid, globose or cylindrical, not branched, 0.5-1.5 mm high, apices soon eroding and becoming pustulate, pustules expanding and becoming efflorescent, funnel-shaped or lacerate, densely sorediate, soredia granular; soralia more rarely developing at lobe apices, labriform to gaping with $\pm$ lacerate margins. Perforations laminal, numerous or scattered, flush with surface or ultimately depressed, oval or rounded, gaping, with an inrolled edge, 0.3-1.0 mm wide. Medulla white or pale yellow in part, darkening with age, lower side of internal cavity black. Lower surface black, shiny, wrinkled, erhizinate. Apothecia and pycnidia not seen. *Chemistry*: Cortex K⁺ yellow; medulla K⁺ yellow, C⁻, KC⁻; P⁺ yellow-orange; containing atranorin (minor), chloroatranorin (minor), stictic acid (major), constictic acid (minor), peristictic acid (minor/trace), norstictic acid (trace), $\pm$ vioxanthin (minor/trace), $\pm$ pigmentosin A (minor/trace), $\pm$ gyrophoric acid (minor). - The most characteristic features of this species are the elevated, erumpent dactyls on the upper surface which are densely sorediate and expand to become funnel-shaped and ultimately lacerate, and the presence of the stictic acid chemosyndrome in the medulla. The Australasian species *M. nothofagi* (Zahlbr.) P. James & D.J. Galloway is similar in also producing sorediate pustules on the upper surface and containing the stictic acid chemosyndrome in the medulla. However, it

can be distinguished by the narrower lobes (0.5-0.8 mm *cf.* 1-2 mm wide), and by the absence of marginal lobules. Furthermore, the erumpent dactyls of *M. malesiana* become efflorescent, funnel-shaped or lacerate, and much more extensively soresdiate than do the simple eroded-soresdiate pustules of *M. nothofagi*. *Menegazzia malesiana* could also be confused with *M. efflorescens* P. James, Aptroot, Serus. & Diederich, another Papua New Guinean species with efflorescent soralia on the upper surface and medullary stictic acid. However, the thalli of *M. efflorescens* are much larger (up to 20 cm wide), the lobes much



Menegazzia malesiana



Menegazzia malesiana

[5435], Philippinen, Mindanao, Provinz Cotabato, Mt. Apo, Ostufer des Lake Venado, Waldrand des Bergregenwaldes, halbschattig, 2210 m, 7°00.155' N, 125°16.179' E; an Rinde. Leg. Uwe Schwarz, 20.03.1999, det. J. A. Elix, 2005.

Thallus corticolous, adnate to loosely adnate, up to 6 cm wide, often forming rosettes or sometimes irregularly spreading. Lobes hollow, sublinear-elongate, fragile, contiguous for the most part, more rarely partially discrete, $\pm$ overlapping in older parts of the thallus, subdichotomously to subirregularly branched, 1-2 mm wide; apices sometimes subpalmate; margins $\pm$ lobulate, lobules sublinear, 0.1-0.6 mm wide, up to 1 mm long, perforate or not. Upper surface grey or grey-green, often with blackish margins, flat to convex, dull to shiny, perforate, dactylate; dactyls inflated, isidioid, globose or cylindrical, not branched, 0.5-1.5 mm high, apices soon eroding and becoming pustulate, pustules expanding and becoming efflorescent, funnel-shaped or lacerate, densely sorediate, soredia granular; soralia more rarely developing at lobe apices, labriform to gaping with $\pm$ lacerate margins. Perforations laminal, numerous or scattered, flush with surface or ultimately depressed, oval or rounded, gaping, with an inrolled edge, 0.3-1.0 mm wide. Medulla white or pale yellow in part, darkening with age, lower side of internal cavity black. Lower surface black, shiny, wrinkled, erhizinate. Apothecia and pycnidia not seen. *Chemistry*: Cortex K⁺ yellow; medulla K⁺ yellow, C⁻, KC⁻; P⁺ yellow-orange; containing atranorin (minor), chloroatranorin (minor), stictic acid (major), constictic acid (minor), peristictic acid (minor/trace), norstictic acid (trace), $\pm$ vioxanthin (minor/trace), $\pm$ pigmentosin A (minor/trace), $\pm$ gyrophoric acid (minor). - The most characteristic features of this species are the elevated, erumpent dactyls on the upper surface which are densely sorediate and expand to become funnel-shaped and ultimately lacerate, and the presence of the stictic acid chemosyndrome in the medulla. The Australasian species *M. nothofagi* (Zahlbr.) P. James & D.J. Galloway is similar in also producing sorediate pustules on the upper surface and containing the stictic acid chemosyndrome in the medulla. However, it can be distinguished by the narrower lobes (0.5-0.8 mm cf. 1-2 mm wide), and by the absence of marginal lobules. Furthermore, the erumpent dactyls of *M. malesiana* become efflorescent, funnel-shaped or

lacerate, and much more extensively sorediate than do the simple eroded-sorediate pustules of *M. nothofagi*. *Menegazzia malesiana* could also be confused with *M. efflorescens* P. James, Aptroot, Serus. & Diederich, another Papua New Guinean species with efflorescent soralia on the upper surface and medullary stictic acid. However, the thalli of *M. efflorescens* are much larger (up to 20 cm wide), the lobes much broader (3-5 mm wide *cf.* 1-2 mm wide) and inflated, and the soralia are borne on short, lateral lobes (or very rarely on laminal pustules), and are labriform to gaping with noticeably lacerate margins.



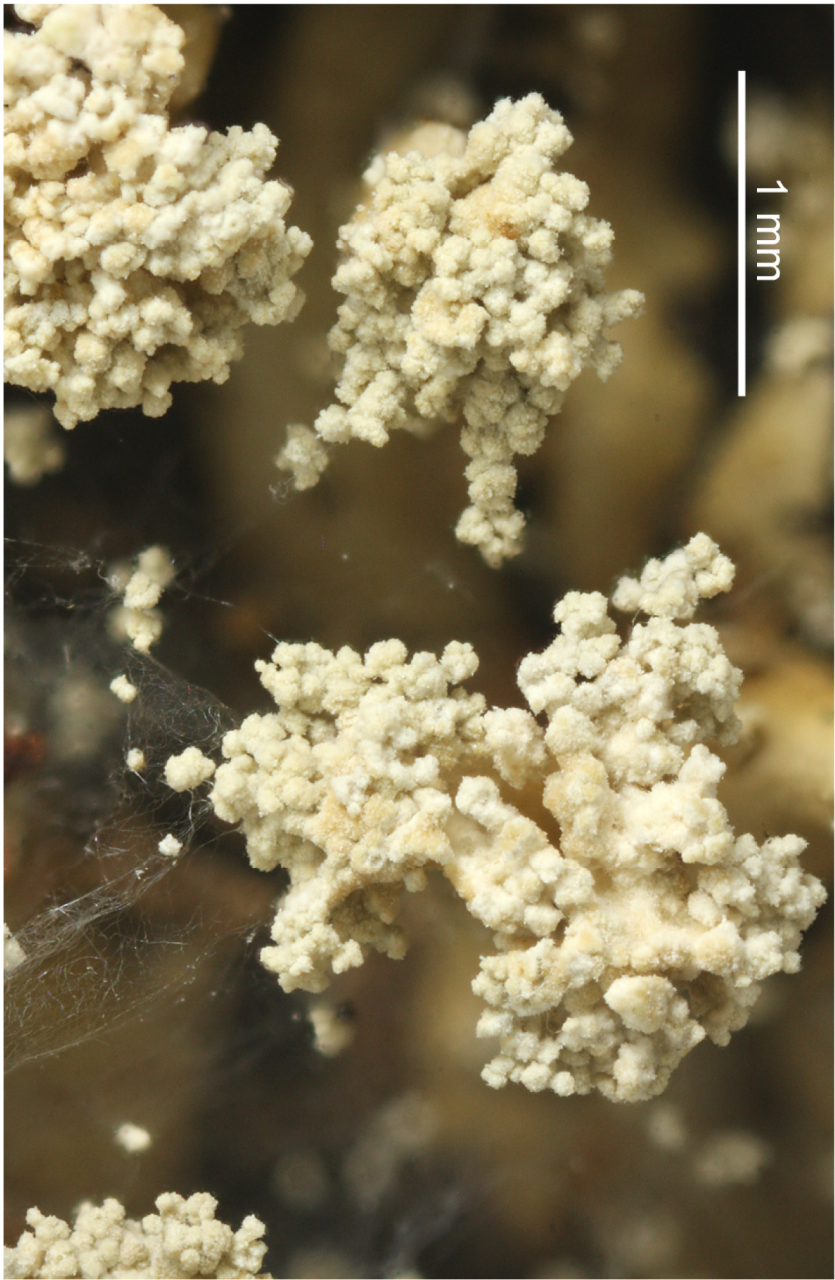
Menegazzia malesiana



Menegazzia malesiana



Menegazzia malesiana



Menegazzia malesiana

Menegazzia pertransita (Stirt.) R. Sant., Ark. Bot. 30A(no. 11): 12 (1942)
 = *Menegazzia weindorferi* f. *endocitrina* (Hillmann) R. Sant., Ark. Bot.
 30A(no. 11): 12 (1942)
 = *Parmelia pertransita* Stirt., Proc. Roy. phil. Soc. Glasgow 10: 294 (1877)
 = *Parmelia weindorferi* f. *endocitrina* Hillmann, Feddes Repert. Spec.
 Nov. Regni veg. 45: 172 (1938)

[19075], New Zealand, South Island, Canterbury, Greyneys Flat, 6 km south of Arthurs, growing on trunk of *Nothofagus cliffortioides* in *Nothofagus* forest, 690 m.. Leg. J. A. Elix (nt.19007) & J. Johnston, 4.03.1985, chemistry: atranorin, chloroatranorin, unknown pigment, lichesterinic acid, protolichesterinic acid, by TLC, anal. J. Johnston. EX J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI No. 109. - Own HPT-LC p299/2: lichesterinic acid, protolichesterinic acid..

Menegazzia pertransita is characterised by the corticolous habit; large, gaping perforations with inrolled edges; pedicellate apothecia with a coarsely scabrid exciple and stalk; 8-spored asci; a non-granular epithecium; and the presence of fatty acids in the medulla. The relationship of this taxon to the Australian species *M. weindorferi* (Zahlbr.) R. Sant., needs closer assessment. In some forms 'of *M. pertransita* the tomentum of the internal cavity may be *pigmented paleyellow; however, the pigment is not the same as that found in *M. foraminulosa*. in any case these two species are readily distinguished by differences in medullary chemistry. *M. pertransita* is a very variable species, ranging from specimens with small, narrow, radiating lobes to examples with broad, contorted or imbricate lobes. The occurrence of perforations is also variable, and in some collections only 1 or 2 perforations (usually at the margins of the thallus) may be present in an otherwise well-developed specimen. Some specimens from exposed, often subalpine, habitats may be suffused brownish.



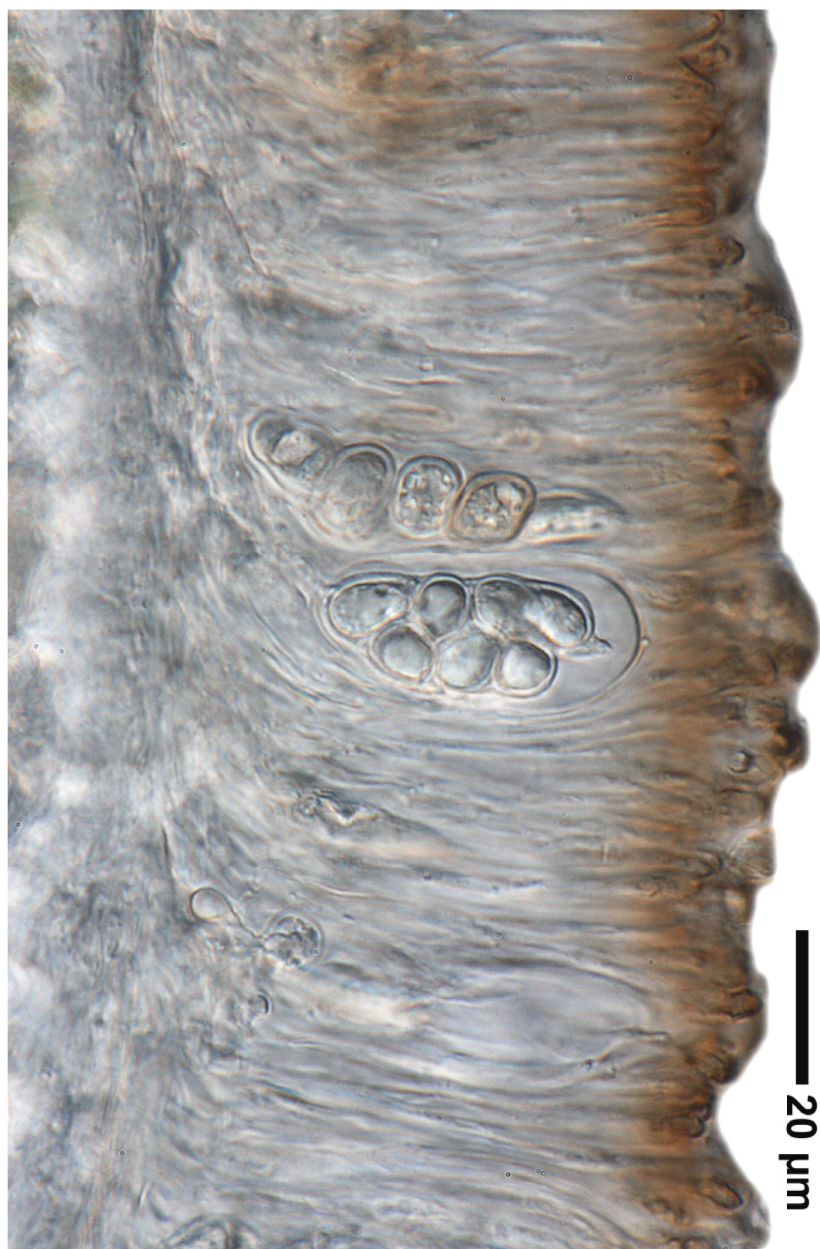
Menegazzia pertransita



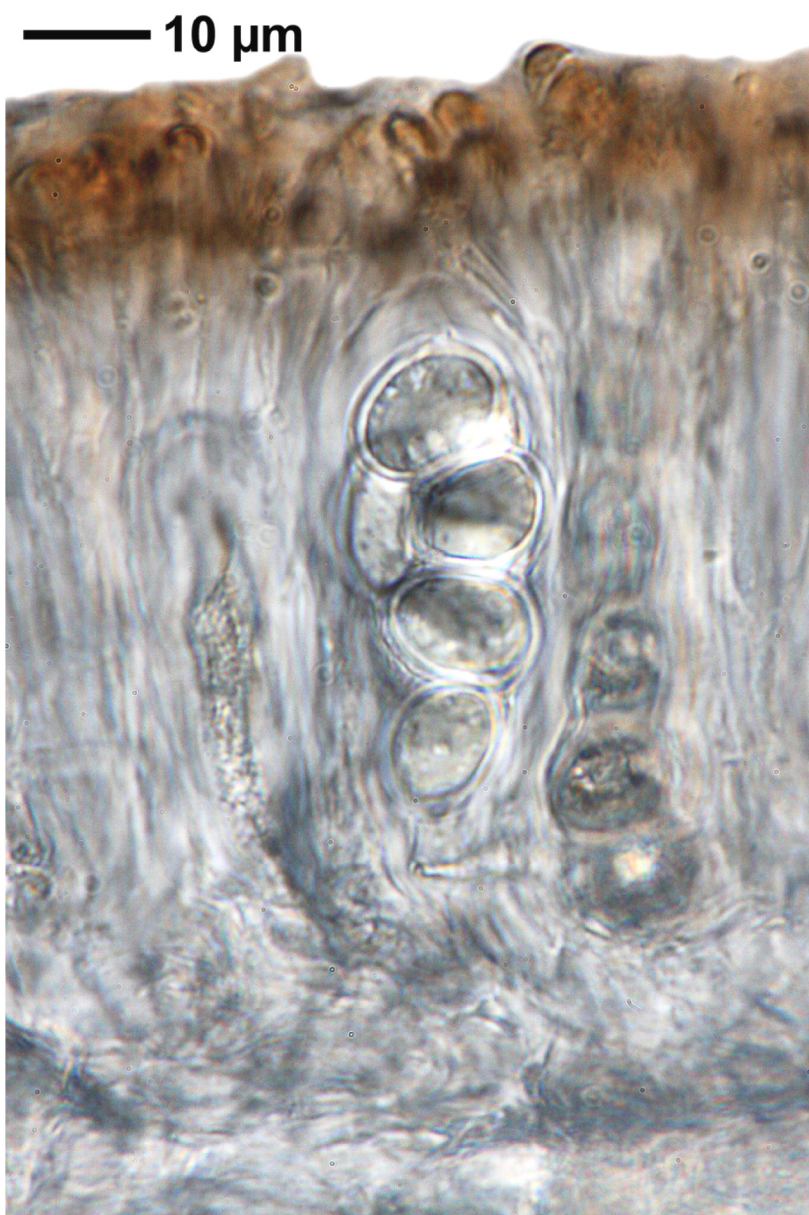
Menegazzia pertransi-



Menegazzia pertransita



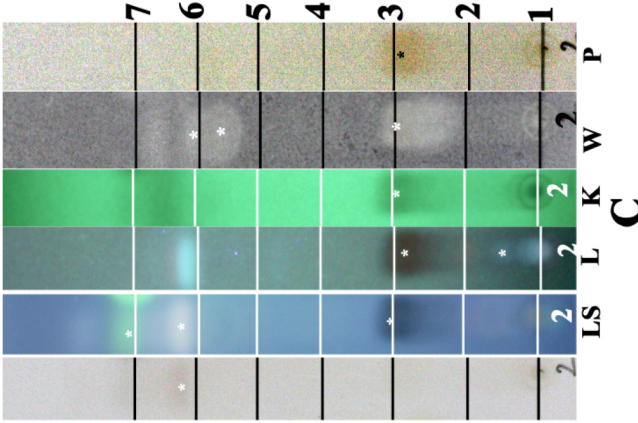
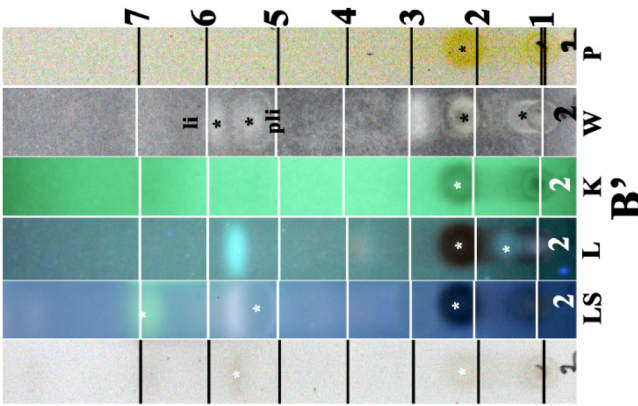
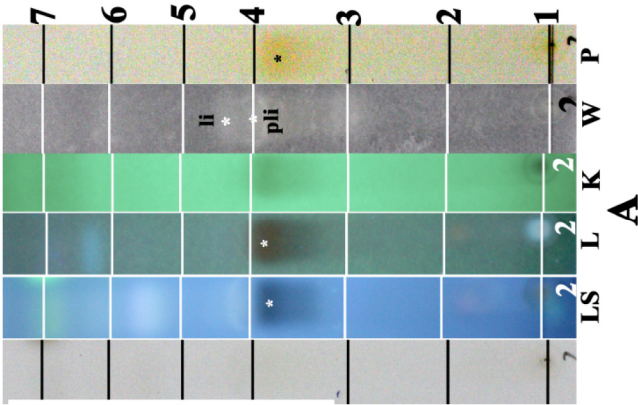
Menegazzia pertransita



Menegazzia pertransita



Menegazzia pertransita



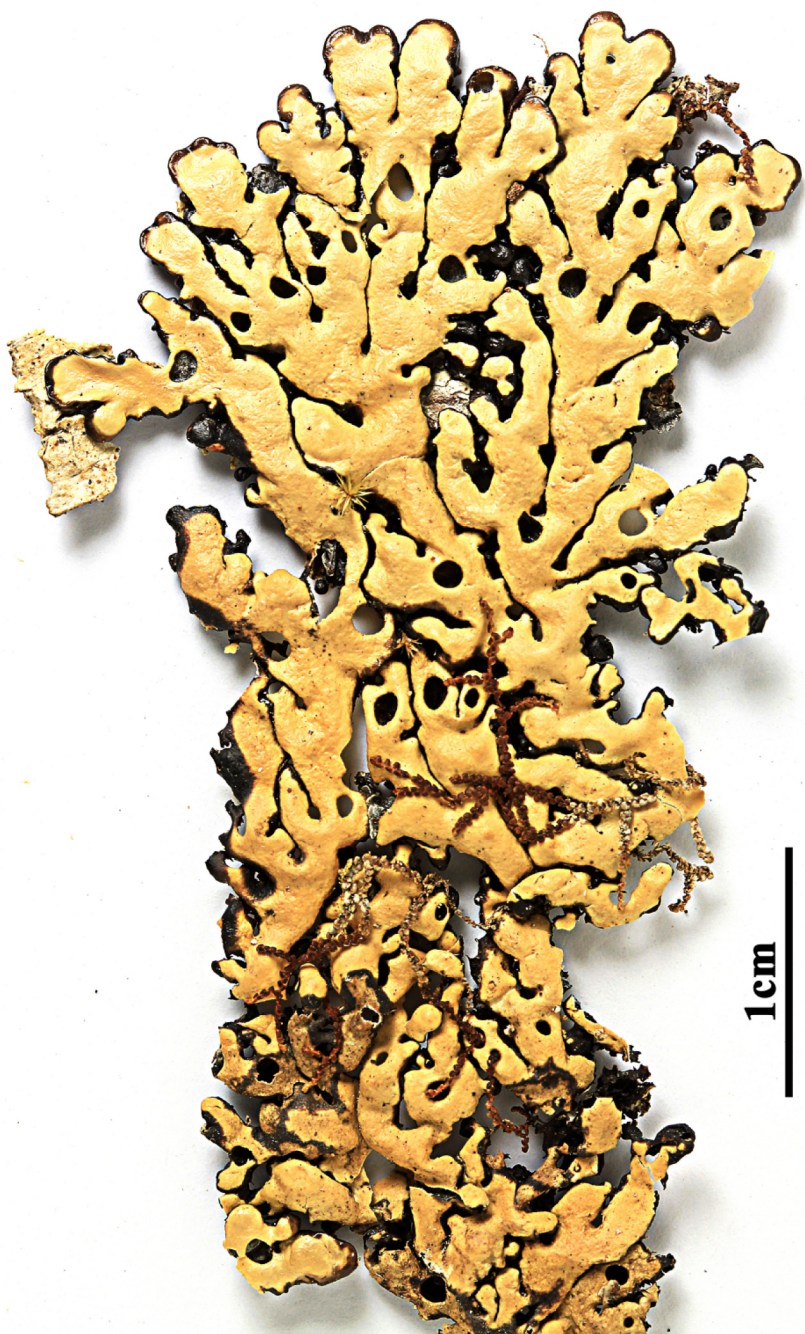
Menegazzia pertransita

[19075], p299/2

Menegazzia pertransita (Stirt.) R. Sant., Ark. Bot. 30A(no. 11): 12 (1942)
 = *Menegazzia weindorferi* f. *endocitrina* (Hillmann) R. Sant., Ark. Bot.
 30A(no. 11): 12 (1942)
 = *Parmelia pertransita* Stirt., Proc. Roy. phil. Soc. Glasgow 10: 294 (1877)
 = *Parmelia weindorferi* f. *endocitrina* Hillmann, Feddes Repert. Spec.
 Nov. Regni veg. 45: 172 (1938)

[VZR283], Nova Zelandia. South Island. Canterbury, transitus Lewis Pass. Bina Valley Track, 700 m. In silva virginea ad truncum aroris. Leg. W. Malcolm & A. Vězda, 29.04.1952. EX A. VĚZDA: LICHENES RARIORES EXSICCATI NR. 283.

Menegazzia pertransita is characterised by the corticolous habit; large, gaping perforations with inrolled edges; pedicellate apothecia with a coarsely scabrid exciple and stalk; 8-spored asci; a non-granular epithecium; and the presence of fatty acids in the medulla. The relationship of this taxon to the Australian species *M. weindorferi* (Zahlbr.) R.Sant., needs closer assessment. In some forms of *M. pertransita* the tomentum of the internal cavity may be *pigmented paleyellow; however, the pigment is not the same as that found in *M. foraminulosa*. in any case these two species are readily distinguished by differences in medullary chemistry. *M. pertransita* is a very variable species, ranging from specimens with small, narrow, radiating lobes to examples with broad, contorted or imbricate lobes. The occurrence of perforations is also variable, and in some collections only 1 or 2 perforations (usually at the margins of the thallus) may be present in an otherwise well-developed specimen. Some specimens from exposed, often subalpine, habitats may be suffused brownish.



Menegazzia pertransita



Menegazzia pertransita

Menegazzia pertransita



Menegazzia platytrema (Müll. Arg.) R. Sant., Ark. Bot. 30A(no. 11): 13 (1942)
= *Parmelia platytrema* Müll. Arg., Flora, Regensburg 70: 60 (1887)

[19076], Australia, New South Wales, Kosciusko National Park, northern face of Mount Stilwell, 36°26' S, 148°19' E, 2000 m, growing on twigs of *Podocarpus lwrrencii* in alpine herbfield. Leg. J. A. Elix (nr. 9682), 27.02.1982. EX J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI No. 010. Chemistry p299/5: stictic acid.

Thallus closely appressed, 3—15 cm wide. Lobes inflated, 1-4 mm wide, contiguous to margins, irregularly dichotomously branched, at centre congested-imbricate, somewhat contorted, compacted, convex; secondary lobes unorientated and sometimes obscuring thallus centre. Upper surface smooth, somewhat shining, sometimes becoming rugose towards centre, pale grey or grey, not or little blackened laterally, not or little browned at tips. Cavity pale to purplish black above, uniformly black below. Perforations evenly distributed, gaping, rounded or oval, 1-1.5 mm wide, laminal, flat or somewhat depressed with down-turned margins. Apothecia often crowded, 3-6 mm wide, laminal, shortly pedicellate or sessile; disc concave to flat, scabrid, pale to dark red-brown; exciple smooth, becoming coarsely crenulate. Ascospores 2 per ascus, 45-57 x 25-32 µm; wall 2.5-3.5 µm thick. Pycnidia numerous, immersed, blackish around ostiole, sometimes coalescing and blackening upper surface of lobes. Conidia 6-7 x 0.5 µm. Chemistry: cortex K+ yellow (atranorin); medulla K+ orange-red, C-, P+ orange (stictic, cryptostictic, menegazziaic and norstictic (trace) acids and accessory compounds. Grows on bark on twigs in rainforest, and on bark in wet and dry sclerophyll forest and forest margins, on low shrubs in alpine areas, and on rocks under trees, occasionally spreading onto mosses or soil and then thallus becoming more loosely attached. - Similar to *M. weindorferi* which has smooth, uncoloured apothecial margins and the centre of the thallus tends to be more crowded with short, imbricate lobes. *Menegazzia platytrema* is tcreamy grey whereas *M. weindorferi* has a bluish tinge in the underlying pale grey colour and is more abundantly stippled with brown-black pycnidia. *Menegazzia platytrema* is the most common species of the genus in drier scrub areas.



Menegazzia platytrema



Menegazzia platytrema



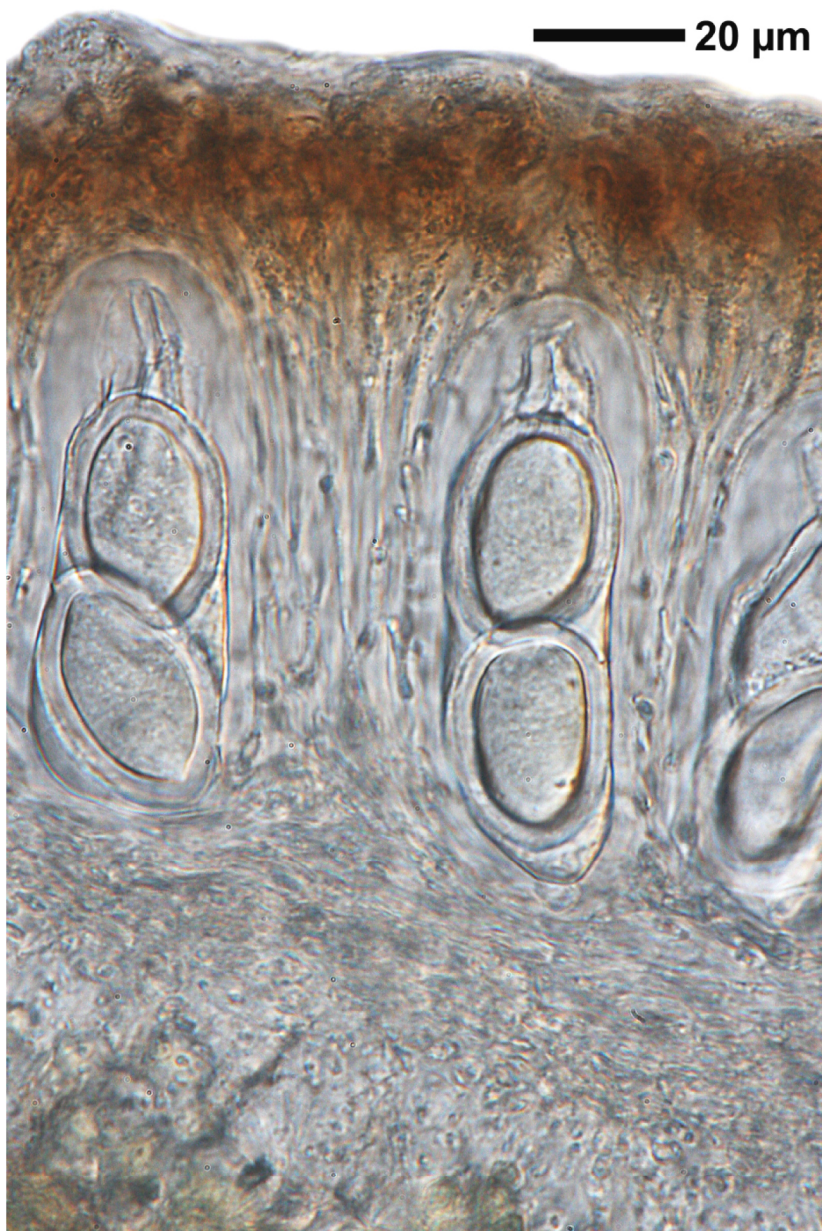
Menegazzia platytrema



Menegazzia platytrema



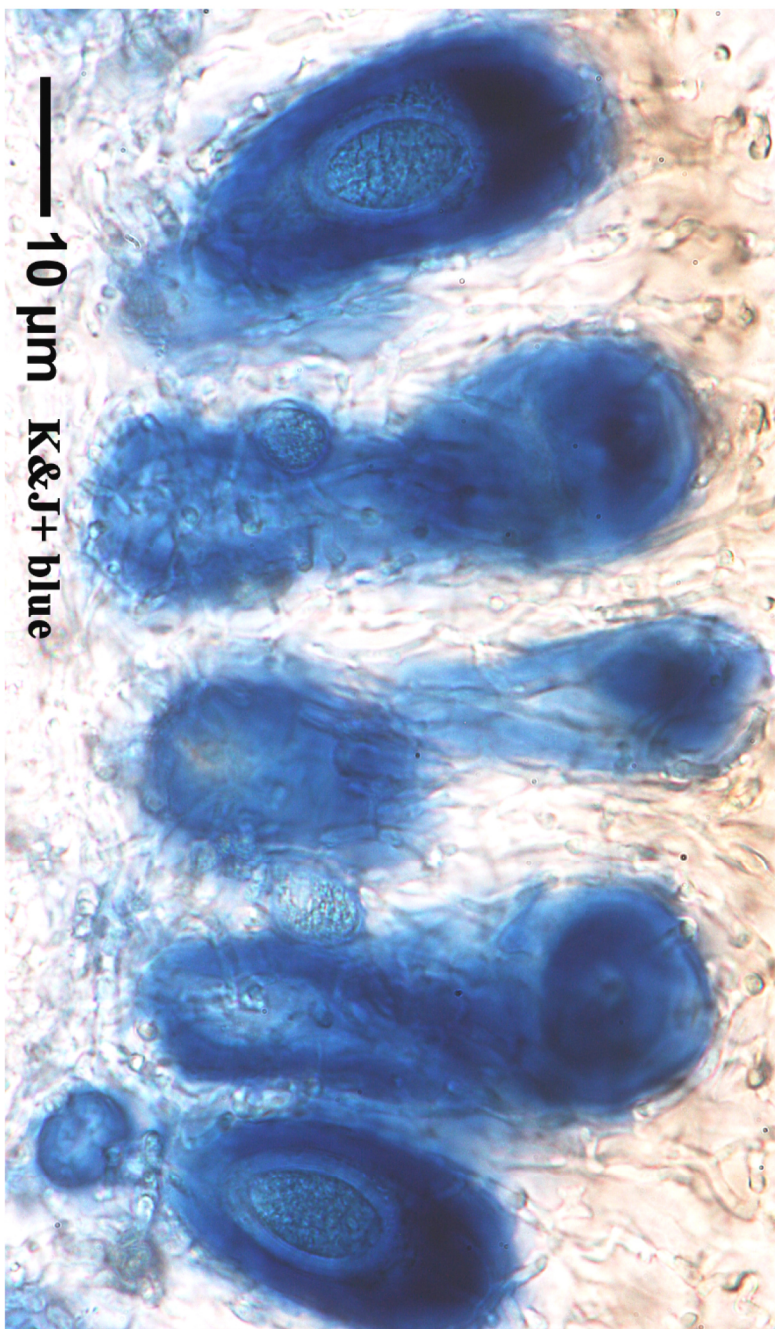
Menegazzia platytrema



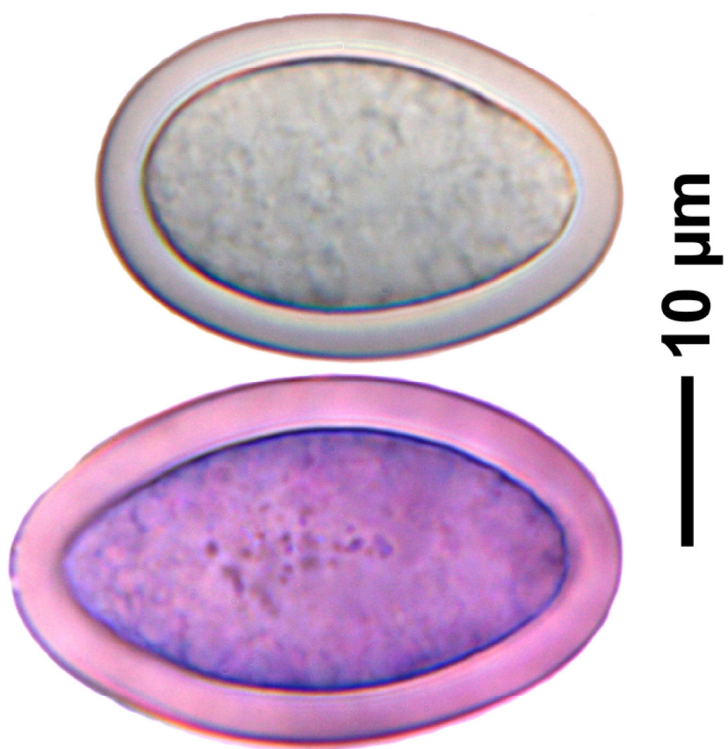
Menegazzia platytrema



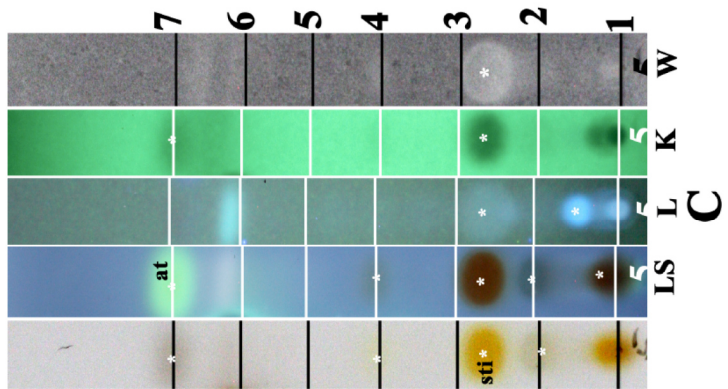
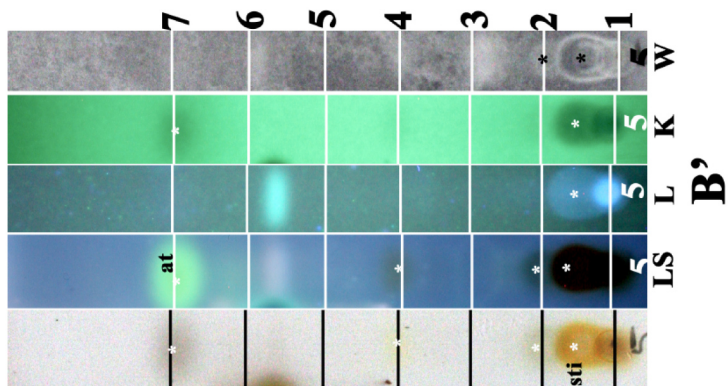
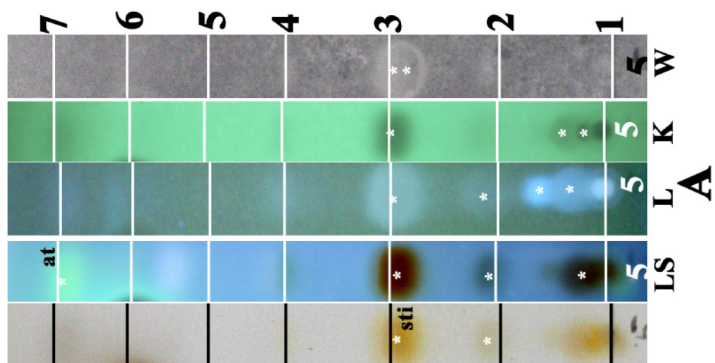
Menegazzia platytrema



Menegazzia platytrema



Menegazzia platytrema



[19076], p299/5

Menegazzia platytrema (Müll. Arg.) R. Sant., Ark. Bot. 30A(no. 11): 13 (1942)
= *Parmelia platytrema* Müll. Arg., Flora, Regensburg 70: 60 (1887)

[19077], Australia, New South Wales, Great dividing Range, 2 km north of Parkers Gap, 10 km east of Captains Flat, 35°37' S, 149°30' E, 1260 m, growing on *Acacia melanoxylon* in wet sclerophyll forest dominated by *Eucalyptus*, *Acacia* and *Bedfordia*. Leg. J. Elix (nr. 10982) & J. Johnston. atranorin (maj), chloroatranorin (min), stictic acid (maj), cryptostictic acid (trace), constictic acid (min), menegazzaic acid (trace), unknown (min) by TLC, anal. J. A. Elix. EX J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI NO. 261.- Own Hptlc p299/6: stictic acid, constictic acid.

Thallus closely appressed, 3—15 cm wide. Lobes inflated, 1-4 mm wide, contiguous to margins, irregularly dichotomously branched, at centre congested-imbricate, somewhat contorted, compacted, convex; secondary lobes unorientated and sometimes obscuring thallus centre. Upper surface smooth, somewhat shining, sometimes becoming rugose towards centre, pale grey or grey, not or little blackened laterally, not or little browned at tips. Cavity pale to purplish black above, uniformly black below. Perforations evenly distributed, gaping, rounded or oval, 1-1.5 mm wide, laminal, flat or somewhat depressed with down-turned margins. Apothecia often crowded, 3-6 mm wide, laminal, shortly pedicellate or sessile; disc concave to flat, scabrid, pale to dark red-brown; exciple smooth, becoming coarsely crenulate. Ascospores 2 per ascus, 45-57 x 25-32 µm; wall 2.5-3.5 µm thick. Pycnidia numerous, immersed, blackish around ostiole, sometimes coalescing and blackening upper surface of lobes. Conidia 6-7 x 0.5 µm. Chemistry: cortex K+ yellow (atranorin); medulla K+ orange-red, C-, P+ orange (stictic, cryptostictic, menegazzaic and norstictic (trace) acids and accessory compounds. Grows on bark on twigs in rainforest, and on bark in wet and dry sclerophyll forest and forest margins, on low shrubs in alpine areas, and on rocks under trees, occasionally spreading onto mosses or soil and then thallus becoming more loosely attached. - Similar to *M. weindorferi* which has smooth, uncoloured apothecial margins and the centre of the thallus tends to be more crowded with short, imbricate lobes. *Menegazzia platytrema* is creamy grey whereas *M. weindorferi* has a bluish tinge in the underlying pale grey colour and is more

abundantly stippled with brown-black pycnidia. *Menegazzia platytrema* is the most common species of the genus in drier scrub areas.



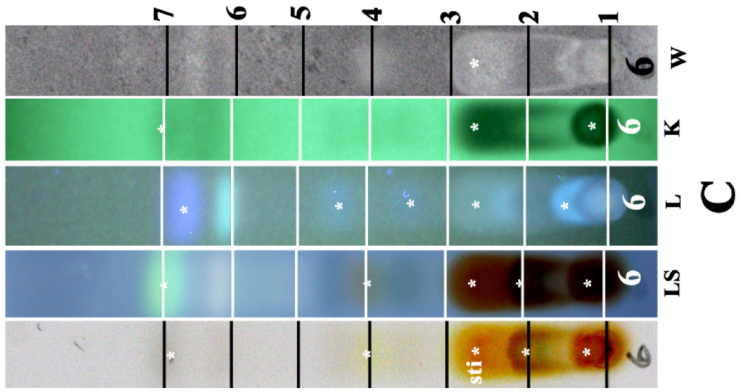
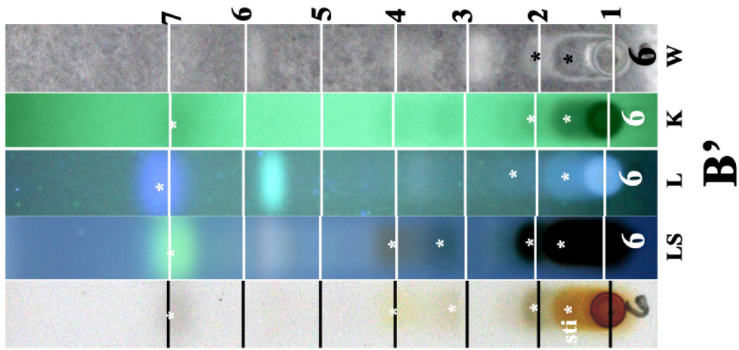
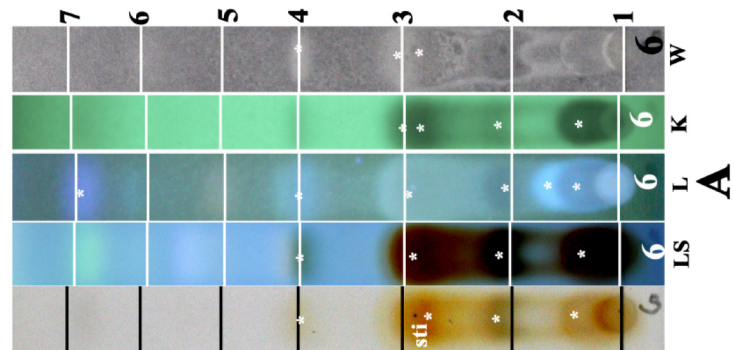
Menegazzia platytrema



Menegazzia platytrema



Menegazzia platytrema



[19077], p299/6

Menegazzia platytrema (Müll. Arg.) R. Sant., Ark. Bot. 30A(no. 11): 13 (1942)
= *Parmelia platytrema* Müll. Arg., Flora, Regensburg 70: 60 (1887)

[15932], Australia, Western Australia, Dwellingup, 32.71462° S, 116.06237° E, 277 m, on bark. Leg. F. Schumm & E. Stocker-Wörgötter, 28.10.2009, det. F. Schumm. Chemistry p368/2: atranorin, nosrietic acid, stictic acid(maj), menegazziaic acid, cryptostictic acid, constictic acid; Medulla white, K+ yellow, P+ orange. Spores hyaline, 2/ascus, 42 x 23 µm, wall 3.8 µm.

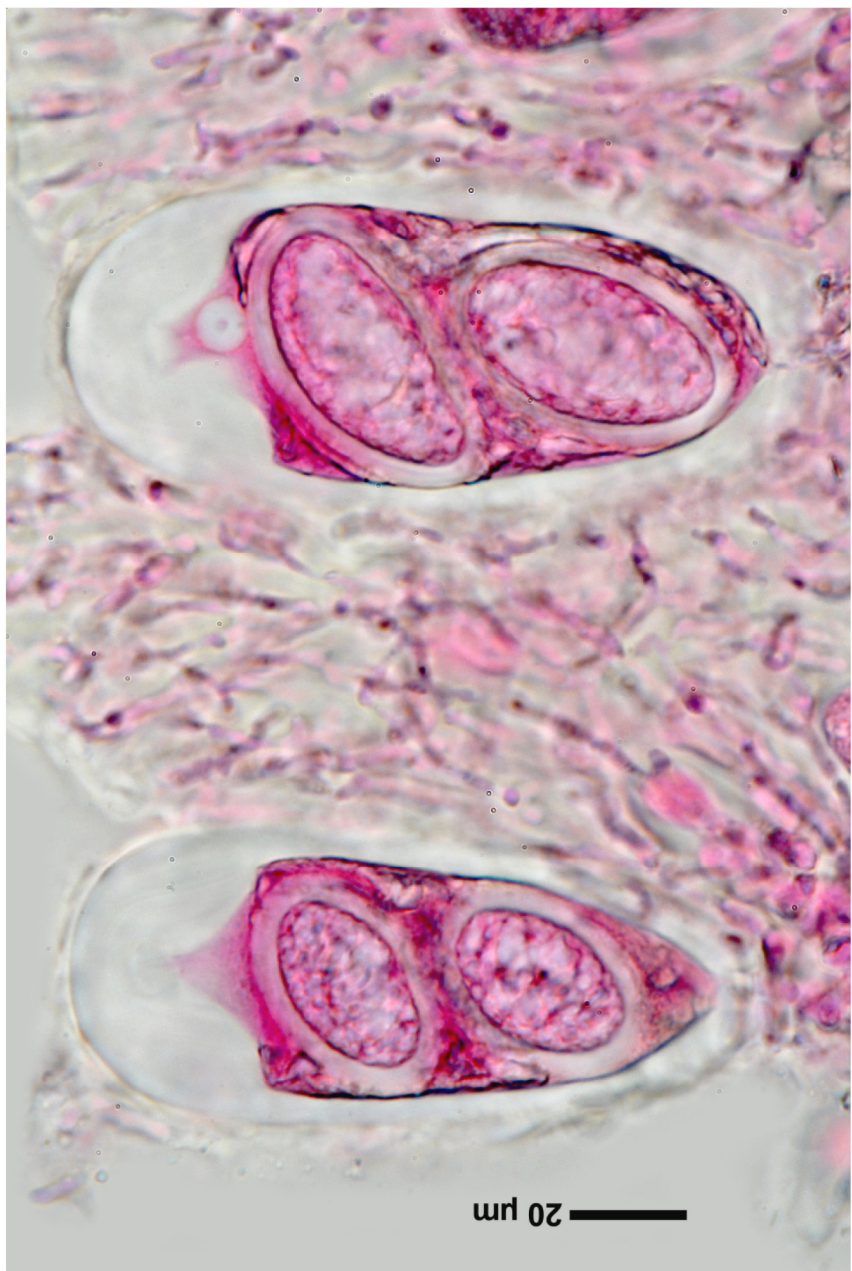
Thallus closely appressed, 3—15 cm wide. Lobes inflated, 1-4 mm wide, contiguous to margins, irregularly dichotomously branched, at centre congested-imbricate, somewhat contorted, compacted, convex; secondary lobes unorientated and sometimes obscuring thallus centre. Upper surface smooth, somewhat shining, sometimes becoming rugose towards centre, pale grey or grey, not or little blackened laterally, not or little browned at tips. Cavity pale to purplish black above, uniformly black below. Perforations evenly distributed, gaping, rounded or oval, 1-1.5 mm wide, laminal, flat or somewhat depressed with down-turned margins. Apothecia often crowded, 3-6 mm wide, laminal, shortly pedicellate or sessile; disc concave to flat, scabrid, pale to dark red-brown; exciple smooth, becoming coarsely crenulate. Ascospores 2 per ascus, 45-57 x 25-32 µm; wall 2.5-3.5 µm thick. Pycnidia numerous, immersed, blackish around ostiole, sometimes coalescing and blackening upper surface of lobes. Conidia 6-7 x 0.5 µm. Chemistry: cortex K+ yellow (atranorin); medulla K+ orange-red, C-, P+ orange (stictic, cryptostictic, menegazziaic and norstictic (trace) acids and accessory compounds. Grows on bark on twigs in rainforest, and on bark in wet and dry sclerophyll forest and forest margins, on low shrubs in alpine areas, and on rocks under trees, occasionally spreading onto mosses or soil and then thallus becoming more loosely attached. - Similar to *M. weindorferi* which has smooth, uncoloured apothecial margins and the centre of the thallus tends to be more crowded with short, imbricate lobes. *Menegazzia platytrema* is tcreamy grey whereas *M. weindorferi* has a bluish tinge in the underlying pale grey colour and is more abundantly stippled with brown-black pycnidia. *Menegazzia platytrema* is the most common species of the genus in drier scrub areas.



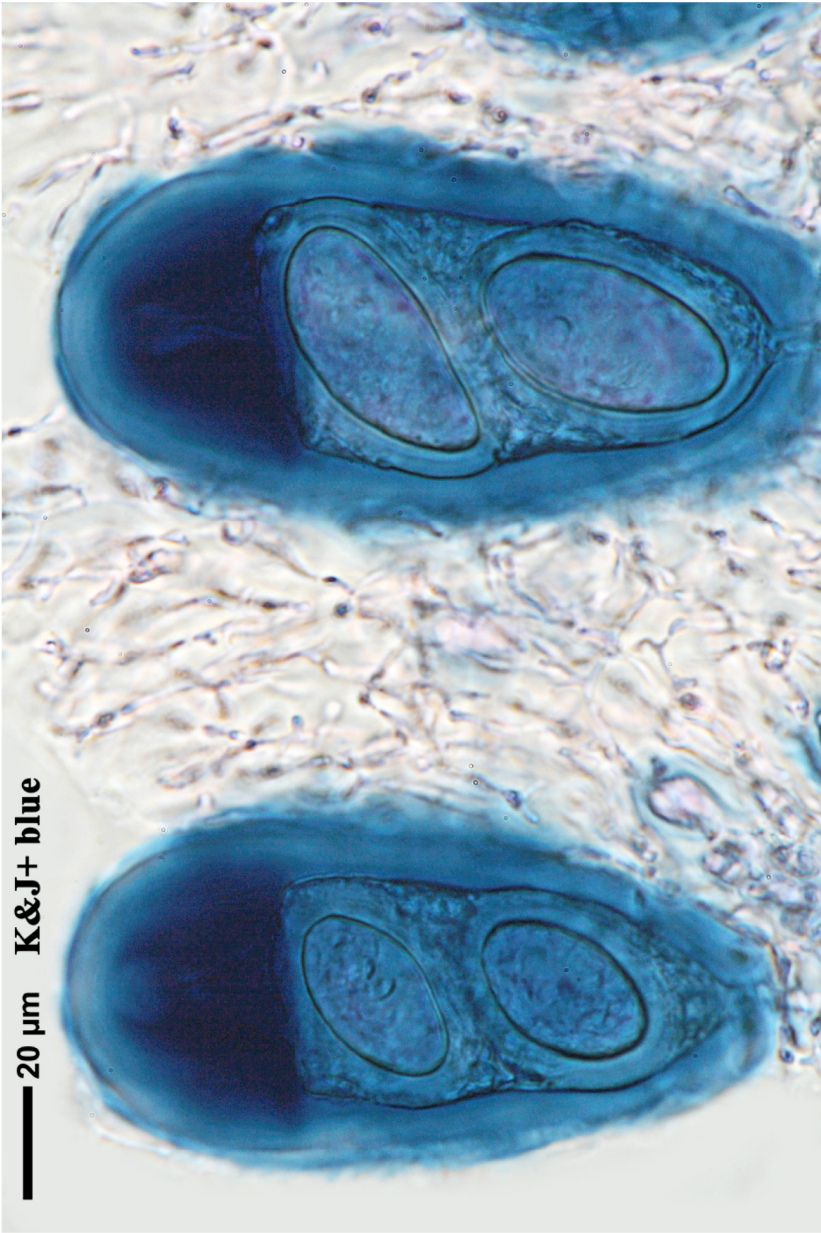
Menegazzia platytrema



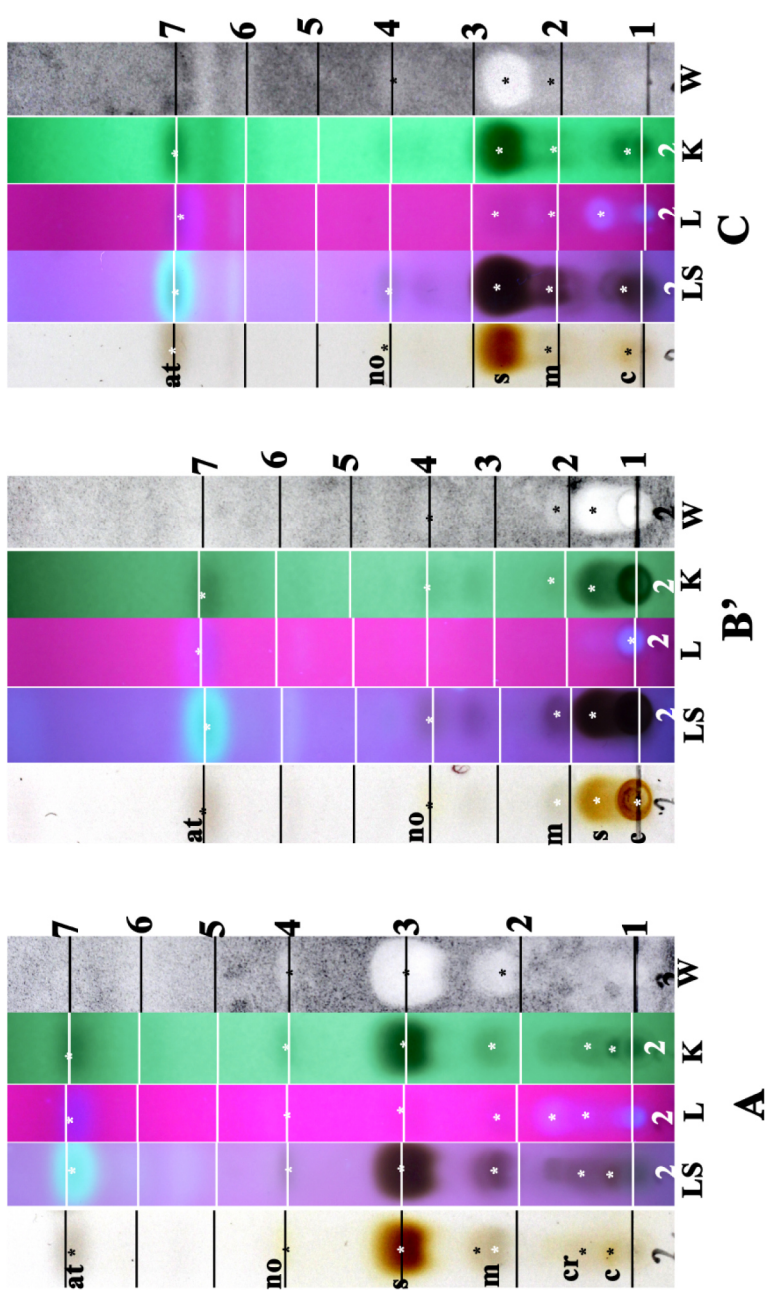
Menegazzia platytrema



Menegazzia platytrema



Menegazzia platytrema



[15932], p368/2

Menegazzia platytrema

Menegazzia subpertusa P. James & D.J. Galloway, in Galloway, N.Z. Jl Bot. 21(2): 195 (1983)
= *Menegazzia magellanica* R. Sant., Ark. Bot. 30A(no. 11): 23 (1942)

[819078]. New Zealand, South Island, Canterbury, eastern entrance to Arthurs Pass National Park, growing on trunk of *Nothofagus fusca* in open *Nothofagus* woodland, 670 m. Leg. J.A. Elix (nr. 19022) & J. Johnston, 4.03.1985. Chemistry atranorin, chloroatranorin, stictic acid (maj), constictic acid (min), norstictic acid (tace), cryptostictic acid (trace), unknown (trace) by TLC, anal. J. Johnston. Ex J. A. ELIX: LICHENES AUSTRALASICI EXSICCATI No. 110. Own HPTLC 299/7: stictic acid.

Menegazzia subpertusa is characterised by: the corticolous habit; the neat, shortly radiating thallus rosettes with individual lobes +discrete from margins to centre; 2-spored asci; roughened-wrinkled upper surface; soredia not associated with perforations; and stictic acid in the medulla. It resembles the predominantly Northern Hemisphere species *M. terebrata* (Hoffm.) Massal., but this latter species has a smoother thallus surface and the morphology of the soralia is different. Chemistry: Cortex K+ yellow; medulla K+ yellow-orange, C-, KC+ orange, Pd+ orange; containing atranorin, chloroatranorin, stictic acid (major), constictic acid (minor), norstictic acid (tr.) and cryptostictic acid(tr.).



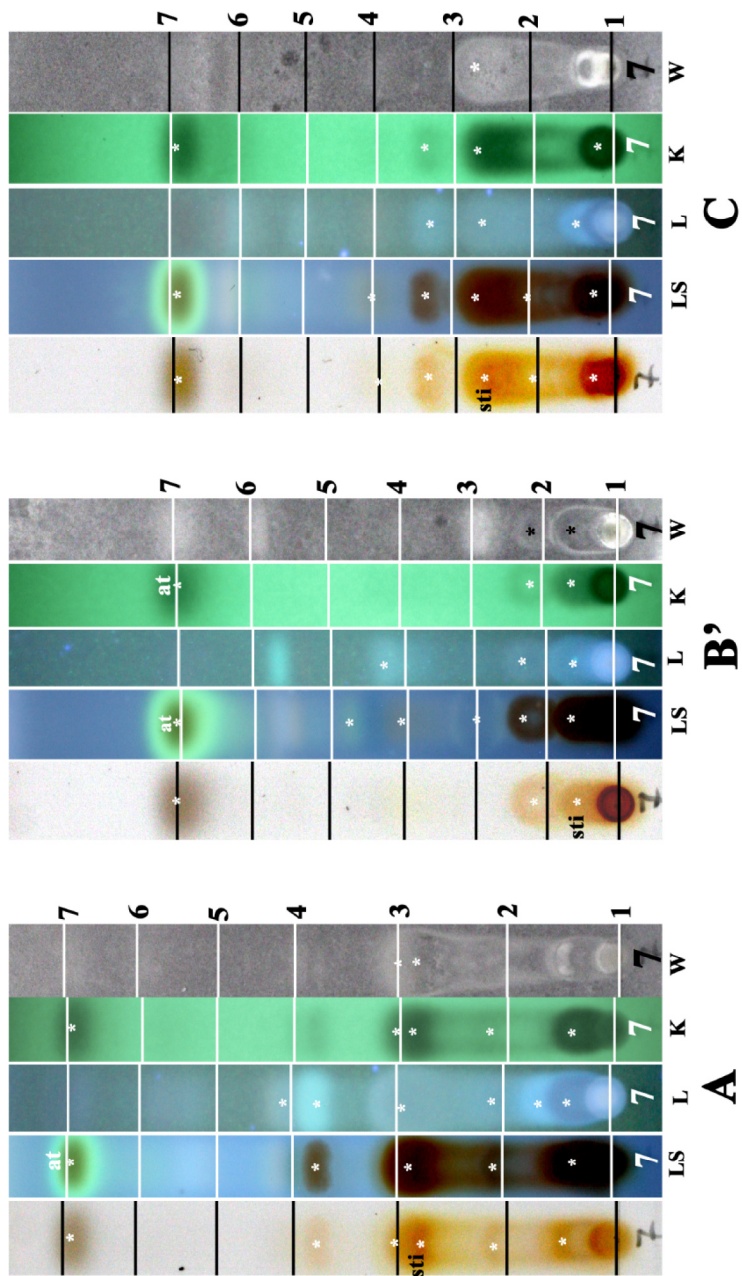
Menegazzia subpertusa



Menegazzia subpertusa



Menegazzia subpertusa



[19078], p299/7

Menegazzia subpertusa

Menegazzia retipora (Stirt.) Bitter, Hedwigia 40: 172 (1901)

= ***Menegazzia myriotrema*** (Müll. Arg.) P. James, in James & Galloway 1992

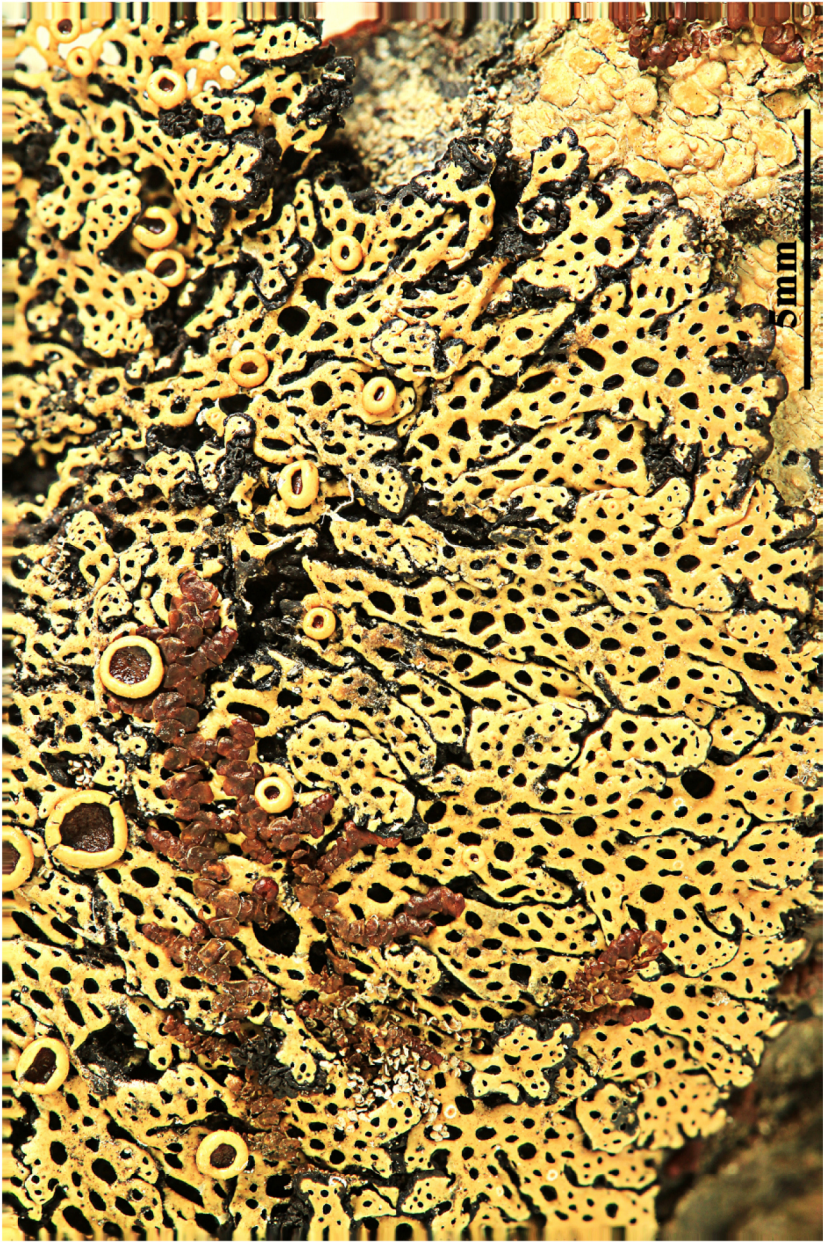
= *Parmelia myriotrema* Müll.Arg., Bull. Herb. Boissier 4: 91 (1896)

[VZ018], Australia, Tasmania. Sumac Rd., Horton River, 230 m. Ad corticem arboris Nozhofagus cuningfamii in pluvlisilva. Leg. G. Kantvilas (no 605/84), 05.04.1984. EX A. VěZDA: LICHENES SELECTI EXSICCATI NR. 2018.

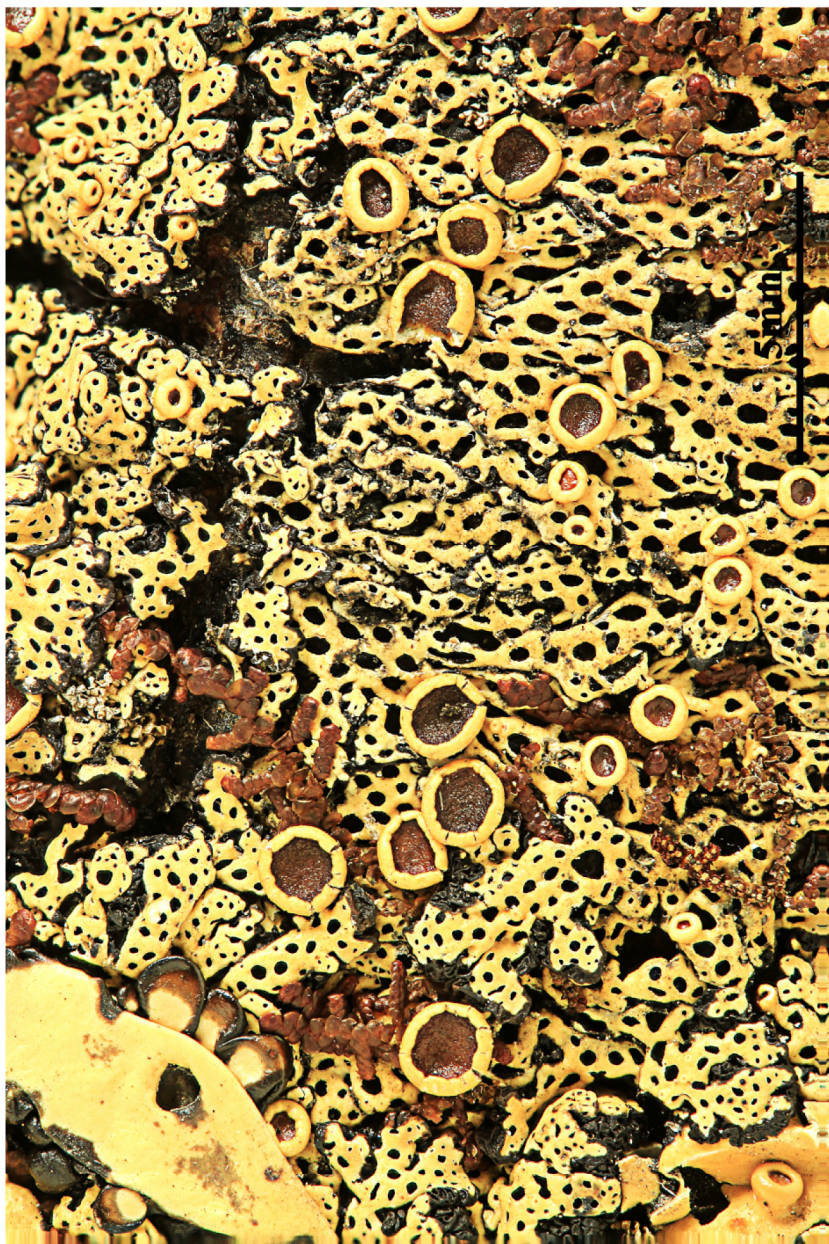
hallus forming small rosettes or irregular patches, 3–8 cm wide, closely attached. Lobes radiating, flabellate, mostly to 1 mm wide, divergent, with obscure branching, contiguous or imbricate, hollow, green-grey, without isidia, maculae or soredia; margins smooth or notched; upper part of cavity pale or whitish, lower part grey or black. Perforations numerous, laminal, many per lobe, rounded, oval or sometimes irregularly level with surface, less than 1 mm wide, rather regular. Apothecia scattered, laminal, sessile, rounded, to 2 mm wide; disc matt or slightly roughened, epruinose, pale to dark red-brown; exciple often fissured, smooth to unevenly crenulate. Ascospores 1–2 per ascus, 45–60 × 25–32 µm; wall 3.5–4 µm thick. CHEMISTRY: cortex K+ yellow (atranorin); medulla K+ orange, KC+ orange, C-, P+ orange (stictic and cryptostictic acids, sometimes ?lecanoric acid but lacking constictic acid or menegazziaic acid). - Occurs in Vic. and Tas., on bark; common and widespread on canopy twigs in rainforest, rare outside rainforest; endemic.



Menegazzia retipora



Menegazzia retipora

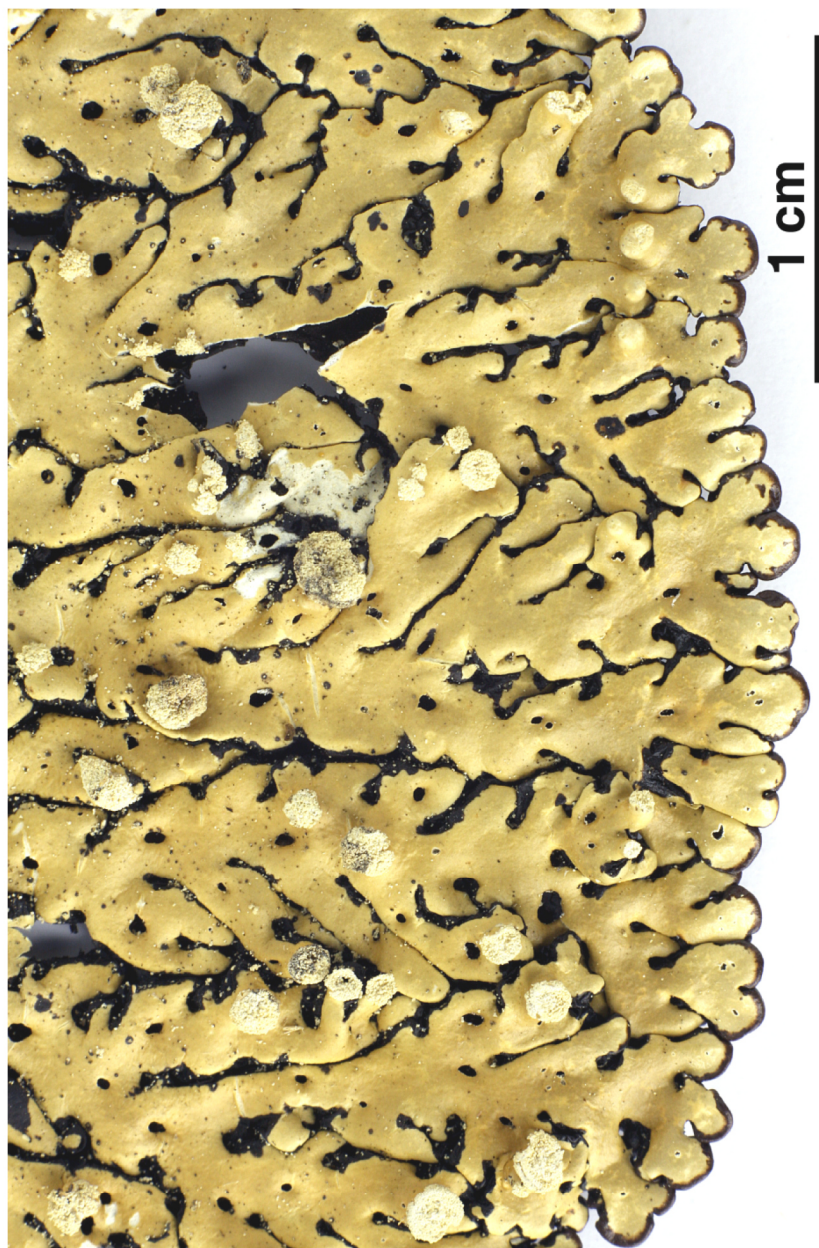


Menegazzia retipora

- Menegazzia terebrata*** (Hoffm.) A. Massal., Neogenea Lich: 1 (1854)
 = *Hypogymnia pertusa* (Schaer.) Nyl., Lich. Envir. Paris: 39 (1896)
 = *Imbricaria diatrypa* (Ach.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3 (Paris) 2: 393 (1805)
 = *Imbricaria pertusa* (Schaer.) Arnold, Flora, Regensburg 67(9): 162 (1884)
 = *Imbricaria physodes* var. *terebrata* (Hoffm.) Schwend., in Naegeli, Beitr. wiss. Botan. 3: 160, tab. VIII, fig. 5 (1863)
 = *Imbricaria terebrata* (Hoffm.) Körb., Lichenogr. germ. (Breslau): 12 (1846)
 = *Lichen diatrypus* Ach., Lich. suec. prodr. (Linköping): 116 (1799) [1798]
 = *Lichen pertusus* Schrank, Baier. Fl. (München) 2: 519 (1789)
 = *Lobaria physodes* var. *diatrypa* (Ach.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 248 (1839)
 = *Lobaria terebrata* Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 151 (1796) [1795]
 = *Menegazzia diatrypa* (Ach.) A. Massal., Atti Inst. Veneto Sci. lett., ed Arti, Sér. 3 5: 247 (1860) [1859-1860]
 = *Menegazzia pertusa* (Schaer.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 78 (1879)
 = *Parmelia ceratophylla* var. *pertusa* (Schaer.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 58 (1845)
 = *Parmelia diatrypa* (Ach.) Ach., Methodus, Sectio post. (Stockholmiaë): 251 (1803)
 = *Parmelia diatrypea* (Ach.) Ach., Methodus, Sectio post. (Stockholmiaë): 251 (1803)
 = *Parmelia pertusa* Schaer., Lich. helv. spicil. 10: 457 (1840)
 = *Parmelia physodes* f. *diatrypa* (Ach.) Nyl., Bot. Notiser(10-11): 155 (1853)
 = *Parmelia physodes* var. *diatrypa* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 603 (1830)
 = *Parmelia physodes* var. *pertusa* (Schaer.) Boistel, Nouv. Fl. Lich. (Paris): 36 (1896)
 = *Parmelia physodes* var. *terebrata* (Hoffm.) Torss., Enum. Lich. Byssac. Scand. (Upsaliae): 10 (1843)
 = *Parmelia terebrata* (Hoffm.) Mart., Fl. crypt. erlang. (Nürnberg): 211 (1817)
 = *Physcia diatrypa* (Ach.) Gray, Nat. Arr. Brit. Pl. (London) 1: 436 (1821)
 = *Physcia terebrata* (Hoffm.) Frege, Deutsch. Botan. Taschenb. 2: 169 (1812)

81052], Österreich, Land Salzburg, Steir. Salzkammergut, Mitterndorf bei der Sonnenalm . Leg. F. Schumm, 06.1967, det. F. Schumm, 1967, conf. Dr. Alwin Schade.

Thallus foliose, heteromerous, dorsiventral, forming up to 10 cm wide, regular rosettes, but often dying in central parts, the lobes closely adnate, up to 2(-2.5) mm wide, rounded at apices, contiguous for much of their length, swollen and hollow inside, grey to greenish grey, often brownish at the ends and along margins, smooth and glossy, with round to oval, mostly <1 mm wide, dark perforations, and whitish, rounded, more or less stalked, capitate, to 1.5 mm wide, not marginally proliferating soralia which later often become ring-shaped, with a central opening. Lower surface black, wrinkled, erhizinate. Upper cortex paraplectenchymatous, the cell walls with isolichenan; medulla soon becoming hollow, lining the cavity inside the lobes; lower cortex dark, paraplectenchymatous. Apothecia extremely rare, lecanorine, with a brown disc and a persistent thalline margin. Epithecium brown, non-granular; hymenium colourless, I+ blue; paraphyses richly branched and anastomosing; hypothecium colourless, of thick-walled, conglutinated hyphae. Asci 2-spored, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 50-70 x 30-36 μm , thick-walled. Pycnidia very rare, black, immersed. Conidia c. 5 x 1 μm . Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-, P-; medulla K+ yellow, C-, KC-, P+ yellow-orange, UV-. Chemistry: upper cortex with atranorin, medulla with stictic, constictic, menegazziaic acids, with or without low amounts of norstictic acid. Note: on bark in humid beech-fir forests.



Menegazzia terebrata

- Menegazzia terebrata*** (Hoffm.) A. Massal., Neogenea Lich: 1 (1854)
 = *Hypogymnia pertusa* (Schaer.) Nyl., Lich. Envir. Paris: 39 (1896)
 = *Imbricaria diatrypa* (Ach.) DC., in Lamarck & de Candolle, Fl. franç., Edn 3 (Paris) 2: 393 (1805)
 = *Imbricaria pertusa* (Schaer.) Arnold, Flora, Regensburg 67(9): 162 (1884)
 = *Imbricaria physodes* var. *terebrata* (Hoffm.) Schwend., in Naegeli, Beitr. wiss. Botan. 3: 160, tab. VIII, fig. 5 (1863)
 = *Imbricaria terebrata* (Hoffm.) Körb., Lichenogr. germ. (Breslau): 12 (1846)
 = *Lichen diatrypus* Ach., Lich. suec. prodr. (Linköping): 116 (1799) [1798]
 = *Lichen pertusus* Schrank, Baier. Fl. (München) 2: 519 (1789)
 = *Lobaria physodes* var. *diatrypa* (Ach.) Fürnr., Naturhist. Topogr. Regensburg (Regensburg) 2: 248 (1839)
 = *Lobaria terebrata* Hoffm., Deutschl. Fl., Zweiter Theil (Erlangen): 151 (1796) [1795]
 = *Menegazzia diatrypa* (Ach.) A. Massal., Atti Inst. Veneto Sci. lett., ed Arti, Sér. 3 5: 247 (1860) [1859-1860]
 = *Menegazzia pertusa* (Schaer.) Stein, in Cohn, Krypt.-Fl. Schlesien (Breslau) 2(2): 78 (1879)
 = *Parmelia ceratophylla* var. *pertusa* (Schaer.) Rabenh., Deutschl. Krypt.-Fl. (Leipzig) 2(1): 58 (1845)
 = *Parmelia diatrypa* (Ach.) Ach., Methodus, Sectio post. (Stockholmiaë): 251 (1803)
 = *Parmelia diatrypea* (Ach.) Ach., Methodus, Sectio post. (Stockholmiaë): 251 (1803)
 = *Parmelia pertusa* Schaer., Lich. helv. spicil. 10: 457 (1840)
 = *Parmelia physodes* f. *diatrypa* (Ach.) Nyl., Bot. Notiser(10-11): 155 (1853)
 = *Parmelia physodes* var. *diatrypa* (Ach.) Duby, Bot. Gall., Edn 2 (Paris) 2: 603 (1830)
 = *Parmelia physodes* var. *pertusa* (Schaer.) Boistel, Nouv. Fl. Lich. (Paris): 36 (1896)
 = *Parmelia physodes* var. *terebrata* (Hoffm.) Torss., Enum. Lich. Byssac. Scand. (Upsaliae): 10 (1843)
 = *Parmelia terebrata* (Hoffm.) Mart., Fl. crypt. erlang. (Nürnberg): 211 (1817)
 = *Physcia diatrypa* (Ach.) Gray, Nat. Arr. Brit. Pl. (London) 1: 436 (1821)
 = *Physcia terebrata* (Hoffm.) Frege, Deutsch. Botan. Taschenb. 2: 169 (1812)

[1046]. Österreich, Land Salzburg, Steir. Salzkammergut, Mitterndorf bei der Sonnenalm, an Laubbaum in Richtung Kampl. Leg. F. Schumm, 31.12.1968, det. F. Schumm, 1968. Chemistry p138/2: atranorin, stictic acid (major), menegazzaic acid (major), connorstictic acid (minor), constictic acid (major), norstictic acid (trace).

Thallus foliose, heteromerous, dorsiventral, forming up to 10 cm wide, regular rosettes, but often dying in central parts, the lobes closely adnate, up to 2(-2.5) mm wide, rounded at apices, contiguous for much of their length, swollen and hollow inside, grey to greenish grey, often brownish at the ends and along margins, smooth and glossy, with round to oval, mostly <1 mm wide, dark perforations, and whitish, rounded, more or less stalked, capitate, to 1.5 mm wide, not marginally proliferating soralia which later often become ring-shaped, with a central opening. Lower surface black, wrinkled, erhizinate. Upper cortex paraplectenchymatous, the cell walls with isolichenan; medulla soon becoming hollow, lining the cavity inside the lobes; lower cortex dark, paraplectenchymatous. Apothecia extremely rare, lecanorine, with a brown disc and a persistent thalline margin. Epithecium brown, non-granular; hymenium colourless, I+ blue; paraphyses richly branched and anastomosing; hypothecium colourless, of thick-walled, conglutinated hyphae. Asci 2-spored, Lecanora-type. Ascospores 1-celled, hyaline, ellipsoid, 50-70 x 30-36 µm, thick-walled. Pycnidia very rare, black, immersed. Conidia c. 5 x 1 µm. Photobiont chlorococcoid. Spot tests: upper cortex K+ yellow, C-, KC-, P-; medulla K+ yellow, C-, KC-, P+ yellow-orange, UV-. Chemistry: upper cortex with atranorin, medulla with stictic, constictic, menegazzaic acids, with or without low amounts of norstictic acid. Note: on bark in humid beech-fir forests.

Menegazzia terebrata



Menegazzia terebrata



Menegazzia terebrata

Menegazzia weindorferi (Zahlbr.) R. Sant., Ark. Bot. 30A(no. 11): 12 (1942)

= *Parmelia weindorferi* Zahlbr., Annls mycol. 4(6): 489 (1907)

[19078], New Zealand, South Island, Canterbury, eastern entrance to Arthurs Pass National Park, growing on trunk of *Nothofagus fusca* in open *Nothofagus* woodland, 670 m. Leg. J. A. Elix (nr. 19022) & J. Johnston, 4.03.1985. Chemistry: atranorin, chloroatranorin, stictic acid (maj), constictic acid (min), norstictic acid (tace), cryptostictic acid (trace), unknown (trace) by TLC, anal. J. Johnston. E. J.A. ELIX: LICHENES AUSTRALASICI EXSICCATI No. 110. - Own HPTLC p299/7: stictic acid.

Thallus closely attached, to 20 cm wide. Lobes hollow; marginal lobes often radiating, contiguous, irregularly or subdichotomously branched, occasionally palmate; central lobes +contorted, with random overlapping laterals, 1-3 mm wide, without isidia or soredia, pale grey or pale bluish grey, often browned only at edges or tips but sometimes dark brownblotched; upper side of cavity pale, rarely suffused greyish; lower surface of cavity greyish purple, to black. Perforations to 1.5 mm wide, frequent; margins level with surface, eventually depressed and perforations gaping, rounded or oval. Lower surface rugosecrumpled, black. Apothecia often abundant, often top-shaped, sessile to pedicellate, 3-6 mm wide; disc convex to flat, epruinose, pale red-brown to brown-black; exciple often at first radiate-fissured, sometimes becoming scabrous. Pycnidia absent in some thalli to numerous. Ascospores 8 per ascus, 30-40 x 18-24 µm; wall 3.5 µm thick. Chemistry: protolichesterinic and lichesterinic acids and atranorin; medulla K-, P, C-, KC-, UV-. An endemic species in lowland to subalpine Vic. and Tas. Very common and widespread in open habitats, on canopy branches and on upper trunks of trees, sometimes spreading to mosses, more rarely on amp mossy rocks and soil. An extremely variable species; similar to the stictic acid aggregate-containing species *M. platytrema* but with a rather more waxy, smooth surface, a different chemistry, and apothecial margins that are marked by faint radial lines that become scabrid and discoloured brownish; the upper surface has a bluish tinge in the underlying pale grey colour and is more abundantly stippled with brown-black pycnidia. The status of this species and of *M. pertransita* (Stirt.) R.Sant. from N.Z. needs further investigation.



Menegazzia weindorferi



Menegazzia weindorferi



Menegazzia weindorferi



Menegazzia weindorferi

— 10 μm



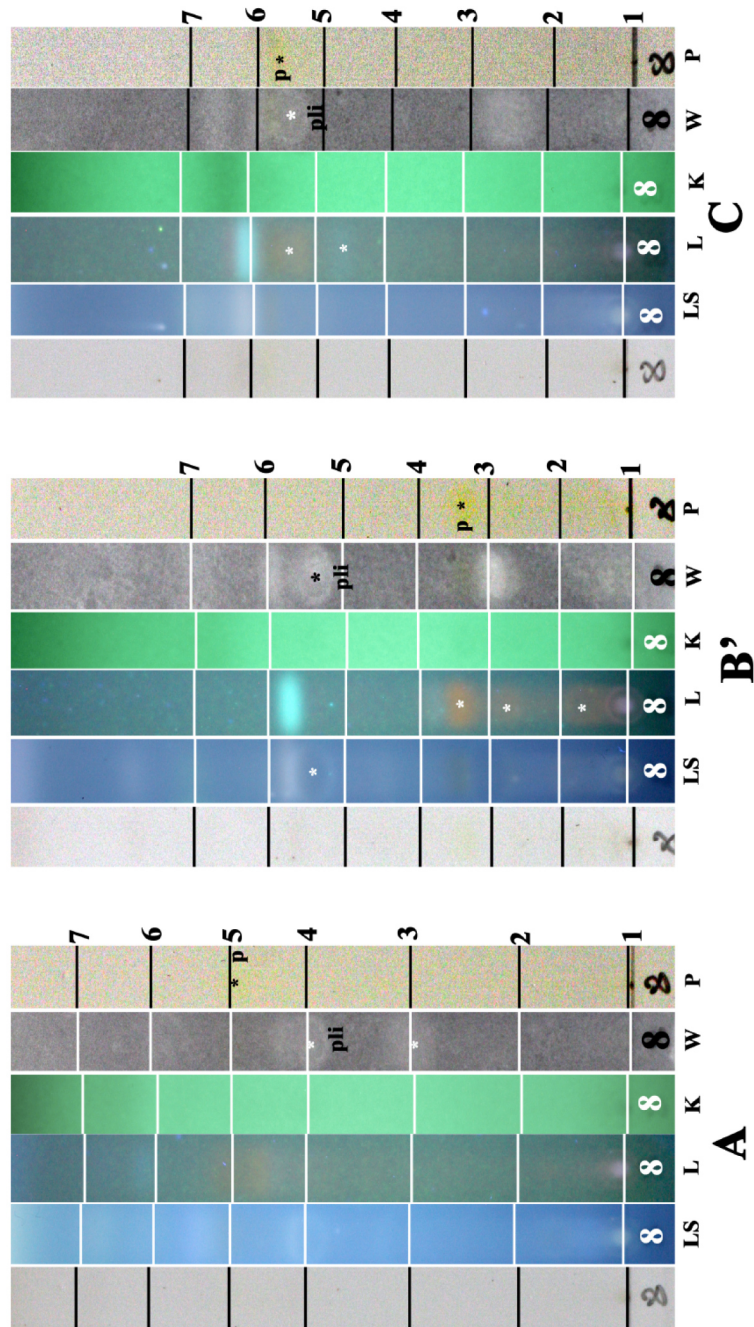
Menegazzia weindorferi



Menegazzia weindorferi



Menegazzia weindorferi



[19079], p299/8

Menegazzia weindorferi

Images of Lichens Vol. 16 (Menegazzia)

H

Hypogymnia pertusa (Schaer.) Nyl..... 94, 97

I

Imbricaria diatrypa (Ach.) DC..... 94, 97

Imbricaria pertusa (Schaer.) Arnold..... 94, 97

Imbricaria physodes var. terebrata (Hoffm.) Schwend..... 94, 97

Imbricaria terebrata (Hoffm.) Körb..... 94, 97

L

Lichen diatrypus Ach..... 94, 97

Lichen pertusus Schrank..... 94, 97

Lobaria physodes var. diatrypa (Ach.) Fűrnr..... 94, 97

Lobaria terebrata Hoffm..... 94, 97

M

Menegazzia circumsorediata R. Sant..... 3

Menegazzia confusa P. James..... 6

Menegazzia conica P. James..... 13

Menegazzia diatrypa (Ach.) A. Massal..... 94, 97

Menegazzia fertilis P. James..... 16

Menegazzia foraminulosa (Kremp.) Bitter..... 25

Menegazzia globulifera R. Sant..... 32

Menegazzia grandis P. James..... 36

Menegazzia magellanica R. Sant..... 85

Menegazzia malesiana Elix, Bawingan & Schumm..... 43, 46

Menegazzia myriotrema (Müll. Arg.) P. James..... 90

Menegazzia pertransita (Stirt.) R. Sant..... 51, 59

Menegazzia pertusa (Schaer.) Stein..... 94, 97

Menegazzia platytrema (Müll. Arg.) R. Sant..... 63, 74, 79

Menegazzia retipora (Stirt.) Bitter..... 90

Menegazzia subpertusa P. James & D.J. Galloway..... 85

Menegazzia terebrata (Hoffm.) A. Massal..... 94, 97

Menegazzia weindorferi (Zahlbr.) R. Sant..... 101

Menegazzia weindorferi f. endocitrina (Hillmann) R. Sant..... 51, 59

P

Parmelia ceratophylla var. pertusa (Schaer.) Rabenh..... 94, 97

Parmelia diatrypa (Ach.) Ach..... 94, 97

Parmelia diatrypea (Ach.) Ach..... 94, 97

Parmelia foraminulosa Kremp..... 25

Parmelia myriotrema Müll.Arg..... 90

Parmelia pertransita Stirt..... 51, 59

Parmelia pertusa Schaer..... 94, 97

<i>Parmelia physodes</i> f. <i>diatrypa</i> (Ach.) Nyl.....	94, 97
<i>Parmelia physodes</i> var. <i>diatrypa</i> (Ach.) Duby.....	94, 97
<i>Parmelia physodes</i> var. <i>pertusa</i> (Schaer.) Boistel.....	94, 97
<i>Parmelia physodes</i> var. <i>terebrata</i> (Hoffm.) Torss.....	94, 97
<i>Parmelia platytrema</i> Müll. Arg.....	63, 74, 79
<i>Parmelia terebrata</i> (Hoffm.) Mart.....	94, 97
<i>Parmelia weindorferi</i> f. <i>endocitrina</i> Hillmann.....	51, 59
<i>Parmelia weindorferi</i> Zahlbr.....	101
<i>Physcia diatrypa</i> (Ach.) Gray.....	94, 97
<i>Physcia terebrata</i> (Hoffm.) Frege.....	94, 97