

THUNBERGIA

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LICHENES SELECTI EXSICCATI UPSALIENSIS

Fasc. 1 (Nos 1-25)

Published 8 December 1986

ISSN-0283-2275

DISTRIBUTED BY THE HERBARIUM, UNIVERSITY OF UPPSALA

THUNBERGIA is the continuation of Publications from the Herbarium, University of Uppsala, which appeared in 19 numbers.

The name is given in memory of Carl Peter Thunberg, a disciple of Linnaeus and a famous traveller to South Africa and Japan. His collections, about twentyseven thousand sheets, were transferred to our University in 1785, and became the foundation of the botanical museum. Thunberg succeeded Linnaeus filius as professor in 1785 and held the professorship to his death in 1828.

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LICHENES SELECTI EXSICCATI UPSALIENSIS

1. *Anzia afromontana* R. Sant. nov. spec. Isotypus

Anziae americanae Yoshimura & Sharp similis sed thallus soraliis laminalibus primo punctiformibus postremo vesiculariformibus instructus.

TANZANIA. Arusha Prov., Mt Meru, E slope, c. 2 km N of Kitoto Camp. 3°13'S 36°47'E. Alt. c. 2450 m. On Stoebe kilimandscharica in a high and rather dense ericaceous bush land (montane forest belt).

7.I.1971 det. R. Santesson (n. 22949)
(holotype in UPS)

Thallus corticolous, loosely adnate, up to 6 cm broad, dichotomously branched, pale grey. Lobes narrow, linear, 0.5 - 1.5 mm broad. Soralia starting as small white points on the upper side of distal lobes, penetrating the cortex and finally forming urn-shaped structures with a soresiate inner surface. Lower side of the lobes with a brownish black to black, thick spongy cushion up to 1 mm. The spongy tissue formed by a loose reticulum of brown, 10-12 µm thick hyphae. A central chondroidal nerve immersed in the medulla. Apothecia not seen. Chemistry: atranorin and divaricatic acid.

A. afromontana belongs to the Nervosae group of *Anzia*. It is known from many places in the East African mountains in Kenya and Tanzania, mainly between 2000 and 3300 m altitude and also from Ethiopia (comm. H. Krog) and Chile (comm. A. Henssen). - R.S.

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2. *Caloplaca citrina* (Hoffm.) Th. Fr.

Nova Acta R. Soc. Scient. Upsal. 3: 218, 1860. - Verrucaria citrina Hoffm., Deutschl. Flora: 198, 1796.

AUSTRALIA. Western Australia Distr., Porongurup National Park, 21 km ESE of Mount Barker, 0.2 km E of Hayward Peak. 34°41'S 117°53'E. Alt. c. 520 m. On decaying bark of Eucalyptus.

13.X.1983 leg. & det. L. Tibell (n. 14157)

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3. *Cladonia squamosula* Müll.Arg.

Flora 1883: 19.

AUSTRALIA. Western Australia Distr., Porongurup National Park, 19 km ESE of Mount Barker, 0.7 km E of Mira Flores Hut. 34°41'S 117°52'E. Alt. c. 340 m. On log of Eucalyptus diversicolor.

13.X.1983 leg. & det. L. Tibell (n. 14127)

LICHENES SELECTI EXSICCATI UPSALIENSIS

4. *Coccocarpia smaragdina* Pers.

Lichenes. - In Gaudichaud, Voyage autour du monde: 206, 1826.

AUSTRALIA. Queensland Distr., Eungella National Park, 15 km NE of Eungella. Subtropical rainforest fringe. 21°02'S 148°25'E. Alt. c. 960 m. On bark of Archontophoenix cunninghamii by a stream.

11.XI.1983 leg. & det. L. Tibell (n. 14739)

LICHENES SELECTI EXSICCATI UPSALIENSIS

5. *Dermatocarpon bachmannii* Anders

Hedwigia 63: 271, 1922.

SWEDEN. Åsele Lappmark, Vilhelmina par., Mt Röberg (c. 12 km E of Mt. Klimpfjäll, N of Lake Kultsjön. 65°03'N 15°00'E. Alt. c. 600 m. On seepage on almost vertical serpentine rocks.

13.VII.1970 leg. & det. R. Santesson (n. 22419)

Note: New to Scandinavia. Locality illustrated in Fig. 11 in O. Rune, Acta Phytogeogr. Suec. 31: 22, 1953. D. bachmannii v. inundatum Klem. is a different species, viz. D. meiophyllizum Vain.

LICHENES SELECTI EXSICCATI UPSALIENSIS

6. *Hypocenomyce leucococca* R. Sant. nov. spec. Isotype

Thallus albus aut albido-cinereascens, disperso-areolatus, hypothallo indistincto. Soralia cinereo-albida, marginalia labri-formia aut laminalia globosa. Thallus C+ rubra, K+ flava, P+ flava; acidum alectorialicum continens.

SWEDEN. Härjedalen Prov., Tännäs par., c. 1 km E of Ramundbergets Fjällgård. 63°42'N 12°25'E. Alt. c. 750 m. On the trunk of a birch in the subalpine birch forest.

5.VIII.1977 det. R. Santesson (n. 27901)
(holotype in UPS)

Thallus effuse, epiphloeodal, formed by usually ± scattered areolae; hypothallus usually indistinct. Areolae round to somewhat elongate and slightly effigurate, up to 0.5 (-1.0) mm across, flat to convex and sometimes slightly constricted at the base, white to whitish grey, after some years in herbarium often pink or brownish, sorediate. Soralia greyish white to pale greenish, marginal and ± labri-form or covering the whole areola, rounded to globose with farinose soredia. Medulla white. Photobiont: unicellular green algae, 10-15 µm diam. Apothecia and pycnidia unknown. Chemistry: alectorialic acid. H. leucococca is found in woods on trunks of deciduous trees (Alnus, Betula, Sorbus aucuparia, Salix, etc.), rarely on conifers. It is widely distributed and common in parts of Sweden from Värmland and northwards, in Norway in most provinces (comm. T. Imsberg), and in Finland at least in the north. Also found in Canada (British Columbia, comm I. Brodo) and in Austria (Landeck, 1385 m, 1927 Magnusson, UPS). - R.S.

LICHENES SELECTI EXSICCATI UPSALIENSIS

7. *Ionaspis cyanocarpa* (Anzi) Th. Fr.

in Jatta, Flora Ital. Crypt. 3: 449, 1910. - Aspicilia cyanocarpa Anzi, Comment. Soc. Crittog. Ital. 1: 145, 1862.

SWEDEN. Värmland Prov., Färnebo par., Limön Island in Lake Långban. 59°50'N 14°17'E. Alt. 215 m. On limestone by the water.

14.VIII.1984 leg & det. L.-E. Muhr (n. 7650)

LICHENES SELECTI EXSICCATI UPSALIENSIS

8. *Lecanora boligera* (Th. Fr.) Hedlund

Bihang K. Svenska Vet.-Akad. Handl. 18, III, 3:42, 1892. - *Lecidea fuscescens* f. *boligera* Norm. ex Th. Fries, Lich. Scand. 2: 461, 1874.

SWEDEN. Härjedalen Prov., Tännäs par., the valley of River Ljusnan, Mt Gruvvålen, S of Norrgruvorna (mines). 62°42'N 12°25'E. Alt. c. 850 m. On dead twigs of *Juniperus* in the subalpine birch forest.

12.VIII.1984 leg. & det. R. Santesson (n. 31173)

LICHENES SELECTI EXSICCATI UPSALIENSIS

9. *Lecanora fuscescens* (Sommerf.) Nyl.

in Norrlin, Not. Sällsk. Fauna Fl. Fenn. Förhandl. 13: 331, 1873. *Lecidea fuscescens* Sommerf. K. Vetensk.Acad. Handl. 1823: 114, 1824.

SWEDEN. Härjedalen Prov., Tännäs par., the steep eastern slope of Mt Ramundberget, c. 1.5 km S of Ramundbergets Fjällgård. 62°42'N 12°24'E. Alt. c. 800 m. On *Betula* in the subalpine birch forest.

14.VIII.1983 leg. & det. R. Santesson (n. 30937)

LICHENES SELECTI EXSICCATI UPSALIENSIS

10. *Lecanora orae-frigidae* R. Sant.

Lich. Sweden and Norway: 147, 1984.

SWEDEN. Hälsingland Prov., Söderhamn par., Sandarne, Stenö (c. 10 km SE of Söderhamn). 61°15'N 17°13'E. On an old wooden bridge by the sea.

28.VII.1983 leg. & det. T. Foucard

LICHENES SELECTI EXSICCATI UPSALIENSIS

11. *Lecanora soralifera* (Suza) Räs.

Ann. Acad. Sci. Fenn., ser. A, 34(4): 84, 1931. - *Lecanora intricata* v. *soralifera* Suza, Sborn. Klubu Prirod. Brno 4: 17, 1922.

SWEDEN. Värmland Prov., Hammarö par., Store Holmen (c. 15 km S of Karlstad), southwestern shore of the small island. 59°15'N 13°30'E. On pebbles in a pebbled area with scattered *Pinus* c. 50 m from the water.

19.X.1985 leg. & det. B. Owe-Larsson (n. 3268)

LICHENES SELECTI EXSICCATI UPSALIENSIS

12. *Lecidea hypopta* Ach.

Meth. Lich.: 61, 1803.

SWEDEN. Västerbotten Prov., Skellefteå par., c. 3 km NE of the village St. Blåbergsliden by the small stream Djupgrovbäcken. 64°40'N 20°21'E. Alt. c. 200 m. On a periodically inundated, decorticated log.

Adest: *Micarea vulpinaris* (Nyl.) Muhr

8.VIII.1984 leg. & det. L.-E. Muhr (n. 7317)

LICHENES SELECTI EXSICCATI UPSALIENSIS

13. *Lecidea inops* Th. Fr.

Lich. Scand. 2: 501, 1874.

SWEDEN. Härjedalen Prov., Tännäs par., Mt Gruvvålen, Norrgruvan (c. 1.8 km NE of Ramundbergets Fjällgård). 62°42'N 12°25'E. Alt. c. 900 m. On a vertical rock wall in an old copper mine.

26.VI.1985 leg. & det. R. Santesson (n. 31221)

LICHENES SELECTI EXSICCATI UPSALIENSIS

14. *Lecidea leproloma* R. Sant. nov. spec. Isotype

Thallus parasiticus supra thallum *Lecideae pauperculae*, areolatus, esorediosus. Areolae planae vel leviter concavae, fuscae, atro-marginatae. Margo thallosporas nigras format. Apothecia rara, adnata, fusca, leviter convexa, margine inconspicuo. Sporae 8nae, ellipsoideae, parvae. Thallus acidum sticticum, acidum norsticticum et acidum cryptosticticum continens.

SWEDEN. Härjedalen Prov., Tännäs par., Mt Gruvvålen, 0.2 km SSW of Lake Glimsjön (c. 1.8 km NE of Ramundbergets Fjällgård). 62°43'N 12°25'E. Alt. c. 920 m. On a vertical rock wall.

19.VIII.1985 det. R. Santesson (n. 31390)
(holotype in UPS)

Thallus forming small patches, 3-7 mm, sometimes crusts up to 15 mm across on the saxicolous thallus of *Lecidea paupercula*, areolate, esorediate; hypothallus indistinct. Areolae flat to slightly concave, smooth, glabrous, yellowish brown to blackish brown, 0.2-0.7 (-1.2) mm across, 0.1-0.4 mm thick. Each areola surrounded by a 0.1-0.2 mm broad, black margin formed by a rather loose thallospore forming tissue of bluish black, warty, 7-9 µm thick hyphae. Thallospores (1-)2-3-celled, with irregularly arranged rounded, warty, bluish black cells. Photobiont: unicellular, green algae, 4-11 µm diam. Apothecia very rare (seen only in one collection from Sweden: Jämtland, R.Santesson no. 26469), adnate, in the middle of areolae, 0.4-0.5 mm diam., margin thin, not prominent. Excipulum brown, pseudoparenchymatous. Hymenium hyaline, 60-75 µm high. Paraphyses simple or with few branches, thick, conglutinate, apices slightly thickened. Asci clavate with an I+ blue wall and tholus, 8-spored. Spores simple, ellipsoid, thin-walled, smooth, 8-11 x 5-7 µm. Pycnidia not seen. Chemistry: thallus C-, K-, Pd-; stictic, norstictic and cryptostictic acid.

L. leproloma is known from more than 40 localities in Sweden (Hrj to TL) and Norway (AAG, Hrd, MRo, Nrd, Irs and Fnm) and from Greenland (Disco, comm. E. Steen Hansen), always found on *Lecidea paupercula*, mainly on vertical acidic rocks in alpine and subalpine areas. - R.S.

LICHENES SELECTI EXSICCATI UPSALIENSIS

15. *Lecidea umbonella* Nyl.

Flora 49: 372, 1866.

SWEDEN. Härjedalen Prov., Tännäs par., Mt Gruvvålen, S of Lake Glimsjön. 62°43'N 12°25'E. Alt. c. 920 m. On open rocks in the old copper mine.

11.VIII.1984 leg. & det. R. Santesson (n. 31148)

LICHENES SELECTI EXSICCATI UPSALIENSIS

16. *Psilolechia leprosa* Coppins & Purvis ined.

Review of *Psilolechia*. - Lichenologist 19(1), 1987.

SWEDEN. Härjedalen Prov., Tännäs par., Mt Gruvvålen, 0.1 km NE of Lake Glimsjön (c. 1.8 km NE of Ramundbergets Fjällgård). 62°43'N 12°25'E. Alt. c. 920 m. On the walls and roof of a cave in the old copper mine.

10.VIII.1984 leg. & det. R. Santesson (n. 31128)

LICHENES SELECTI EXSICCATI UPSALIENSIS

17. *Pyxine daedalea* Krog & R. Sant. nov. spec. Isotype

Species haec a *P. coralligera* Malme differt soraliis laminalibus sine dactylis, et xanthono medullari.

COSTA RICA. Cartago Prov., 13 km SE of Cartago, 2.5 km SE of Orosi near the bridge over Rio Grande de Orosi. 9°47'N 83°50'W. Alt. c. 1150 m. On a large boulder in a field.

10.I.1979 leg. H. Krog & R. Santesson (n. 29074)
(holotype in O)

Thallus saxicolous, loosely adnate. Lobes pale to dark grey above, plane distally, slightly convex centrally, weakly to distinctly maculate, lobe ends pruinose. Soralia laminal, orbicular, convex, with coarsely granular, white to grey soredia. Medulla stramineous to pale ochraceous. Underside black, rhizinae black, simple, some with frayed, white tipped ends. Apothecia not seen. Chemistry: cortex; atranorin (UV-), medulla; triterpenoids similar to those of *P. coralligera*, xanthone (UV+ yellow). - H.K & R.S.

LICHENES SELECTI EXSICCATI UPSALIENSIS

18. *Toninia cumulata* (Sommerf.) Th. Fr.

Lich. Scand. 2: 341, 1874. - Lecidea cummulata Sommerf. Suppl. Fl. Lapp.: 157, 1826.

SWEDEN. Härjedalen Prov., Tännäs par., c. 3 km SW of Mt Stora Mittåkläppen, Gammelgruvan (between Dalsvallen and Ramundbergets Fjällgård). 62°42'N 12°26'E. Alt. c. 940 m. On bare earth at an old copper mine.

11.VIII.1980 leg. & det. R. Santesson (n. 30237)

LICHENES SELECTI EXSICCATI UPSALIENSIS

19. *Umbilicaria cinereorufescens* (Schaerer) Frey

Hedwigia 71: 109, 1931. - Umbilicaria vellea y spadochroa e cinereorufescens Schaerer, Enumer. Crit. Lich. Europ.: 25, 1850.

KENYA. Central Prov., Nanyuki Distr., Mt Kenya, Teleki Valley, alpine region. 0°10'S 37°18'E. Alt. c. 4200 m. On rocks.

13.VII.1971 leg. I. & O. Hedberg (n. 5019a)
det. H. Krog 1984

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20. *Umbilicaria umbilicarioides* (B. Stein) Krog & Swinsc.

Nordic J. Bot. 6: 83, 1986. - Gyrophora umbilicarioides B. Stein, 66.Jahresber. Schles. Ges. Vaterl. Cult.: 136, 1888.

KENYA. Central Prov., Nanyuki Distr., Mt Kenya, Teleki Valley, alpine region. 0°10'S 37°18'E. Alt. c. 4000 m. On rocks.

19.I.1971 leg. O. Hedberg (n. 4822a)
det. H. Krog 1984

LICHENES SELECTI EXSICCATI UPSALIENSIS

21. *Usnea antarctica* Du Rietz

Svensk Bot. Tidskr. 20: 93, 1926.

GRAHAM LAND. Base O'Higgins, mountains rising from the inland ice, 100 m from the ice-barrier. 63°20'S 57°50'W. Alt. c. 40 m. On NW-exposed rocks.

8.III.1953 leg. B. Frödin (n. 117)
det. F. J. Walker 1982

LICHENES SELECTI EXSICCATI UPSALIENSIS

22. *Usnea antarctica* Du Rietz

Svensk Bot. Tidskr. 20: 93, 1926.

SOUTH SHETLANDS. Robert Island, the southern peak. 62°10'S 59°30'W. Alt. c. 15 m. On stones in a SE-exposed stony slope.

28.XII.1952 leg. B. Frödin (n. 8a)
det. F. J. Walker 1982

Note: A scrambling form.

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23. *Usnea scabrida* Tayl.

Phytologist 1: 1095, 1844.

AUSTRALIA. Western Australia Distr., 1.5 km NW of Williams. 33°01'S 116°52'E. Alt. c. 280 m. On wooden fence-posts at a paddock.

14.X.1983 leg. & det. L. Tibell (n. 14176)

LICHENES SELECTI EXSICCATI UPSALIENSIS

24. *Verrucaria griseocinerascens* (Vain.) Zschacke

Hedwigia 68: 58, 1927. - *Verrucaria aetiobola* v. *griseo-*
cinerascens Vainio, Meddel. Soc. Fauna Fl. Fenn. 10: 175, 1883.

SWEDEN. Torne Lappmark, the shore of Lake Torneträsk at the western border of Abisko National Park, c. 2 km SSE of Björkliden. 68°23'N 18°43'E. Alt. c. 345 m. On sometimes submerged rocks.

2.VIII.1936 leg. & det. R. Santesson (n. 581a)

LICHENES SELECTI EXSICCATI UPSALIENSIS

25. *Xanthoria candelaria* (L.) Th. Fr. ISONEOTYPE

Genera Heterol. Eur. Recog.: 61, 1861. - *Lichen candelarius* L.
Spec. Plant. (2): 1141, 1753.

SWEDEN. Öland Prov., Böda par., Mensalvaret, the stone wall on the limestone pavement ("alvar"). 57°14'N 16°57'E. On the top of granitic boulders often visited by birds.

3.VIII.1983 leg. & det. R. Santesson & T. Tønsberg (n. 30905)
(neotype in UPS)

Note: Previously this species has not been typified. From the statements in Linné, Spec. Plant.: 1141 and 1169, 1753, and Iter Oelandicus: 30, 1745, it is clear that this lichen was meant. - R.S.