

## New Estonian records: Lichenized and lichenicolous fungi

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30 fungal species, 18 of them lichenized and 12 lichenicolous fungi, are recorded for the first time for Estonia. One species, *Buellia badia*, has been re-discovered after 140 years. The material was mainly collected during (1) XVII Symposium of the Baltic Mycologists and Lichenologists, held in Saaremaa, 17–21 September 2008 (Suija & Leppik, 2008), (2) inventory of lichens in Lahemaa National Park (Jüriado & Suija, 2008) and (3) master project of K. Turja (2008).

The lichenicolous fungi are indicated with #, and taxa which are considered extinct or probably extinct (not found after 1950) are marked with \*. The following abbreviations are used (1) for persons: AK – Agnieszka Kowalewska, AS – Ave Suija, DH – Dmitry Himmelbrant, EL – Ede Leppik, IJ – Inga Jüriado, IS – Irina Stepanchikova, JM – Jurga Motiejūnaitė, KT – Kristel Turja, MK – Martin Kukwa, PC – Pawel Czarnota, PL – Piret Lõhmus; (2) for herbaria: BILAS – Institute of Botany, Vilnius, Lithuania; GPN – Gorze National Park, Poland; LECB – St. Petersburg State University, Russia; TU – Natural History Museum, University of Tartu, Estonia; UGDA-L – lichen herbarium, Gdansk University, Poland; (3) for frequency classes

(Freq.), according to Randle & Saag (1999): rr – very rare (1–2 localities), r – rare (3–5 localities); (4) for distribution regions: NW – northwestern part of Estonia, NE – northeastern part, SW – southwestern part, SE – southeastern part, WIs – West-Estonian islands; (5) for protected areas: LR – Landscape Reserve, NP – National Park, NR – Nature Reserve.

# *ACREMONIUM ANTARCTICUM* (Speg.) D. Hawksw.

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR (58°06.595'N 22°11.163'E), on *Xanthoria parietina* (L.) Th. Fr. growing on branches of *Pinus sylvestris*, leg. & det. MK, coll. no. 7230b, 18 Sep 2008 (UGDA-L-14475). Freq.: rr – The description agrees with Hawksworth (1979) and Lowen (1995).

*ACROCORDIA SALWEYI* (Leight. ex Nyl.) A. L. Sm.

NW: Harju Co., Kuusalu comm., Lahemaa NP, Muuksi linnamägi (59°30.715'N 25°31.383'E), on limestone cliffs, leg. IJ & AS, 2 Aug 2008, det. AS (TU-45171). Freq.: rr.

*ASPICILIA LAEVATA* (Ach.) Arnold

NE: Lääne-Viru Co., Vihula comm., Lahemaa NP, granite boulders *Kloostrikiivid* in Palmse park (59°30.727'N 25°57.721'E), leg. IJ & AS, 31 July 2008, det. IJ (TU-58730, TU-58760); Kääsmu peninsula, granite boulders in oligo-mesotrophic boreal pine forest (59°36.806'N 25°54.010'E), leg. AS & IJ, 3 Aug 2008, det. IJ (TU-45258); Vainupea dunes (59°35.144'N 26°15.824'E), 1 Aug 2008, det. IJ (not collected; Jüriado & Suija, 2008). Freq.: r.

*BUELLIA ARBOREA* Coppins & Tønsberg

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR (58°06.595'N 22°11.163'E), on lignum of *Juniperus* sp., leg. & det. DH, 18 Sep 2008 (LECB). Freq.: rr.

# *BUELLIA BADIA* (Fr.) A. Massal.

NW: Harju Co., Kuusalu comm., Lahemaa NP, Pärissa peninsula, Purekkari cape, at the seashore (59.66822°N 25.69778°E), on granite, leg. IJ & AS, 12 Aug 2008, det. AS (TU-58765). Freq.: rr. – The taxon has been reported earlier by Heugel (1869) in island Saaremaa, however, the occurrence of this species in Estonia was considered doubtful (Randle & Saag, 1999) as no voucher has been seen.

## # CAPRONIA PELTIGERAE (Fuckel) D. Hawksw.

WIs: Saare Co., Saaremaa, Kihelkonna comm., Odalätsi NR (58°24'00"N 22°07'00"E), on moribund thallus of *Peltigera rufescens* (Weiss) Humb. growing at the edge of pine forest, leg. & det. JM, 19 Sep 2008 (BILAS-8555, dupl. TU-45148). Freq.: rr.

## CHRYSOTHRIX FLAVOVIRENS Tønsberg

WIs: Saare Co., Saaremaa, Kihelkonna comm., Odalätsi NR, pine forest near springs (58°24.017'N 22°07.643'E), on *Pinus sylvestris*, leg. AK & MK, coll. no. 7243a (UGDA-L-14789, dupl. TU-45150); Torgu comm., Viieristi NR, forest on shore buff (58.01901°N 22.17348°E), on stump, leg. & det. EL, 20 Sep 2008 (Suija & Leppik, 2008). Freq.: r. – This species has been reported from Estonia before (Tønsberg, 1994), however, included in the Estonian checklist as *Chrysothrix chrysophtalma* (P. James) P. James & J. R. Laundon (Randlane & Saag, 1999). *Chrysothrix flavovirens* was considered to be a sterile soreciate counterpart of *C. chrysophtalma* (Tønsberg, 1994).

## CLADONIA RAMULOSA (With.) J. R. Laundon

NW: Harju Co., Kuusalu comm., Lahemaa NP, island Mohni (59.67886°N 25.79785°E), stone wall, leg. IJ & AS, 11 Aug 2008, det. IJ, ver. T. Ahti (TU-45177); Juminda peninsula, Suurekivi ots, oligo-mesotrophic boreal pine forest (59.64349°N 25.64349°E), on ground, leg. IJ & AS, 13 Aug 2008, det. IJ (TU-58736); SW: Pärnu Co., Häädemeeste comm., Nigula NR (58.0521°N 24.6972°E), old-growth drained peatland spruce forest, decayed roots and mosses of two old windthrows of *Picea abies*, leg. KT & PL, 30 Aug 2008, det. T. Ahti (TU-47031, TU-47032). Freq.: r.

## # DACAMPIA RUFESCENTIS (Vouaux) D. Hawksw.

NE: Ida-Viru Co., Illuka comm., Kurtna NR, oligo-mesotrophic boreal pine forest between lakes Martiska and Ahnejärve (59.2635°N 27.56598°E), on *Peltigera* sp. growing on ground, leg. & det. AS, 7 Aug 2008 (TU-45350). Freq.: rr.

## HYPOCENOMYCE CASTANEOCINEREA (Räsänen) Timdal

NE: Ida-Viru Co., Iisaku comm., Muraka LR (59.0609°N 27.2543°E), in bog island, on burnt snag of *Pinus sylvestris*, leg. & det. PL, 5 Oct 2008 (Lõhmus, 2008). Freq.: rr.

## LECANIA CYRTELLINA (Nyl.) Sandst.

WIs: Saare Co., Saaremaa, Torgu comm., Viieristi NR, vicinity of Koltsi Lake (58°01'43"N 22°10'39"E), on dead twigs of dwarf shrubs in exposed place in a former sandpit, leg. & det. PC, 20 Sep 2008 (GPN). Freq.: rr.

## LECANORA COMPALLENS Herk &amp; Aptroot

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR, coastal area (58°06'31"N 22°11'25"E), on wood of dead *Juniperus communis*, leg. & det. PC coll. no. 5598, 18 Sep 2008 (GPN) – *Lecanora compallens* is a typical sterile lichen having some morphological affinities to *Lecanora expallens* Ach. but containing usnic acid and zeorin only and lacking thiophanic acid, the diagnostic compound of *L. expallens* (van Herk & Aptroot, 1999).

## \* LEPTOGIUM ARAGONII Otalora

WIs: Saare Co., Abruka island (58°09'N 22°30'E), on *Ulmus* sp., leg. Ernst Häyren, 16 June 1935, det. Monica Garcia Otalora, 10 Oct 2005 (TU-23668). Freq.: rr.

## # LICHENOSTIGMA ARCTOPARMELIAE R. Sant. (ined.)

NE: Lääne-Viru Co., Vihula comm., Lahemaa NP (59°36.806'N 25°54.010'E), granite boulders in oligo-mesotrophic boreal pine forest, on thallus of *Arctoparmelia centrifuga* (L.) Hale on granite stone, leg. AS & IJ, 3 Aug 2008, det. AS (TU-45225). Freq.: rr.

## # MARCHANDIOMYCES CORALLINUS (Roberge) Diederich &amp; D. Hawksw.

NW: Harju Co., Kuusalu comm., Lahemaa NP, Pärnispea peninsula, Purekkari cape (59°38.203'N 25°30.757'E), on *Physcia* sp. on granite stone, leg. AS & IJ, 12 Aug 2008, det. AS (TU-45200). Freq.: rr.

## MELANELIA PANNIFORMIS (Nyl.) Essl.

NE: Lääne-Viru Co., Vihula comm., Lahemaa NP, Käsmu peninsula, granite boulders in oligo-mesotrophic boreal pine forest (59.60906°N 25.91111°E), on granite stone, leg. IJ & AS, 3 Aug 2008, det. IJ (TU-58779). Freq.: rr.

## MICAREA MELAEINIZA Hedl.

SE: Tartu Co., Alatskivi comm., Padakõrve NR (58.5800°N 27.0192°E), mature mesotrophic boreal pine forest, decayed roots of the old windthrow of *Picea abies*, leg. KT & PL, 24 July

2008, det. PC (TU-47033). Freq.: rr. – Mesococidia (3.5–4 × 1.5 µm) are slightly bigger than those described by Coppins (1983). Spores are simple; some apothecial sections have purple tinge.

MICAREA MYRIOCARPA V. Wirth & Vězda ex Coppins

WIs: Saare Co., Saaremaa, Kihelkonna comm., Odalätsi NR, close to Odalätsi springs (58°24.017'N 22°07.643'E), the windthrow of *Picea abies* in spruce forest (grew together with *Psilolechia clavulifera* (Nyl.) Coppins and *Microcalicium arenarium* (Hampe ex A. Massal) Tibell), leg. & det. JM, 19 Sep 2008 (BILAS-8607, dupl. TU-45159); in the vicinity of Odalätsi dunes, *Calla* swamp forest site type forest (58°23.422'N 22°07.367'E), on windthrow, leg. PL, 19 Sep 2008, det. JM (Suija & Leppik, 2008); SE: Tartu Co., Meeksi comm. (58.2726°N 27.3333°E), Järvelja forestry, mature mesotrophic boreal pine forest, decayed roots of the old windthrow of *P. abies*, leg. KT & PL, 28 July 2008, det. PL, ver. PC (TU-47028); NE: Tudulinna comm., Muraka NR (59.1642°N 27.0229°E), old-growth mesotrophic boreal spruce forest, decayed roots of the old windthrow of *P. abies*, leg. KT & PL, 31 July 2008, det. JM (TU-47029). Freq.: r.

MICAREA SYLVICOLA (Flot.) Vězda & V. Wirth

NE: Lääne-Viru Co., Vihula comm., Lahemaa NP, Käsnu peninsula, granite boulders in oligomesotrophic boreal pine forest (59°36.571'N 25°54.458'E), on granite stone, leg. AS & IJ, 3 Aug 2008, det. AS (TU-45256). Freq.: rr.

# MUELLERELLA POLYSPORA Hepp ex Müll. Arg.

NE: Ida-Viru Co., Kurtna LR, between lakes Jaala and Martiska (59°15.802'N 27°34.485'E), aspen forest, on *Caloplaca cerina* (Ehrh. ex Hedw.) Th. Fr. on twig of *Populus tremula*, leg. & det. AS, 7 Aug 2008 (TU-45414a). Freq.: rr.

OPEGRAPHA MOUGEOTII A. Massal.

NW: Harju Co., Kuusalu comm., Lahemaa NP, klint forest close to Raudsilla estate, on limestone outcrop in klint forest (59.50836°N 25.60858°E), leg. AS & IJ, 2 Aug 2008, det. D. Ertz (TU-45019; TU-45020); *Muuksi linnamägi* (59°30.715'N 25°31.383'E), on limestone, leg. AS & IJ, 2 Aug 2008, det. AS (TU-45261). Freq.: rr.

PERTUSARIA CORALLINA (L.) Arnold

NE: Lääne-Viru Co., Vihula comm., Lahemaa NP, Käsnu peninsula, granite boulders in oligomesotrophic boreal pine forest (59.61265°N 25.90396°E), on granite stone, leg. IJ & AS, 3 Aug 2008, det. IJ (TU-58789). Freq.: rr.

PORPIDIA SPEIREA (Ach.) Krempf.

NW: Harju Co., Kuusalu comm., Lahemaa NP, close to the village Hara, at the edge of the forest at roadside (59.56793°N 25.62534°E), on granite stone, leg. IJ & AS, 13 Aug 2008, det. AS (TU-58811). Freq.: rr.

# PRONECTRIA LEPTALEAE (J. Steiner) Lowen

SE: Tartu Co., Alatskivi comm., alley in Alatskivi (58°36'N 27°07'E), on *Physconia distorta* (With.) J. R. Laundon on *Fraxinus excelsior*, leg. IJ & AS, 12 Nov 2008, det. AS (TU-45564). Freq.: rr.

# PYRENOCHAETA XANTHORIAE Diederich

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR (58°06'32"N 22°11'05"E), on *Xanthoria parietina* (L.) Th. Fr. growing on branches of *Pinus sylvestris*, leg. & det. MK, coll. no. 7230a (UGDA-L); on *X. parietina* on erratic block, leg. & det. MK, coll. no. 7242 (UGDA-L-14787, 14774, dupl. TU-45149); on thallus of *X. parietina*, leg. IS, det. JM (BILAS-8614). Freq.: rr.

# SCUTULA aff. HEERI (Hepp) P. Karst.

WIs: Saare Co., Saaremaa, Kihelkonna comm., Odalätsi NR (58°23'40"N 22°07'41"E), on thallus of terricolous *Peltigera rufescens* (Weiss) Humb. over exposed sandy dune within pine forest, leg. & det. PC, coll. no. 5600, 19 Sep 2008 (GPN, UGDA-L). Freq.: rr – The species was found with both pycnidia and apothecia growing together. The identification of the sample was complicated as the anamorphic stage referred to *Scutula heeri* (macroconidia of *Karsteniomyces*-type, 10–15 × 2.5–3(–3.5) µm, usually septate) and apothecial characters to *S. dedicata* Triebel, Wedin & Rambold (ascospores 8–12(16) × 3–4 µm). The decision to determine it as *S. heeri* is based on the macroconidia, which were never shorter than 10 µm.

# STIGMIDIUM MYCOBILIMBIAE Cl. Roux, Triebel & Etayo

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR (58°06'32"N 22°11'07"E), on

thallus of *Bilimbia sabuletorum* (Schreb.) Arnold on plant debris, leg. & det. PC, 18 Aug 2008 (GPN). Freq.: rr.

# STIGMIDIUM SOLORINARIUM (Vain.) D. Hawksw.

WIs: Saare Co., Saaremaa, Salme comm., Kaugatoma-Lõo LR (58°06'30"N 22°11'28"E), on thallus of *Solorina saccata* (L.) Ach. growing on ground, leg. DH, 18 Sep 2008, det. AS (TU-45469). Freq.: rr.

# UNGUICULARIOPSIS LETTAUI (Grummann) Coppins

SE: Tartu Co., Meeksi comm., Järvelja dendrological park (58°16'12"N 27°18'52"E), on *Evernia prunastri* (L.) Ach. growing on *Quercus robur*, leg. IJ, 22 Aug 2008, det. AS (TU-45306). Freq.: rr.

VERRUCARIA OLIVACELLA Servit

WIs: Saare Co., Saaremaa, Torgu comm., Viieristi NR (58.01944°N 22.17305°E), limestone quarry, on limestone shingle, leg. AS, 20 Sep 2008, det. J. Pykälä (TU-45022); NW: Rapla Co., Rapla comm., close to the Kodila village (59°02'25,5"N 24°45'48,8"E), previous limestone quarry, on granite stone in forest, leg. AS, 13 July 2004, det. J. Pykälä (TU-57937). Freq.: rr. – *Verrucaria olivacella* is close to *V. dolosa* Hepp, but has larger spores, 16–19 × 6–9 µm instead of 12–16 × 5–6 µm in *V. dolosa* (Breuss, 2007).

VERRUCARIA PAPILLOSA Ach.

NW: Rapla Co., Raikküla comm., Sõerutse paepantepealne (58°53'59,0"N 24°38'57,5"E), alvar, on limestone, leg. AS, 14 July 2004, det. J. Pykälä 2008 (TU-57933). Freq.: rr. – The specimen grew together with *Thelidium decipiens* (Nyl.) Kremp.

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## Excluded species of lichenized and lichenicolous fungi

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Since the publishing of the Second checklist of Estonian lichenized and allied fungi (Randlane & Saag, 1999), and its updates, fifteen species have been excluded as misidentifications (Randlane et al., 2008). Some of these re-determinations have already been noted in Randlane & Saag (2004), but they are repeated here on linguistic reasons. The abbreviations of persons: AS – Ave Suija; IJ – Inga Jüriado; TR – Tiina Randlane; of herbaria: H – Botanical Museum, University of Helsinki, Finland, TU – Botanical and Mycological Museum, Natural History Museum, University of Tartu, Estonia; TUR – Centre of Biodiversity, University of Turku, Finland. The lichenicolous fungi are indicated with #.

*ASPICILIA SIMOËNSIS* Räsänen – the sample belongs to *Aspicilia cinerea* (L.) Körb., det. IJ, 2001 (TU-1081).

*BAEOMYCES PLACOPHYLLUS* Ach. (Suija et al., 2001)

The sample belongs to *Baeomyces rufus* (Huds.) Rebert., det. TR, 2005 (TU-32852).

*BELLEMERIA ALPINA* (Sommerf.) Clauzade & Cl. Roux

The samples belong to *Aspicilia cinerea* (L.) Körb., det. IJ, 2000 (TU-1094) and *Lobothallia radiosa* (Hoffm.) Hafellner, det. IJ, 2001 (TU-1095) (Randlane & Saag, 2004).

*CALICIUM DENIGRATUM* (Vain.) Tibell

The sample belongs to *Calicium glaucellum* Ach., det. L. Tibell, 2000 (TU-5009) (Randlane & Saag, 2004).

*CATILLARIA CRYPTOPHILA* Th. Fr. & Almq.

The sample belongs to *Catillaria aphana* (Nyl.) Coppins, det. TR, 2003 (TU-9358b) (Randlane & Saag, 2004).

# *ENDOCOCCUS PERPUSILLUS* Nyl. (Suija & Jüriado, 2002)

The samples belong to *Endococcus exerrans* Nyl., det. AS, 2004 (TU-27802b; TU-32442c; TU-37863a).

*HETERODERMIA SPECIOSA* (Wulfen) Trevis.

The sample belongs to *Physcia caesia* (Hoffm.) Fűrnr., det. R. Moberg, 2005 (TU-24547a).

*LECANORA SARCOPIDIOIDES* ["sarcopisioides"] (A. Massal.) A.L. Sm.

The sample belongs to *Lecania cyrtella* (Ach.) Th. Fr., det. IJ, 2002 (TU-9032c).

*LECANORA SOREDIATA* (Räsänen ex Vain.) Räsänen

The material cited in Räsänen (1931) is preserved in H, the sample belongs to *Lecanora pulicaris* (Pers.) Ach., det. IJ, 1997 (eSamba, 2009).

*NEPHROMA HELVETICUM* Ach.

The samples belong to *Nephroma resupinatum* (L.) Ach. (TU-11199b; TU-11200; TU-11201; TU-11203; TU-11204; TU-11207) and *Nephroma parile* (Ach.) Ach. (TU-12323; TU-12326; TU-12331), det. A. Zavarzin, 1999.

*OCHROLECHIA SUBVIRIDIS*

The samples belong to *Ochrolechia androgyna* (Hoffm.) Arnold chemotype B (TU-28177; TU-28181; TU-39786; TU-39787), chemotype C (TU-28175; TU-28178; TU-33383), *Ochrolechia arborea* (Kreyer) Almb. (TU-28176), *Trapeliopsis* sp. (TU-28180) and to unknown lichen (TU-28179), det. M. Kukwa, 2008 & 2009.

*OCHROLECHIA UPSALIENSIS* (L.) A. Massal.

The sample belongs to *Ochrolechia szatalaensis* Verseghy, det. TR (TU-28165) (Randlane & Saag, 2004)

*PERTUSARIA RAESAENENII* Erichsen

The samples belong to *Pertusaria leucostoma* A. Massal., det. M.F. Makarevich, 1967 (TU-32646; TU-33749; TU-33750) (Randlane & Saag, 2004).

*RINODINA OCCULTA* (Körb.) Sheard

The material cited in Räsänen (1931) is preserved in TUR. The herbarium envelope, however, contains only an unidentified perithecioid species (TR, pers. comm., 2002).

*XANTHORIA LOBULATA* (Flörke) de Lesd.

One sample (TU-16420) includes *Caloplaca holocarpa* (Hoffm. ex Ach.) A. E. Wade and *Xanthoria parietina* (L.) Th. Fr., det. TR, 1999; another sample collected by V. Räsänen from Saaremaa (H) belongs to *Xanthoria polycarpa* (Hoffm.) Th. Fr. ex Rieber (TR, pers. comm., 2009).

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