

New Estonian records and amendments: Lichenized and lichenicolous fungi

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15 species are reported as new for Estonia, of them 8 are lichenized and 7 are lichenicolous fungi. The presence of *Epiphloea byssina*, previously known by old literature data only, is confirmed. *Collema occultatum* and *Peltigera elisabethae*, previously considered to be extinct from the local lichen biota, were re-discovered. Record of *Psorotichia schaereri* is the second finding of this taxon in Estonia.

The abbreviations are used as follows: (1) persons: AS – Ave Suija, EL – Ede Leppik, JM – Jüri Martin, LM – Ljudmilla Martin, MS – Merje Schmeimann; (2) regions: NW – northwestern part of Estonia, NE – northeastern part, SE – southeastern part, SW – southwestern part, WIs – western islands (Randlane & Saag, 1999); (3) frequency classes (Freq.): rr – very rare (1–2 localities), r – rare (3–5 localities). Most of the samples were collected during recent years (2010–2012) but some specimens have been collected much earlier (since 1995). The specimens are deposited in the lichen herbaria of the Euroacademy (ICEB), of the Natural History Museum, University of Tartu (TU) and of the Finnish Museum of Natural History, University of Helsinki (H). The lichenicolous fungi are marked with #.

ABSCONDITELLA TRIVIALIS (Willey ex Tuck.) Vězda (syn. *Gyalecta geioca* f. *trivialis* Willey ex Tuck.) – NW: Harju Co., Tallinn, Stroomi Beach (59°26'24"N 24°41'04"E), on thick humus soil in

Scots pine forest near sea shore, leg. LM June 1997, det. LM 24 Jan 1998 (ICEB-10616). Freq.: rr. The determination was verified by Ivan Pišút.

ANISOMERIDIUM CARINTHIACUM (J. Steiner) R.C. Harris – SW: Pärnu Co., Häädemeeste Comm., Kadaka stream (58°02.412'N 24°28.086'E), on inundated granite pebble. Leg. MS & AS 25 Aug 2010, det. MS 2011 (TU64946). Freq.: rr.

CARBONEA SUPERSPARSA (Nyl.) Hertel – NW: Harju Co., Mohni Island, coastal hill (59°40'31"N 25°48'13"E), on granite pebble in well-lit locality, lichenicolous on *Lecanora polytropa*, leg. LM 27 Sep 2000, det. LM 4 Oct 2011 (ICEB-10613); WIs: Saare Co., Kärla Comm., Karida (58.30679°N 22.32809°E), on *Lecanora polytropa* on granite boulder, in dry alvar grassland site type, leg. EL 4 July 2011, det. EL 2012 (TU55489). Freq.: rr. – In Europe distributed in upland and montane areas (Smith et al., 2009), in Russia found in northern regions (Zhurbenko, 2007).

COLLEMA OCCULTATUM Bagl. – NW: Harju Co., north-eastern part of Viimsi Peninsula (59°33'31.38"N 24°48'30.45"E), on moss patches on vertical surface of concrete wall (about 1 m from soil), under the canopy of deciduous trees, leg. LM & JM 19 Aug 2012, det. LM 29 Aug 2012 (ICEB-10608). Freq.: rr. – This species has been previously reported in Estonia only by Andreas Bruttan from the Island Saaremaa, Orissaare, at the end of the 19th c. (Trass & Randlane 1994; TU23851), and was therefore considered to be extinct from the Estonian lichen biota (Randlane & Saag, 1999); consequently, it was also included in the category *Regionally Extinct* (RE) in the Estonian Red List (Randlane et al., 2008). Usually the species grows on basic bark of deciduous trees, being widespread in Europe (Jørgensen, 2007a; Smith et al., 2009). It is distinguished from all other *Collema* and *Leptogium* species by poorly developed thallus of minute granules, globose apothecia and muriform, cuboid spores.

EIGLERA FLAVIDA (Hepp) Hafellner – NW: Harju Co., Harku Comm., Muraste (59°27'17"N 24°28'06"E), abandoned (more than 50 years) quarry, on horizontal surface of limestone, leg. LM & JM 2 Oct 1999, det. LM 10 Sep 2012 (ICEB-10618). Freq.: rr. – Thallus is crustaceous, sometimes evanescent, with aspicilioid

apothecia, immersed in thallus. Differs from *Hymenelia* species in having black disc, blue hymenium, chlorococcoid photobiont (7–15 µm diam.) and a K/J+ blue apical dome to the asci (Lutzoni & Brodo, 1995; Smith et al., 2009).

EPIPHLOEA BYSSINA (Hoffm.) Henssen & P.M. Jørg. (syn. *Leptogim byssinum* (Hoffm.) Zwackh ex Nyl.) – NW: Harju Co., Tallinn, Nõmme, Mustamäe-Nõmme landscape reserve (59°23'21"N 24°40'54"E), Scots pine forest, on a piece of construction waste on soil, leg. LM 20 May 2006, det. LM 18 Oct 2011 (ICEB-10615). Freq.: rr. – This species has also been previously reported in Estonia only by Andreas Bruttan, at the end of the 19th c., in the surroundings of Tartu (Trass & Randlane 1994). Its occurrence in Estonia was considered doubtful as no local samples were available in herbaria (Randlane & Saag, 1999). The taxon is widespread in the Northern Hemisphere and is characterised as an ephemeral, pioneer species on alkaline, bare soils (Jørgensen, 2007b; Smith et al., 2009).

HYDROPUNCTARIA RHEITROPHILA (Zschacke) C. Keller, Gueidan & Thüs (syn. *Verrucaria rheitrophila* Zschacke) – SE: Tartu Co., Kambja Comm., Idaoja stream (58°13.236'N 26°43.539'E), on granite stone, leg. MS & AS, 8 June 2010, det. MS 2011 (TU64948). Freq.: rr.

LECANORA SORALIFERA (Suza) Räsänen (syn. *Lecanora intricata* var. *soralifera* Suza) – NW: Harju Co., Mohni Island, coastal hill (59°40'31"N 25°48'13"E), on granite pebble, leg. LM 27 Sep 2000, det. LM 18 Oct 2011 (ICEB-10614). Freq.: rr. – The taxon is characterized by soredia which arise on the surface (not margins) of the areoles. The sample is fertile, with apothecia (0,3 mm diam.) having well-developed entire thalline exciple and green-black disc (Fig. 1). Distributed in the British Isles, Central Europe and Scandinavia (Smith et al., 2009).

LECIDEA DEGELIANA Hertel – NW: Lääne Co., Puisse, on meadow near the farmhouse of Rannatalu (58°46'N 23°27'E), on granite erratic boulder, leg. LM & Marina Temina 17 Sep 1995, det. LM 15 Aug 2012 (ICEB-10609); WIs: Vormsi island, Rumpo Peninsula, cape, coastal hill (58°57'00"N 23°18'50"E), on small, flat rounded granite stone (4×3×1 cm), leg. LM & JM 16 Aug 2000, det. LM 15 Aug 2012 (ICEB-10610). Freq.: rr. – *L. degeliana* is an obligate parasite growing on the

thalli of brown coloured *Acarospora* or directly on rock surface (Andreev et al., 1998). Both our samples have thalli composed of separate flat or convex areoles with concave depressions like *Acarospora* apothecia (Fig. 2).

LICHENOPELTELLEA HYDROPHILA R. Sant. – SE: Tartu Co., Kambja Comm., Idaoja stream (58°13.236'N 26°43.539'E), on *Thelidium* sp. growing on granite stone, leg. MS & AS 8 June 2010, det. AS 2012 (TU64942). Freq.: rr. – The species has been reported as a lichenicolous fungus on amphibic *Verrucaria* species (Molitor & Diederich, 1997; Diederich et al. 2004). Our specimen has catathecia 70–80 µm wide and the length of asci is c. 35 µm, therefore it was determined as *L. hydrophila* even no mature ascospores were present. *Lichenopeltella thelidii* Diederich, the species which grows on *Thelidium* spp., has smaller ascomata, 40–75 µm and asci are up to 31 µm in length (Molitor & Diederich, 1997). *L. hydrophila* has earlier been reported on *Thelidium papulare* by Urbanavichus & Urbanavichene (2011).

LICHENOTHELIA RENOBALIESIANA D. Hawksw. & V. Atienza – NW: Harju Co., coastal hill composed of pebbles in north-eastern part of Pakri Peninsula (59°23'02"N 24°04'34"E), on thallus of *Polyblastia albida* growing on flat surface of limestone pebble, leg. LM & JM 10 July 2009, det. LM 19 July 2010 (ICEB-5631). Freq.: rr. – In Western

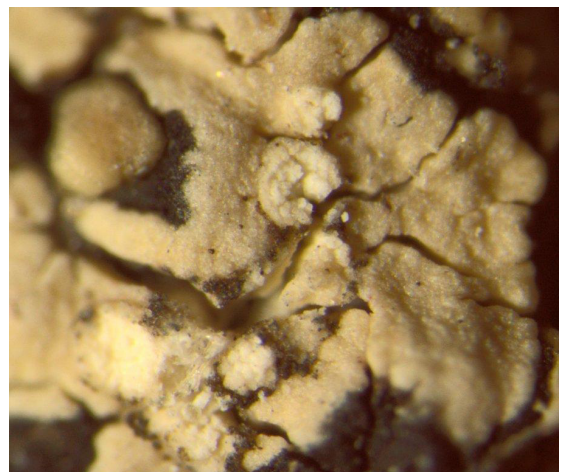


Fig. 1. *Lecanora soralifera* (ICEB-10614) – soredia arising from the surface (not margins) of the areoles.



Fig. 2. *Lecidia degeliana* (ICEB-10610) – apothecia and thalli composed of separate flat or convex areoles with concave depressions (like *Acarospora* apothecia).

Europe and North America this species has been recorded only on endolithic thalli of different *Verrucariaceae* species growing on calcareous rocks (Atienza & Hawksworth, 2008).

NEOCOLEROA INUNDATA (Vain.) Diederich – SE: Võru Co., Vastseliina Comm., Isknä stream (57°46.153'N 27°09.511'E), on *Bacidina inundata*, leg. MS & AS 27 June 2011, det. AS 14 Sep 2012 (TU64943; TU64944). Freq.: rr.

PELTIGERA ELISABETHAE Gyeln. – NW: Harju Co., Aegna Island (59°35'16"N 24°45'53"E), on mosses growing on concrete ruins of fortifications from early 20th c., leg LM & JM 9 July 1997, det. LM 4 Jan 1998 (ICEB-6727); Lääne Co., Noarootsi Comm., Osmussaar (59.30273°N 23.36685°E),

dry alvar grassland site type, on mosses on ground, leg. Inga Jüriado & AS 4 July 2010, det. EL & Tiina Randlane 2012 (TU55488); WIs: Hiiu Co., Pühalepa Comm., Sarve peninsula, Sarve Landscape Reserve (58.83483°N 23.04761°E), dry alvar grassland site type, on mosses on ground, leg. EL & Inga Jüriado 15 June 2010, det. EL & Tiina Randlane 2012 (TU55487). Freq.: r. – This taxon has earlier been collected once by H. Lippmaa more than 70 years ago (in 1935), in NW, Harju Co., Türisalu cliff (Trass & Randlane, 1994; TU29509), and was therefore considered to be extinct from the Estonian lichen biota (Randlane & Saag, 1999); consequently, it was also included in the category *Regionally Extinct* (RE) in the Estonian Red List (Randlane et al., 2008). Besides the occurrence of schizidia and lobules peeling near margins, the absence of distinct veins is characteristic, while small pale interstices are often distinguished on the lower surface (Fig. 3). This fairly rare species is distributed in nutrient-rich or calcareous habitats (Vitikainen, 2007).

PRONECTRIA SANTESSONII (Lowen & D. Hawksw.) Lowen – SW: Viljandi Co.: Kõpu Comm., Kõpu, alley (58°18'58"N 25°18'04"E), on *Anaptychia ciliaris*. Leg. J. Liira 25 Feb 2012, det. AS (TU64158). Freq.: rr.

PSOROTICHIA SCHAEERERI (A. Massal.) Arnold – NW: Harju Co., north-eastern part of Viimsi Peninsula (59°33'31,38"N 24°48'30,45"E), on horizontal surface of concrete wall (ca 1m high), leg. LM &



Fig. 3. *Peltigera elisabethae* (ICEB-6727) – upper (A) and lower (B) surface of the thallus characterized by absence of distinct veins and presence of small pale interstices.

JM 19 Aug 2012, det. LM 23 Aug 2012 (ICEB-10611). Freq.: rr. – This is the second record of the species in Estonia. *P. schaereri* has earlier been found once in Saaremaa Island, Sõrve Peninsula (Ekman et al., 1991; the sample is deposited in LD).

RINODINA FIMBRIATA Körb. – NE: Jõgeva Co., Torma Comm., Rausi stream (58°51.950'N 26°42.187'E), on granite stone, leg. & det. MS & AS 1 July 2010 (TU64947). Freq.: rr. – By TLC, no lichen substances were detected. Another *Rinodina* species known from freshwater habitat, *R. oxydata* (A. Massal.) A. Massal. contains atranorin (Thüs & Schultz, 2009).

STAUROTHELE HYMENOGONIA (Nyl.) Th. Fr. – WIs: Saare Co., Sõrve Peninsula, Kaugatoma cliff, coastal hill (57°54'50"N 22°03'25"E), on limestone pebbles, leg. LM & JM 20 July 2000, det. LM 2 Aug 2012 (ICEB-297). Freq.: rr.

STIGMIDIUM RIVULORUM (Kernst.) Cl. Roux & Nav.-Ros. – NE: Lääne-Viru Co., Haljala Comm., Selja river (59°28.165'N 26°20.732'E), on *Verrucaria* sp. on inundated granite stone, leg. MS & AS 3 July 2011, det. AS 24 Jan 2012 (TU64945). Freq.: rr.

VERRUCARIA BOBLENSIS Servit – NE: Jõgeva Co., Saare comm., Pedassaare, Josua farmstead, old farmstead surrounded by abandoned fields (58°39'46.18"N 26°49'58.08"E), on concrete of cowhouse ruins, leg. T. Ahti 17 June 2010, det. J. Pykälä 8 Dec 2011 (H). Freq.: rr.

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