

New Estonian records: Lichenized and lichenicolous fungi

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Nine fungal species, three of them lichenized and six lichenicolous fungi, are recorded for the first time for Estonia. Furthermore, one species, *Xanthoria elegans*, has been re-discovered after 80 years.

The following abbreviations are used (1) for persons: AS – Ave Suija, IJ – Inga Jüriado, PL – Piret Lõhmus, TP – Taimi Piin-Aaspõllu; (2) for herbaria: TALL – Tallinn Botanic Garden, Estonia; TAM – Estonian Museum of Natural History, Estonia; TU – Natural History Museum, University of Tartu, Estonia; (3) for frequency classes (Freq.): rr – very rare (1–2 localities), st fq – rather frequent (11–20 localities); (4) for distribution regions: NE – northeastern part of Estonia, NW – northwestern part, SE – southeastern part, SW – southwestern part, Wis – western islands (Randlane & Saag, 1999). Lichenicolous fungi are indicated with #.

ARTHONIA MOLENDI (Heufl. ex Frauenf.) R. Sant. – NE: Jõgeva Co., Puurmani comm., Puurmani, alley (58.56828°N, 26.29117°E), on *Xanthoria parietina* on *Betula pendula*, leg. IJ, 7 July 2009, det. AS, Dec 2009 (TU-45812). Freq.: rr.

CLADONIA HUMILIS (With.) J.R. Laundon – NE: Jõgeva Co., Jõgeva comm., near the village Painküla, pine forest (58°42'N, 26°25'E), on wood of a tree stump, leg. Silvi Pärn, 18 Aug 1957 (TU-20765); Pala comm., near the village

Metsanurga (58°41'N, 27°01'E), on ground, leg. Ülle Mägi, 7 Aug 1957 (TU-20766); near the village Kodavere, Peipsi shore (58°41'N, 27°09'E), on ground, leg. Ülle Mägi, 31 Jul 1957 (TU-20769); NW: Harju Co., Tallinn, Pääsküla, sandpit (59°22'N, 24°38'E), on ground, leg. Hans Trass, 12 Oct 1945 (TU-20728); Anija comm., near the village Anija (59°22'N, 25°18'E), on sandy ground, leg. Hans Trass, 6 May 1945 (TU-20733); Harku comm., near the village Harku, pasture (59°22'N, 24°34'E), on ground, leg. Hans Trass, 13 Mar 1947 (TU-20856); Rapla Co., Kärü comm., near the village Määrasmaa, wooded meadow (58°50'N, 25°07'E), on wood on old tree stump, leg. Hilja Lippmaa, 16 Jun 1930 (TU-20822); Rapla comm., near the village Ohukotsu, spruce forest (59°N, 27°34'E), on wood, leg. Heinrich Aasamaa, 12 Jun 1997 (TU-20646); SE: Põlva Co., near the sandstone outcrop Suur Taevaskoda (58°06'N, 27°03'E), on ground, leg. Tiiu Siinmaa, 1 Jul 1956 (TU-20864); Tartu Co., Alatskivi comm., Alatskivi, gravel-pit (58°36'N, 27°08'E), on ground, leg. Ülle Mägi, 3 Aug 1957 (TU-20770); Võru Co., Võru comm., near the village Kasaritsa, pine forest (58°47'N, 27°02'E), on ground, leg. Hans Trass, 8 Dec 1948 (TU-20851); SW: Pärnu Co., Vändra comm., near the village Mädara, pine forest (58°40'N, 25°12'E), on ground, leg. Erast Parmasto, 22 Aug 1947 (TU-20844); Wis: Saare Co., Lümända comm., Viidumäe Nature Reserve (58°15'N, 22°05'E), on ground, leg. Silvi Pärn, 22 Jun 1959 (TU-20655); 46092. All cited specimens were identified by Teuvo Ahti, 17 June 2010. Freq.: st fq. – The species differs from similar *Cladonia fimbriata* (L.) Fr. – under which the cited specimens had earlier been identified – by having short podetia, wide scyphi and corticate podetial stalks. Although not chemically checked, the Estonian material is expected to represent the bourgeanic acid chemotype, which according to recent DNA analyses apparently represents a distinct species, *C. conista* (Nyl.) Robbins (syn. *C. innominata* Lendemmer) (Dolnik et al., 2010). *Cladonia humilis* s.str. is more oceanic, not found in Finland and Sweden, for instance.

#/+ EPIGLOEA SOLEIFORMIS Döbbeler – NE: Ida-Viru Co., Illuka comm., clear cut of drained peatland forest (59°14'59"N, 27°36'32"E), on *Placynthiella icmalea* on roots of *Betula* sp., leg. PL, 10 June 2009, det. AS; clear cut with retention trees of drained peatland forest (59°13'43"N,

27°36'07"E), on *P. icmalea* on roots of *Picea abies*, leg. PL, 26 Sep 2009, det. AS. Freq.: rr. – This is the commonest species of the genus *Epigloea* which grows mainly on algal films, decaying lichens, etc. (Pérez-Ortega, 2009; Smith et al., 2009). In case of these two Estonian records, the type of association (either algicolous or lichenicolous association) has remained unclear.

LECIDEA LEPRARIOIDES Tønsberg – NE: Lääne-Viru Co., Vihula comm., Lahemaa National Park, old coniferous forest (59.60767°N, 26.03717°E), on *Picea abies*, leg. Liis Marmor & Tiit Tõrra, Aug 2009, det. Liis Marmor, Feb 2010 (TU-56055); SE: Valga Co., Helme comm., near the lake Tünder, old mixed forest (57.95256°N, 25.63833°E), on *Picea abies*, observation by Liis Marmor, Aug 2009. Freq.: rr.

LICHENOSTIGMA MAURERI Hafellner – SE: Valga Co., Tõrva, park in Tõrva (57°54'44.87"N, 25°55'01.31"E), on *Pseudevernia furfuracea*, leg. Jaan Liira, 11 Oct 2009, det. AS, 21 Oct 2009 (TU-45669). Freq.: rr.

MUELLERELLA TRISEPTATA Diederich (syn. CAPRONIA TRISEPTATA Diederich & Etayo) – NE: Ida-Viru Co., Iisaku comm., middle-aged managed oligo-mesotrophic boreal forest (59.062303°N, 27.44590397°E), on *Lecidea* cf. *hypopta* on *Pinus sylvestris*, leg. PL, 9 Apr 2006, det. AS, 2010. Freq.: rr.

PELTIGERA FRIPPII Holt.-Hartw. – NE: Ida-Virumaa Co., Toila comm., upper edge of Päite clint, open alvar community (59°26'15"N, 27°03'13"E), on mosses, with *Abietinella abietina* (Hedw.) M. Fleisch., *Bryum argenteum* Hedw., *Ceratodon purpureum* (Hedw.) Brid. and *Tortula ruralis* (Hedw.) F. Weber & D. Mohr. as associated bryophytes; leg. Leiti Kannukene (no. 32099), 6 Apr 2004, det TP (TAM, dupl. in TALL) (Fig. 1). Freq.: rr. – *P. frippii* is “recognized by smooth, maculate upper surface, crisp appearance, and fan-shaped veins as well as by the combination of phlebic acid and triterpenoids as secondary substances” (Vitikainen, 2007). The species was described from Norway (Holtan-Hartwig, 1988). A detailed discussion of the taxon and its distribution map in Europe and adjacent areas was given by Vitikainen (1994). The general distribution of *P. frippii*, which is known to occur in Europe, Asia and North America, has been described as arctic to northern boreal (Vitikainen 1994) or as circumpolar, boreal to



Fig. 1. *Peltigera frippii* (photo by Taimi Piin-Aaspõllu).

arctic (Martinez et al., 2003). The similar distribution pattern characterizes *Peltigera kristinssonii* Vitik. and *P. retifoveata* Vitik. *P. frippii* probably belongs, according to its distribution characteristics, to the hypoarctic-alpine element in the Estonian lichen biota (Trass, 1970). The species may be overlooked in Estonia in open alvar communities.

TREMELLA CANDELARIELLAE Diederich & Etayo – SE: Tartu Co., Rõngu comm., Kirepi, alley (58.17575°N, 26.3255°E), on *Candelariella* sp. on *Quercus robur*, leg. AS & IJ, 6 Oct 2009, det. AS, Dec 2009 (TU-45860). Freq.: rr. – This gall-forming fungus is rarely collected, known from Luxemburg, Spain (Diederich, 1996), Poland (Kukwa & Jabłońska, 2008), Sweden (Westberg, et al., 2008) and USA (Harris, 2006).

UNGICULARIOPSIS THALLOPHILA (P. Karst.) W.Y. Zhuang – NE: Jõgeva Co., Jõgeva comm., Mustallika Nature Reserve (58°43.139'N, 26°25.938'E), on *Lecanora carpinea* on twigs of *Alnus incana*. Leg. & det. AS, 27 June 2009 (TU-45703a). Freq.: rr.



Fig. 2. *Xanthoria elegans* (photo by Taimi Piin-Aaspõllu).

XANTHORIA ELEGANS (Link.) Th. Fr. – NW: Harjuma Co., Jõelähtme comm., near the village Rebala (59°26'52.88"N, 25°7'7.77"E), on the upper corner of low limestone fence, growing over mosses *Schistidium apocarpum* (Hedw.) Bruch & Schimp. and *Orthotrichum* sp., leg. & det. TP, 17 Aug 2000, with apothecia (TALL) (Fig. 2). Freq.: rr. – The first record of this species for Estonia was made by Räsänen who visited Estonia in 1927 and 1929, and wrote: “Selbst habe ich diese Art – *Placodium elegans* – in Tallinna an Mauern gesehen, aber konnte sie nicht abnehmen” (Räsänen 1931: 117). Thus no voucher specimens of *X. elegans* have been collected from Estonia since now. The species was considered either probably extinct (Trass & Randlane, 1987) or doubtful for Estonia (Randlane & Saag 1999).

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