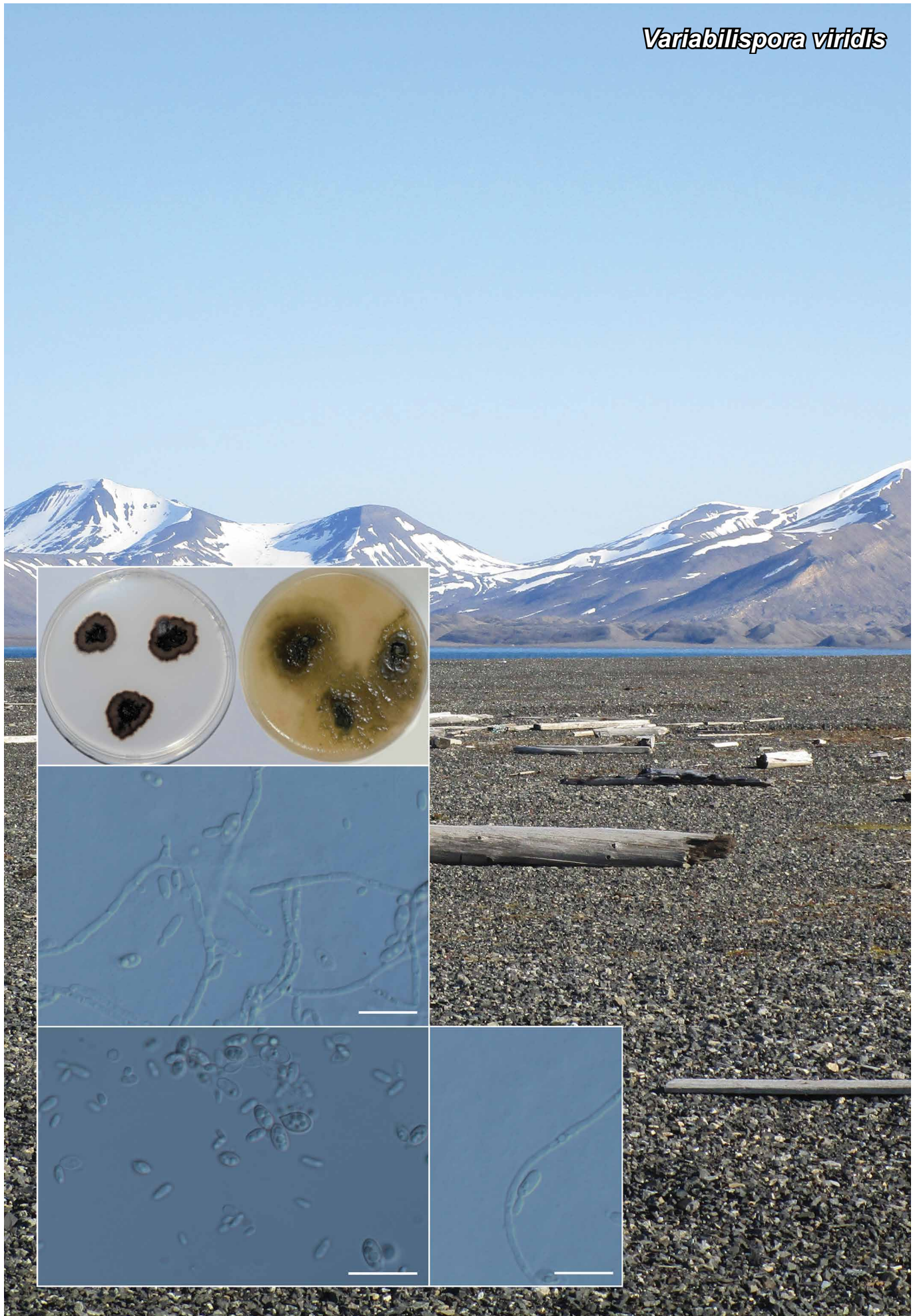


Variabilispora viridis



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Variabilispora viridis V.A. Iliushin, I.Y. Kirtsideli & E.G. Lukina, *sp. nov.**Etymology.* Named after its green (Lat.: *viridis*) colonies.Classification — *Typhanidaceae*, *Helotiales*, *Leotiomyces*.

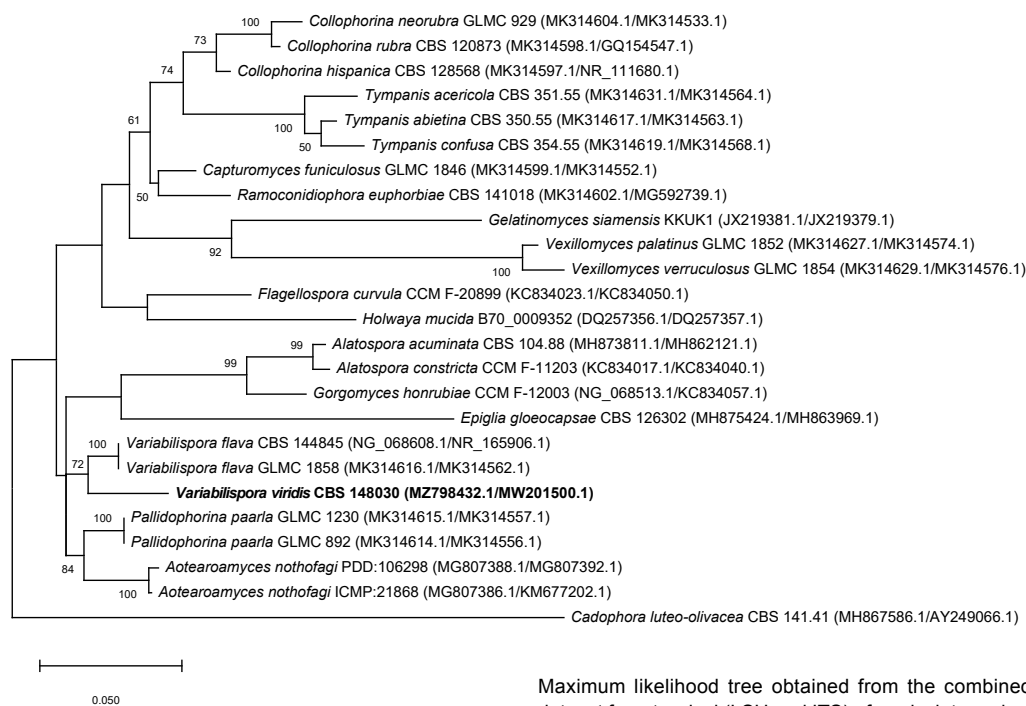
Vegetative hyphae hyaline, smooth-walled, septate, branched, 1.5–3.8 µm wide. Sporulation abundant, conidia formed on hyphal cells and by microcyclic conidiation. *Conidiophores* on *hyphae* reduced to conidiogenous cells. *Conidiogenous cells* enteroblastic, hyaline, smooth-walled, terminally and intercalary, reduced to short necks or collarettes formed directly on hyphal cells; discrete phialides often observed, cylindrical to ampulliform, 5–10 × 1.5–3.5 µm; collarettes cylindrical, thin-walled, inconspicuous, 0.5–1 µm long, opening 0.5–1.2 µm wide; necks cylindrical, 0.5–2.5 µm long, 0.5–1.5 µm wide. *Conidia* aggregated in masses around the hyphae, hyaline, smooth-walled, aseptate, subglobose, ellipsoidal, obovate, 7–10.5 × 2.5–5 µm. *Conidiomata* and *endoconidia* not observed. *Microcyclic conidiation* occurs from collarettes at one or sometimes both ends of conidia that have developed into mother cells, often thick-walled, sometimes septate, > 8 µm long, 3.5–5.5 µm wide.

Culture characteristics — Colonies on Czapek agar (CZ) after 4 wk at 23 °C reaching 20–29 mm diam, flat to low convex with dentate to fimbriate margin, moist, lacking aerial mycelium; zonate, successively deep olive green (#232f00; ISCC-NBS Centroid Color Charts) and moderate olive green (#4a5d23) from the centre towards the edge; reverse deep olive green (#232f00). Colonies on malt extract agar (MEA) after 4 wk at 23 °C reaching 10–20 mm diam, moist, lacking aerial mycelium;

non-zonate, deep olive green (#232f00); reverse same colour. Colonies on oatmeal agar (OA) after 4 wk at 23 °C reaching 20–32 mm diam, flat, moist, lacking aerial mycelium; successively moderate olive green (#4a5d23) and light greenish yellow (#eae679) from the centre towards the edge; reverse same colour. Minimum temperature for growth 8 °C, optimum 23 °C, maximum 30 °C.

Typus. NORWAY, Svalbard Archipelago, coastal area of the Grunfjord of the Greenland Sea, from driftwood of *Picea abies* (*Pinaceae*), 2020, E.G. Lukina (holotype LE F-341002, culture ex-type CBS 148030, ITS and LSU sequences GenBank MW201500.1 and MZ798432.1, MycoBank MB 840872).

Notes — Bien et al. (2020) introduced a new genus *Variabilispora* for collophorina-like fungi. Phylogenetic analyses show *V. viridis* as the closest species to *V. flava*, but several morphological differences were found. Morphologically, *V. viridis* is different from *V. flava* in size of the phialides (2–9 × 1.5–2.5 µm vs 5–10 × 1.5–3.5 µm in *V. viridis*), conidia (2.5–6.5 × 1.5–2 µm vs 7–10.5 × 2.5–5 µm in *V. viridis*), and mother cells of microcyclic conidiation (> 5 × 2.5–3.5 µm vs > 8 × 3.5–5.5 µm in *V. viridis*). Furthermore, *V. viridis* also differs from *V. flava* by its moderate olive green to light greenish yellow colour on OA (*V. flava* is sulphur yellow to pure yellow). Based on a megablast search of NCBI's GenBank nucleotide database, the closest hit using the ITS sequence is with the ex-type strain of *V. flava* (culture CBS 144845, GenBank NR_165906.1; Identities = 460/477 (96 %), two gaps (0 %)); and using the LSU sequence it is with the same strain of *V. flava* (GenBank NG_068608.1; Identities = 526/542 (97 %), no gaps).



Colour illustrations. Svalbard Archipelago, coastal area of the Grunfjord of the Greenland Sea with driftwoods. Colony on CZ and OA after 4 wk at 23 °C; conidiogenous cells formed on hyphal cells; conidia; mother cell. Scale bars = 20 µm.

Maximum likelihood tree obtained from the combined DNA sequences dataset from two loci (LSU and ITS) of our isolate and sequences retrieved from the GenBank nucleotide database. The tree was built using MEGA X (Kumar et al. 2018). Bootstrap support values ≥ 50 % are presented at the nodes. *Cadophora luteo-olivacea* CBS 141.41 was used as outgroup. The new species proposed in this study is indicated in **bold**.

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