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Nota di contenuto	Historical outline of investigations of smut fungi of Greenland 4 -- Vegetation and main habitats. 6 -- Delimitation of Greenland. 8 -- Materials and methods. 10 -- Taxonomic treatment. 11 -- Key to the genera of smut fungi in Greenland, based on host plant families. 11 -- Anthracoidea. 12 -- Key to the relevant Anthracoidea species. 13 -- Anthracoidea altera 14 -- Anthracoidea bigelowii. 16 -- Anthracoidea capillaris. 20 -- Anthracoidea caricis. 22 -- Anthracoidea elynae. 24 -- Anthracoidea heterospora 28 -- Anthracoidea karii 30 -- Anthracoidea limosa 34 -- Anthracoidea lindebergiae 36 -- Anthracoidea liroi 38 -- Anthracoidea misandrae. 39 -- Anthracoidea nardinae. 41 -- Anthracoidea paniceae. 44 -- Anthracoidea pseudofoetidae. 45 -- Anthracoidea rupestris 46 -- Anthracoidea scirpi 48 -- Anthracoidea scirpoideae 50 -- Anthracoidea turfosa 51 -- Anthracoidea verrucosa 52 -- Anthracoidea sp 54 -- Entyloma 54 -- Entyloma microsporum 55 -- Haradaea 55 -- Smut fungi of Greenland 3 -- Haradaea nivalis. 56 -- Microbotryum. 57 -- Key to the relevant Microbotryum species 57 -- Microbotryum arcticum. 57 -- Microbotryum bistortarum. 60 -- Microbotryum koenigiae 66 -- Microbotryum lagerheimii 67 -- Microbotryum pustulatum. 69 -- Microbotryum silenes-acaulis 71 -- Microbotryum stellariae. 72 -- Microbotryum vinosum 73 -- Orphanomyces. 77 -- Orphanomyces arcticus. 77 -- Planetella 78 -- Planetella lironis 79 -- Schizonella 80 -- Key to the relevant Schizonella species 80 -- Schizonella elynae 80 -- Schizonella

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Sommario/riassunto

The first taxonomic treatment of the smut fungi in Greenland is provided. A total of 43 species in 11 genera are treated and illustrated by photographs of sori, microphotographs of spores in LM and SEM, and distribution maps. Two species, Anthracoidea pseudofoetidae and Urocystis tothii, are recorded as new from North America. Thirteen species, Anthracoidea altera, *A. capillaris*, *A. limosa*, *A. iiroi*, *A. pseudofoetidae*, *A. scirpoideae*, *A. turfosa*, *Microbotryum lagerheimii*, *M. stellariae*, *Schizonella elynae*, *Stegocintractia luzulae*, *Urocystis fischeri*, and *U. tothii*, are reported for the first time from Greenland. The most numerous distribution groups are the following: circumpolar-alpine and Arctic-alpine species – 14; circumboreal-polar species – 10; and circumpolar and Arctic species – 6. The most widely distributed smut fungi in Greenland are *Anthracoidea bigelowii*, *A. elynae*, *Microbotryum bistortarum*, and *M. vinosum*. Most species were found in the High Arctic zone (29 species), while from the Low Arctic zone and the Subarctic zone, 26 and 19 species were known, respectively. Ten species, *Anthracoidea bigelowii*, *A. capillaris*, *A. elynae*, *Microbotryum bistortarum*, *M. koenigiae*, *M. pustulatum*, *M. silenes-acaulis*, *M. vinosum*, *Schizonella elynae*, and *Urocystis sorosporioides*, were recorded from all three zones. Only plants belonging to six families, Cyperaceae, Poaceae, Juncaceae, Ranunculaceae, Caryophyllaceae, and Polygonaceae, out of a total of 55 in the flora of Greenland, hosted smut fungi. Carex was the genus with the highest number of host species (22). The total number of the host plants (45 species) was 8.5 % out of a total of 532 vascular plants in the flora of Greenland.
