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# Comatricha nannengae, a new species of Myxomycetes

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A new species of Myxomycetes, *Comatricha nannengae* Härkönen, is described from N Norway and S Finland. It most closely resembles *C. nigra* (Pers.) Schroet., but differs from it in being smaller and having a complete surface net.

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## **Comatricha nannengae** Härkönen n. sp.

*Sporangia sparsa, stipitata, altitudine tota 0.6—1 mm. Hypothallus inconspicuus vel nullus. Stipes niger lucidus non translucidus, basi fibrosus, altitudinem sporangii circ. 1.5 — vel 2plo superans. Sporangium globosum, 0.24—0.4 mm diam., saturate brunneum. Columella usque ad medium vel ad 2/3 sporangii porrigens. Capillitium subnigrum, laxius, ramificans, anastomosans, reticulum superficiale formans. Sporae universae saturate cupreace brunneae, luce transmissa pallide brunneae, minute verruculosae, 7—9—10.5* μm *diam. Plasmodium hyalinum.*

Holotypus: Norvegia, prov. Troms, par. Storfjord, Skibotn, in vitro ad corticem *Pini sylvestris,* 21. I. 1977 M. Härkönen 812, in Museo Botanico Universitatis Helsingiensis (H) asservatur.

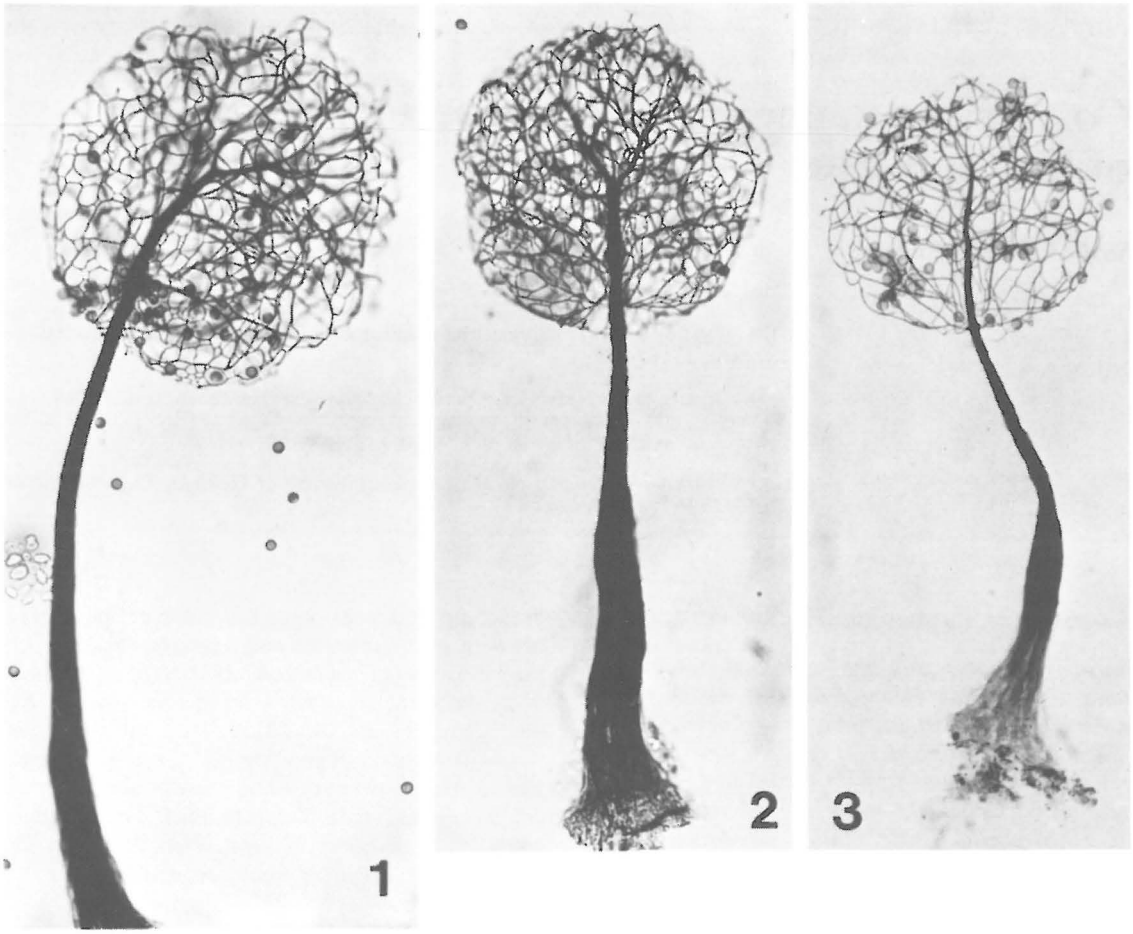
Sporangia scattered, stipitate, total height 0.6—1 mm. Hypothallus small, thin, brownish, transparent or lacking. Stalk black, shining, opaque under dissecting microscope, fibrous and reddish brownish at base in transmitted light, about 1.5—2 times the height of sporangium; width 48—132 μm at base, 8—16 μm at apex. Sporangium globose, 0.24—0.40 mm in diam., dark brown (according to Maerz & Paul 1950, 8 J 9). Peridium evanescent. Columella continuation of stipe, extending through about 1/2—2/3 of sporangium, then dividing to form the main branches of capillitium. Capillitium dark, flexuose, originating from all parts of columella, branching and anastomosing and forming surface net with no or few free ends. Spores dark coppery brown in mass, violaceous brown in transmitted light, very faintly warted to nearly smooth and having paler and smoother area on one side, 7—9—10.5 μm in diam. Plasmodium at first watery white, then turning white when beginning to coalesce; stalk then turning black and head of sporangium successively pink, red, dark red and black, and on maturing finally brown.

Type: **Norway.** Troms, Storfjord: Skibotn, in moist chamber on bark of *Pinus sylvestris,* 21. I. 1977 M. Härkönen 812 (H, holotype; herb. N.E. Nannenga-Bremekamp, isotype).

Other material examined: **Norway.** The type locality, 25. I. 1977 Härkönen 826 (H). — **Finland.** Uusimaa, Helsinki: the Botanical Garden of the University of Helsinki, 27. 7. 1975 Härkönen 267 (H).

### Discussion

The specimens from the type locality developed on bark of *Pinus sylvestris* collected from two trees about 20 m from each other on 4. VIII. 1976. The bark was put into moist chambers on 2.XI.1976, dried on 7. XII. 1976 and rewetted on 11. I. 1977. The sporangia matured on 21. I. and 25. I., or after 45 and 49 days' incubation. The pH of the substrata was 4.5. In the same moist chambers, two other small, brown globose species of Stemonitaceae also developed, *Comatricha nigra* (Pers.) Schroet. and *Paradiacheopsis fimbriata* (G. Lister & Gran) Hertel. Even under the dissecting microscope, the




Figs. 1—3. *Comatricha nannengae,* sporangia, × 150. — 1—2: Norway, Härkönen 826 & 812, photo Mauri Korhonen. — 3: Finland, Härkönen 267, photo Tuomo Niemelä.

three could be distinguished by their colour, *Comatricha nannengae* having a copper tint in its brown head, *C. nigra* a more sepia tint, and *P. fimbriata* being the darkest of the three. The Finnish specimen of *C. nannengae* developed in a moist chamber on bark of *Fraxinus pennsylvanica* at pH 4.5 after 9 days' incubation.

The spores of *C. nannengae* resemble those of *C. elegans* (Racib.) G. Lister (see Lister 1925, Martin & Alexopoulos 1969, Nannenga-Bremekamp 1974). The whole specimens resemble the description by Meylan (1935) for *Comatricha elegans* var. *microcarpa* Meylan. Kowalski (1975) transferred that taxon to *Clastroderma* as *Clastroderma microcarpa* (Meylan) Kowalski. Its type specimen (Japan: Hiroshima; LAU) differs from *C. nannengae* in the following main respects: The lower 2/3 of the stipe is thick and filled with refuse matter, the capillitium is rigid and sparsely branching, with a widermeshed surface net, and the spores are larger, 13.5—15 μm.

The surface net of the capillitium is also a common feature with *Comatricha rigidireta* Nann.-Brem. (Nannenga-Bremekamp 1966), but the capillitium of *C. nannengae* is more flexible and the spores are smaller.

*C. nannengae* also resembles small forms of *Comatricha nigra* and *C. laxa* Rost. *C. laxa* has a capillitium with horizontal primary branches and many free tips (Martin & Alexopoulos 1969). *C. nigra* is usually taller than *C. nannengae* (Martin & Alexopoulos 1969: 2—8 mm), but may be much smaller when grown in a moist chamber (Härkönen 1977) even measuring as little as 0.7 mm. The stalk is mostly much longer in *C. nigra* than in *C.*

*nannengae* (average length in 79 specimens four times the height of the head), but in some specimens it is shorter and may be only 1.5 times the head. However, *C. nigra* does not have such a well-developed surface net as *C. nannengae;* the base of the sporangium often has net-like anastomoses, but the top has many, often swollen, free ends.

Intermediate forms exist between *C. nigra* and *C. laxa* and between *C. nigra* and *C. elegans* (Lister 1925, Martin & Alexopoulos 1969). *C. nannengae* belongs to the same species group, but can be distinguished from all the others by the small size, coppery coloured head, surface net and relatively short stalk. It is nearest to *C. nigra,* which is a difficult and complex species (see Martin & Alexopoulos 1969) and which cannot be fully understood until it can be successfully cultured on artificial medium from spore to spore (see Alexopoulos 1969).

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