A Key to the Subgenera of Synchytrium

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Synchytrium is the largest and most commonly known of the chytridiaceous genera and includes at present nearly 200 reported species which are obligate parasites of algae, mosses, ferns and flowering plants. On the basis of differences in life cycle and type of development the known species may be grouped into seven subgenera as follows:

A. Life cycle including sporangial sori and resting spores.
   1. Mature thallus functioning as a prosorus; contents emerging from initial cell of thallus to form a thin-walled sorus which cleaves into sporangia.
      a. Resting spore functioning as a prosorus in germination; contents emerging to form a thin-walled sorus which cleaves into sporangia.
         Subgenus *Microsynchytrium*
      b. Resting spore functioning as a sporangium in germination and giving rise directly to zoospores.
         Subgenus *Mesochytrium*
   2. Mature thallus functioning directly as a sorus of thin-walled sporangia; sporangia delimited by cleavage within the sorus wall and freed by its rupture.
      a. Resting spore functioning as a sporangium in germination and giving rise directly to zoospores.
         Subgenus *Eusynchytrium*
      b. Resting spore functioning as a prosorus in germination; content emerging to form a thin-walled sorus which cleaves into sporangia.
         Subgenus *Exosynchytrium*

B. Life cycle including only sporangial sori, or resting spores.
   1. Only sporangial sori known.
      a. Mature thallus functioning directly as a sorus of thin-walled sporangia; sporangia delimited by cleavage within the sorus wall; freed by its rupture, and appearing as powdery masses in open aecidium-like pustules.
         Subgenus *Woroninella*
   2. Only resting spores known.
      a. Resting spore functioning as a prosorus in germination.
         Subgenus *Pycnochytrium*
      b. Resting spore functioning directly as a sorus in germination.
         Subgenus *Endosynchytrium*

This key varies to some extent from the one proposed by the author in 1953, in that the subgenera of species with the long and more complex life cycles are placed first. This position is based on the working hypoth-

esis, proposed by the author (1954), that the complex aquatic species might be the most primitive, and that as species began to parasitize terrestrial plants the life cycles became less complex and shorter. It is equally plausible, on the other hand, that the short-cycled species might be the most primitive, and through them have evolved the most complex species of *Synchytrium*.

Literature Cited

KARLING, J. S. 1953. *Micromyces* and *Synchytrium*. Mycologia 45 : 276-287.

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