

1972

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### Recommended Citation

Dyko, Barbara J. and Tiffany, Lois H. (1972) "A Preliminary Study of Aquatic Hyphomycetes in Iowa," *Proceedings of the Iowa Academy of Science*, 79(2), 72-73.

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## A Preliminary Study of Aquatic Hyphomycetes in Iowa

BARBARA J. DYKO and LOIS H. TIFFANY<sup>1</sup>

**SYNOPSIS:** A Preliminary Study of Aquatic Hyphomycetes in Iowa. *Proc. Iowa Acad. Sci.*, 79(2):72-73, 1972. Ten species in seven genera of aquatic Hyphomycetes have been found on submerged

leaves from six aquatic sites in Story County, Iowa.

**INDEX DESCRIPTORS:** Aquatic Hyphomycetes, Fungi Imperfecti.

Interest in aquatic hyphomycetes (Moniliales, Fungi Imperfecti) has grown since Ingold (1942) found their spores in foam in an English stream. This group has been recorded in the U.S.A. by Ranzoni (1953) in California; Umphlett (1957) in Virginia; Peterson (1961) in New York, New Jersey, Pennsylvania, Connecticut, North Carolina, South Carolina, Tennessee and Georgia; Baxter (1961, 1962, 1964) in Wyoming, Indiana and Oregon; Crane (1968) in Virginia, West Virginia, Maryland, Delaware, Pennsylvania, Massachusetts, Connecticut, Vermont, New Hampshire and Maine; Conway (1968, 1969) in New York and Florida; and Woelkerling and Baxter (1968) in Wisconsin.

Investigations were initiated in the fall of 1971 to ascertain the presence and diversity of this group of aquatic organisms in Iowa waterways. This paper reports the occurrence of aquatic hyphomycete flora from six sites in central Iowa.

## MATERIALS AND METHODS

The collecting sites included three rocky-bottomed areas on the Skunk River in Story County, Iowa, near Ames (water cascaded over rocks and small dams at two sites; the river was wide and calm at the other). Another site on the Skunk River was located in the Ames city limits; the bottom here was wide and sandy. Lake Laverne on the Iowa State University campus and Squaw Creek, in the Ames city limits, in a sandy area with a rapids formed by large pieces of concrete. All collecting areas are bordered with trees. At the first three Skunk River sites, samples were taken at approximately two-week intervals from October 2, 1971 through April 13, 1972. At the other sites, samples were taken from January 18, 1972 through April 13, 1972.

Submerged leaves of *Quercus*, *Acer*, *Populus*, *Ulmus*, *Salix*, *Prunus*, *Parthenocissus* and *Smilax* were collected individually. The leaves were rinsed in the stream, placed with stream water from the sites in a polyethylene bag, labeled and taken to the laboratory.

In the laboratory the leaves were rinsed in sterile, deionized, distilled water, sterile stream water, sterile tap water or non-sterile tap water, placed in sterile petri plates and covered with fresh water of the same type as the rinse water. The leaves were checked immediately and at varying intervals for fungi and the fungi producing spores were identified.

## RESULTS

Ten species of aquatic hyphomycetes were found fruiting

on submerged leaves collected in the period between October 2, 1971 and April 13, 1972. The species are: *Alatospora acuminata* Ing., *Anguillospora longissima* (Sacc. and Syd.) Ing., *A. pseudolongissima* Ran., *Flagellospora curvula* Ing., *Lemmoniera aquatica* DeWild., *L. brachycladia* Ing., *Tetracladium marchalianum* DeWild., *Tricladium angulatum* Ing., *T. gracile* Ing. and *Triscelophorus monosporus* Ing.

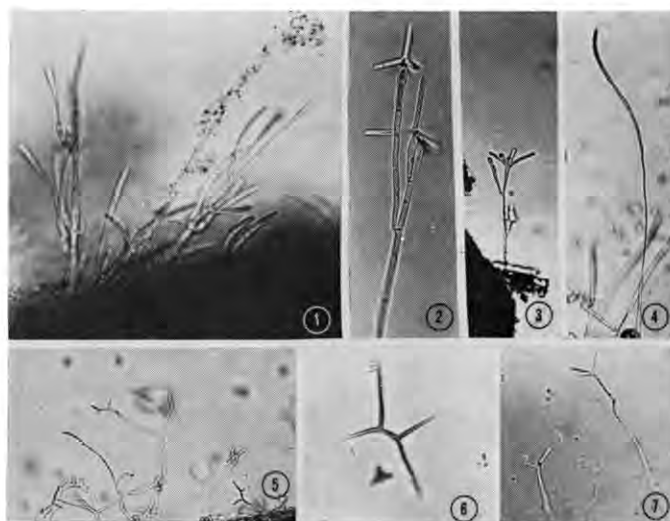


Figure 1. *Flagellospora curvula* Ing.

Figure 2. *Lemmoniera aquatica* DeWild.

Figure 3. *Tetracladium marchalianum* DeWild.

Figure 4. *Anguillospora longissima* (Sacc. and Syn.) Ing.

Figure 5. *Tricladium angulatum* Ing. Young spores.

Figure 6. *Tricladium gracile* Ing.

Figure 7. *Alatospora acuminata* Ing.

## DISCUSSION

The type of water covering the leaves in the laboratory did not affect the number of species detected. Untreated water worked well; therefore, it is being used for further studies.

The extent of degradation of the leaf tissue appeared to have little influence upon the number of species found; an observation which may support Crane (1968) who records leaves well colonized after two weeks in the water.

At this time, collection data do not indicate any marked difference in the number of species at the different sites. Sampling at these sites continues.

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All species found have been reported from various sections of the United States and from other countries.

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