

Giant *Zoothamnium* sp. attached to water plants, *Phragmites* and *Egeria densa*, in Lake Biwa

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#### SUMMARY

A giant colonial peritrich of the genus *Zoothamnium* was found living on the submerged leaves and stems of *Phragmites* and *Egeria* (*Elodea*) in Lake Biwa. The diameter of the trunk spasmoneme in the *Zoothamnium* stalk is very large, about 20–40  $\mu\text{m}$ , whereas the diameter of spasmoneme in the branches of the *Zoothamnium* and those of *Carchesium* sp. is about 1–2  $\mu\text{m}$ . Previously, giant types of *Zoothamnium* have been found in a lake in Hilleroed, Denmark, and a lake in Peterhof (Petrodvorets), Russia. The former species is *Z. geniculatum* strain Hilleroed and the latter is *Z. arbuscula* strain Peterhof. Here, we morphologically compare the giant species found in Lake Biwa with that found in a river in a suburb of Muenster in Germany and that found in the Kujuugawa River, Kawagoe, Saitama Prefecture, Japan. It was difficult to determine whether our species is more similar to *Z. geniculatum* or to *Z. arbuscula*. We previously found that the 1-D SDS electrophoresis pattern of whole proteins in the Kawagoe species is significantly different from those in the Hilleroed species. Thus, we conclude that 1-D or 2-D electrophoresis analysis of whole proteins, and/or DNA fragment analysis are important for verifying species differences. It would also be appropriate to propose a local strain name, similar to those given above, for the giant Lake Biwa *Zoothamnium*.