Projektleitung: **BERGER Helmut** Projektnummer: **P 26974-B25**

III. KURZBERICHT ÜBER DEN PROJEKTFORTSCHRITT im vorangegangenen Kalenderjahr (muss nicht in Englisch sein)

Kurzbericht zum Kalenderjahr **2014**

The project *Monograph of the family Euplotidae Ehrenberg, 1838 (Ciliophora, Spirotrichea)* (1 person, 3 years, 20 h/week) deals with a moderately large subgroup of the Euplotia, one of three major groups of the spirotrichs. About 160 taxa (species, subspecies, varieties, forms) have been described since 1758, the beginning of zoological nomenclature (Berger 2001).Until the late 1970s, all these taxa were assigned to the genus *Euplotes* Ehrenberg, 1831. Just Jankowski (1978) and Borror & Hill (1995) supposed that this genus is not as homogenous as previously assumed. Thus, they introduced several new genera, for example, *Euplotoides*, *Euplotopsis*, and *Moneuplotes*.

The project started with the revision of the species of the genus *Euplotoides* Borror & Hill, 1995. Members of this group are characterized, inter alia, by nine frontoventral cirri, a double dargyrome, and symbiotic bacteria. In addition, they form a rather homogenous group in molecular trees supporting the *Euplotoides* concept with *E. patella* (Müller, 1773) as type species. This about 100 µm long species is rather common in freshwater and thus it is known for a very long time, namely since 1773 when Müller found it the first time in Denmark. Consequently, a huge amount of literature (about 700 papers!) deals with *Euplotoides patella*.

Other well-known species belonging to *Euplotoides* are, inter alia, *E. aediculatus* (Pierson, 1943), *E. eurystomus* (Wrzesniowski, 1870), *E. octocarinatus* (Carter, 1972), *E. woodruffi* (Gaw, 1939), and *E. daidaleos* (Diller & Kuonaris, 1966). The latter species has symbiotic green algae and the revision demonstrates that *Euplotoides daidaleos*, which has its type locality in Pennsylvania, USA, was previously often misindentified as *Euplotes patella*, for example by Entz (1881) and Dragesco (1970, population from Cameron). *Euplotoides daidaleos* shows, like some other related species (e.g., *E. octocarinatus*), morphological defense induced by proteins released by various predators, for example, other ciliates or the turbellarian *Stenostomum*. This phenomenon, which usually results in the formation of lateral wings and a dorsal keel, was studied in great detail by the Heckmann-group in Münster (e.g., Kuhlmann & Heckmann 1985).

Euplotoides woodruffi, easily recognized by a T-shaped macronucleus, was originally discovered in a freshwater habitat in China (Gaw 1939). Later, Song & Bradbury (1997) established *E. parawoodruffi* for saltwater populations. However, just recently *E. woodruffi* and *E. parawoodruffi* were synonymized because the morphological and ecological differences described are insignificant and the sequence similarity is >99% (Dai et al. 2013). Interestingly, they did not consider distinct differences in sexual behavior and therefore these two taxa are classified as subspecies in the present revision.

References

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Project website: http://www.protozoology.com/monograph_euplotidae/index.htm