

## **GYROBASE: A DATABASE FOR *GYRODACTYLUS* BIOINFORMATICS**

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*Gyrodactylus* is a hyperdiverse monogenean genus; ca. 400 species are described from a potential total of ca. 20,000 species. The genus is a unique resource for evolutionary biology because host range, distribution and morphology are known in detail for many species, and molecular data (rDNA ITS) are available for ca. one quarter of all described species, predominantly Eurasian freshwater taxa. Basic taxonomic information on many *Gyrodactylus* spp. is not easily accessible, being published in relatively obscure or not easily accessible language journals, and imaging of the taxonomically informative attachment hooks is of variable quality. We are developing a database (GYROBASE), of *Gyrodactylus* taxonomic data which allows web-based searching for taxonomic history, host range, distribution, molecular sequences, morphology, and relationships. GYROBASE includes a library of hook images (also from re-analysed and re-collected specimens), and provides direct links to web-resources such as: <http://www.fishbase.org/search.cfm>, and can articulate with DNA barcoding efforts. GYROBASE will allow non-specialists to search for e.g. images for the taxonomic identification of specimens, geographic locations and species range, primary and secondary host species, lists of archived samples, primers for DNA barcoding and links to GenBank and MorphBank. Users will interact with GYROBASE to arrive at positive, authoritative identifications of their own specimens without the need for extensive prior experience in gyrodactylid taxonomy, and will be able to deposit moderated refereed data within the database. We will provide guidelines for optimized description of new taxa and deposition within the database. GYROBASE makes accessible a huge quantity of previously fragmented informatics on *Gyrodactylus*, and should greatly facilitate future research on the genus. We see this development as a model for bioinformatics approaches to the other hyperdiverse monogenean genera such as *Dactylogyrus* and the ancyrocephalids.