

Bx.№ 1077 / HO-05/ 18.12.2025 r.

OPINION

**by Prof. Dr. Yordan Ivanov UZUNOV,
Member of the Scientific Jury, appointed by ORDER No. 80/26.09.2025
of the Director of IBEI-BAS,
for the defense of the dissertation on the topic:
“TAXONOMIC REVISION OF THE GENUS GYRODACTYLUS
(MONOPISTHOCOTYLA: GYRODACTYLIDAE) IN FRESHWATER FISHES IN
BULGARIA”, presented by
NINA VENCHEVA VANCHEVA,
full-time PhD student in the doctoral program "Parasitology and Helminthology",**

The doctoral student Nina Vencheva Yaneva was enrolled on 01.09.2016 with the dissertation topic: “*Taxonomic revision of the genus Gyrodactylus (Monopisthocotyla: Gyrodactylidae) in freshwater fishes in Bulgaria*” (professional field: 4.3. Biological Sciences, field of higher education: 4. Natural Sciences, Mathematics and Informatics), to the research group “Taxonomy, Evolution and Ecology of Helminths”, section “Biodiversity and Ecology of Parasites”, department “Animal Diversity and Resources” of IBEI-BAS, with scientific supervisor Prof. Dr. Boyko Bozhidarov Georgiev and scientific consultant Senior Assistant Professor Dr. Anelia Borisova Bobeva, with a term of study until 31.08.2019.

During her doctoral studies, she has fully implemented her individual plan, actively participating in the scientific and applied research activities of the research group, respectively. of the section and department. During the period of study, she has accumulated a total of 306 credits (min 250 points as required). This amount is actually higher, as it does not include the recently published new article in a scientific publication with IF. She has participated with her own contribution in reports presented at two scientific events - one in our country (2024), the other abroad (2019, North Macedonia).

The dissertation work was prepared in full compliance with the requirements of the Regulations of the IBEI-BASc, respectively with the national and academic regulations. The chosen form is a presentation of already published author's results from the study on an important for economic practice group of fish parasites of the genus *Gyrodactylus* von Nordman, 1832 (Monopisthocotyla: Gyrodactylidae), studied in our freshwater bodies. These results have been presented/reported in three scientific articles, published in journals with IF and two scientific reports. The doctoral student's research reports results from a study on fish parasites new to our country, probably introduced with stocking material or through other vectors of distribution of fish species alien to our fauna. In addition to their description, her latest published article also makes a significant revision of the genus *Gyrodactylus* from freshwater sites in our country.

The aim of the study was: to characterize the species composition, distribution and host specificity of the species of the genus *Gyrodactylus* from freshwater fishes in Bulgaria. The following research tasks were completed:

- 1). Revision of the available materials of *Gyrodactylus* from Bulgaria in the Helminthological Collection of IBEI-BAS (morphological study).
- 2). Targeted collection of new materials and supplementing the information on the morphology of the species with modern approaches.
- 3). Sequencing of a region of ribosomal DNA (ITS1–5.8S–ITS2), established in the modern literature as the main barcode sequence for the group (only on newly collected material)

For the purposes of the dissertation, materials from the Helminthological Collection of IBEI-BAS were used, as well as newly collected materials from freshwater fish (2017-2024); a total of 296 preparations containing 325 individuals. These materials originate from over 30 points, mainly river stations. The materials from standing water bodies are exclusively from the Srebarna Lake. A total of 26 fish species were examined, mostly cyprinids, but also representatives of other fish families. Modern analytical methods were used, including DNA sequencing.

Based on the conducted research, the following main results and conclusions have been obtained and formulated:

1) The current number of species of the genus *Gyrodactylus* in freshwater fish in Bulgaria is established, which currently numbers 29. The presence in our country of a number of species such as *G. carassii*, *G. cernuae*, *G. elegans*, *G. gobioninum*, *G. hronosus*, *G. kherulensis*, *G. longiradix*, *G. markewitschi*, *G. matovi*, *G. pannonicus*, *G. rarus* and *G. sedelnikowi*, determined in the past, is not confirmed.

2) The most common species of the genus *Gyrodactylus* in Bulgaria is *G. prostae* (found in 4 fish species in 8 localities), followed by *G. sprostonae* (known from 4 host species in 4 localities).

3) The most abundant freshwater fish species in Bulgaria in terms of gyrodactyls is *C. carpio* (6 species), followed by *G. gobio* (5 species).

4) It is established that the published information for each of the species *Gyrodactylus gobii*, *G. laevis*, *G. markewitschi* and *G. medius* from Bulgaria represents a collection of data for different species, which were not distinguished during the development of the materials.

5) The collected materials are dominated by species of the genus *Gyrodactylus* from commercially important fish species such as *C. carpio*, *C. carassius*, *S. cephalus* and *S. trutta*, which have been studied more fully. Fish species of less economic importance have been studied less and it can be expected that additional species of the genus *Gyrodactylus* will be identified from them.

6) Foreign fish species that have entered the country, such as *Ameiurus melas* and *Perccottus glenii*, probably introduced with stocking material or other vectors of distribution, have introduced their specific monogenean species. Results of a study are reported, which also significantly revised the genus *Gyrodactylus* from freshwater sites in our country.

The main results are convincing; they have been accumulated in the course of intensive field and laboratory/chamber work and with the correct application of the selected methodologies; they have also passed the assessment of the reviewers of the scientific articles discussed here. The contributions are well formulated and adequate to the results obtained. Their relevance is also evidenced by the fact that in the period 2019-2025 they have been published in three scientific papers and two reports at national and international scientific events, which contain the main results of the dissertation being developed.

Conclusion: The dissertation work presented by the doctoral student Nina Vencheva Vaneva on “Taxonomic revision of the genus *Gyrodactylus* (Monopisthocotyla: Gyrodactylidae) in freshwater fish in Bulgaria” fully meets the requirements for awarding the ONS “Doctor” degree in Hydrobiology with its proven relevance, comprehensiveness and applied nature. I strongly urge the esteemed Scientific Jury to vote YEA/FOR awarding this degree to the PhD student Nina Vencheva Vaneva.

Sofia, December 19, 2025.

Prepared by.....

Prof. Dr. Y. Uzunov, Member of the Scientific Jury