

Diversity of *Branchipus* populations (Branchiopoda, Crustacea) on the territory of Serbia - Could the body size be an indicator of geographical and environmental distinctness?

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KEYWORDS: Branchiopoda, morphology, diversity

INTRODUCTION

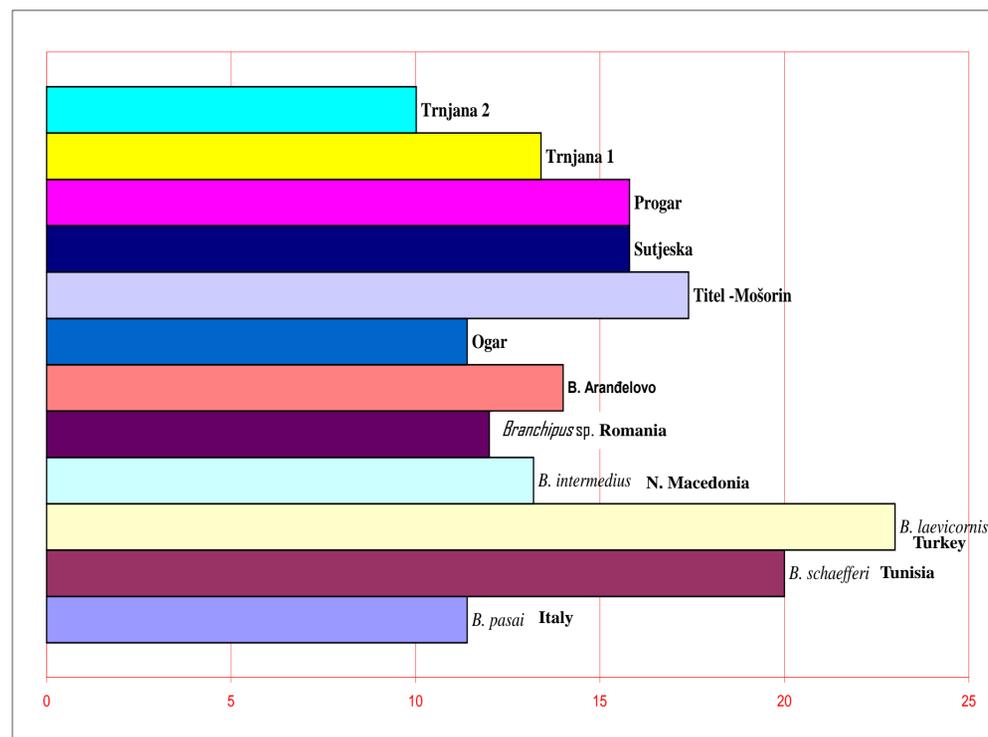
Large branchiopod crustaceans (Class Branchiopoda) usually inhabit small and ephemeral inland water bodies. They are a flagship animal group in inland water ecosystems and temporary pools. Some species have been included into national red lists, and some are strictly protected in many European countries. In Serbia, two species were registered so far: *Branchipus schaefferi* from northern habitats (plain landscape of the country), and *B. intermedius* from localities in the southern, hilly part of the country. The objective of this study was to determine whether the morphological analysis could be used in order to differentiate *Branchipus* species from several areas within a certain territory.

METHOD

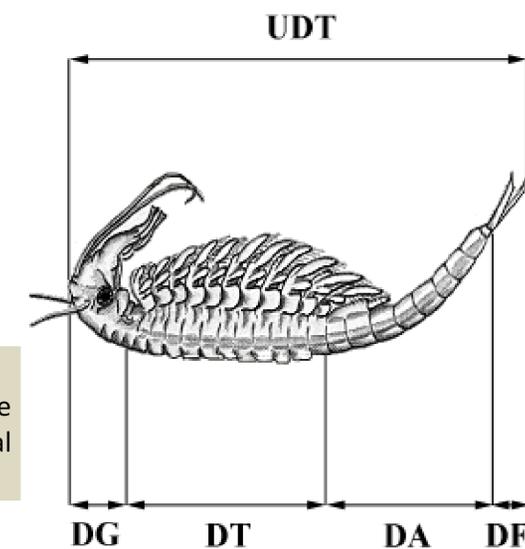
We used populations from the northern, Pannonian parts (Progar, Sutjeska, Titel-Mošorin, Ogar, Banatsko Arandjelovo), and from Eastern-Serbian mountainous region (populations Trnjana 1 and 2). Body parts common to both sexes were measured in individuals of the same age, from all examined populations: a total body length, thorax, abdomen, and cercopod length, ratio of total body to thorax length and ratio of total body to the abdomen length. Data were analyzed using descriptive statistics. We also used material from other geographical regions: Turkey (*B. laevicornis*), North Macedonia (*B. intermedius*), Tunisia (*B. schaefferi*), Romania (*Branchipus* sp.), and Italy (*B. pasai*) in order to compare body lengths of different species within the genus, with those from Serbia.

RESULTS

The results of descriptive statistics showed that *Branchipus* species originating from different habitats (plain landscapes and hilly parts), could be distinguished by the morphological parameters to some extent. Body traits that affected the differentiation of samples mostly were: abdominal length, the contribution of thorax in total body length, and the contribution of abdomen in total body length.



Maximum body lengths of males of the genus *Branchipus* (scale in mm).



UDT - total body length
DG - head length
DT - thorax length
DA - abdomen length
DF - cercopod length

CONCLUSIONS

Presented results indicate that linear morphological data obtained by the discriminate morphological analysis can be used as an auxiliary method in determination of populations from various geographically regions, and in assessment of the regional biodiversity.

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| | n | Mean | Min. | Max. |
|----------|----|------|------|------|
| UDT (mm) | 56 | 12.0 | 8.1 | 17.4 |
| DG (mm) | 56 | 1.0 | 0.5 | 1.8 |
| DT (mm) | 56 | 4.5 | 3.1 | 6.8 |
| DA (mm) | 56 | 4.6 | 3.0 | 7.0 |
| DF (mm) | 56 | 1.8 | 1.0 | 3.1 |
| UDT/DT | 56 | 2.7 | 2.2 | 3.0 |
| UDT/DA | 56 | 2.6 | 2.2 | 3.7 |

Descriptive statistical analysis of the total sample of females from Serbia.