Recent discoveries on the distribution of Corophiidae (Crustacea: Malacostraca: Amphipoda) along the River Danube

Péter Borza1,2

1Eötvös Loránd University, Institute of Biology, Department of Systematic Zoology and Ecology, Pázmány Péter sétány 1/C, H-1117 Budapest, Hungary
2Hungarian Academy of Sciences, Institute of Ecology and Botany, Hungarian Danube Research Station, Jávorka S. u. 14., H-2131 Göd, Hungary
e-mail: borzap@gmail.com

Introduction

The rich Ponto-Caspian amphipod fauna is among the most important sources of aquatic invaders. Among them corophiids represent a special group; they live in their self-made tubes and are filter-feeders, thus have a prominent role in the benthos-pelagic matter cycling. The increased attention on Corophiidae in recent years involving the identification of the “Joint Danube Survey 2” samples, revision of archive years involving the identification of the “Joint Danube Survey 2” (JDS2, organized by the ICP DR - International Commission for the Protection of the Danube River), kick and sweep samples - “Collection of Crustaceans and Other Aquatic Invertebrates of the Hungarian Natural History Museum” - “collections of certain Regional Inspectorates for Environment, Nature, and Waters” - samples collected by the author.

Material and methods

The material examined originated from the following sources:

• Joint Danube Survey 2” (JDS2) organized by the ICP DR - International Commission for the Protection of the Danube River; kick and sweep samples
• Collection of Crustaceans and Other Aquatic Invertebrates of the Hungarian Natural History Museum
• “collections of certain Regional Inspectorates for Environment, Nature, and Waters”
• samples collected by the author

Results and discussion I. – Longitudinal distributions

The species found

<table>
<thead>
<tr>
<th>Species</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelicorophium curvispinum (G. O. Sars, 1895)</td>
<td><img src="https://example.com/image1.png" alt="Image" /></td>
</tr>
<tr>
<td>Chelicorophium sowinskyi (Martynov, 1924)</td>
<td><img src="https://example.com/image2.png" alt="Image" /></td>
</tr>
<tr>
<td>Chelicorophium robustum (G. O. Sars, 1895)</td>
<td><img src="https://example.com/image3.png" alt="Image" /></td>
</tr>
<tr>
<td>Chelicorophium maoticum (Sowinsky, 1898)</td>
<td><img src="https://example.com/image4.png" alt="Image" /></td>
</tr>
</tbody>
</table>

Conclusions

These results underline that our current knowledge about this group is not sufficient. In the future more attention should be paid to corophiids!

Acknowledgements

I wish to thank the contributors providing samples for revision: Béla Csányi, Eduárd Csépes, Csaba Deák, László Forró, Valér Horvai, Katakn Kovács, Krisztián Kovács, János Nosek Nándor Oertel, and all the numerous collectors for their field work.

Results and discussion II. – Hungarian distributions

Archive samples (1917-1960)

• The first records of Corophiidae in Hungary (1917) were erroneously attributed to C. curvispinum
• The first species expanding its range in the River Danube was in fact C. sowinskyi
• The actual colonization of the Danube and its tributaries by C. curvispinum took place undetected

Recent samples (1991-2009)

• At present C. curvispinum is the most widespread corophiid in the country
• The once probably continuous range of C. sowinskyi in the Carpathian Basin has become fragmented; three isolated populations exist in the rivers Danube, Dráva, and Tisza
• In 2007 C. robustum was recorded for the first time in Hungary
• In 2009, where found, C. robustum showed a strong dominance over the species already present and in some others it was the only corophiid found

• In 2009, where found, C. robustum showed a strong dominance over the species already present and in some others it was the only corophiid found

Females

C. curvispinum

Chelicorophium curvispinum

G. O. Sars, 1895

Chelicorophium robustum

G. O. Sars, 1895

Chelicorophium maoticum

Sowinsky, 1898

Chelicorophium maeoticum

Martynov, 1924

C. curvispinum

C. maeoticum

C. robustum

C. sowinskyi

Males

2nd antennae of