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A revision of the freshwater crabs (Crustacea: Decapoda: Brachyura: Potamonautidae) of the Lake Kivu drainage basin in Central and East Africa

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Abstract

The taxonomy of the freshwater crabs living in the rivers draining from the mountains in the eastern Democratic Republic of the Congo and Rwanda into Lake Kivu is revised. Four species are recognized: *Potamonautes perparvus* (Rathbun, 1921), *P. minor* Bott, 1955, *P. gonocristatus* Bott, 1955, and *P. semilunaris* Bott, 1955. Updated diagnoses, illustrations, and distribution maps are provided for the species. The four species are compared to each other, and an identification key to all eight species found in Lake Kivu and its drainage basin is included.

Key words: Africa, Potamoidea, *Potamonautes*, Lake Kivu, identification key

Introduction

It is difficult for the non-specialist to distinguish between the many species of *Potamonautes* from the Rift Valley of Central Africa because the identification keys of Chace (1942) and Bott (1955) are out of date, and no modern taxonomic treatments are available. Although the freshwater crabs of Lake Kivu were recently revised by Cumberlidge & Meyer (2011), those species that live in the rivers and streams that drain into the lake were not included. Four species were recognized from Lake Kivu: *Potamonautes lirrangensis* (Rathbun, 1904), *P. mutandensis* (Chace, 1942), *P. idjwiensis* (Chace, 1942), and *P. bourgaultae* Cumberlidge & Meyer, 2011. The taxonomy of the freshwater crabs of the Lake Kivu drainage basin, including the rivers and streams that flow from the mountains of the Democratic Republic (DR) of the Congo and Rwanda, is revised here.

Bott (1955) recognized four subspecies (belonging to two species) that live in the Lake Kivu drainage basin: *P. perparvus perparvus* (Rathbun, 1921), *P. perparvus gonocristatus* Bott, 1955, *P. perparvus minor* Bott, 1955, and *P. emini semilunaris* Bott, 1955. Ng *et al.* (2008) considered *P. semilunaris* to be a distinct species, and listed *P. gonocristatus* and *P. minor* as subspecies of *P. perparvus*. Here, however, we follow Cumberlidge *et al.* (2009), who recognized *P. perparvus* (Rathbun, 1921), *P. gonocristatus* (Bott, 1955), *P. minor* (Bott, 1955), and *P. semilunaris* (Bott, 1955) as valid species. The present work revises the taxonomy of the freshwater crabs of the Lake Kivu basin by focusing on important taxonomic characters such as the gonopods, mouthparts, pereiopods and sternum (Cumberlidge 1999). The identification key of these species is updated and distribution maps and conservation status for each of the species are also provided.

Methods

Carapace width (CW) is the distance across the carapace at the widest point; carapace length (CL) is measured along the median line, from the anterior to the posterior margin; carapace height (CH) is the maximum height of the cephalothorax; front width (FW) is measured along the anterior frontal margin between the orbits. These measurements were made with digital calipers. The following abbreviations are used: a, abdominal segment; a5/a6, sulci between adjacent abdominal segments; s, thoracic sternite; s1/s2, s2/s3, s3/s4, s4/s5, s5/s6, s6/s7, s7/s8, sternal sulci between adjacent thoracic sternites; e, thoracic episternite; s4/e4, s5/e5, s6/e6, s7/e7, episternal sulci between

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