

***Crenoicus* Nicholls, 1944  
(Crustacea, Isopoda, Phreatoicidea):  
Systematics and Biology of a New Species  
from New South Wales**

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**ABSTRACT.** The phreatoicidean isopod genus *Crenoicus* is found in upland swamps and springs throughout New South Wales and Victoria. We provide a new diagnosis of *Crenoicus* and review its 4 species, including one new species. As a benchmark for phreatoicidean external morphology, this paper provides a detailed description and illustrations of the new species found on the Boyd Plateau west of Sydney. Variation in some morphological features is high, with populations from separated swamps nearby showing localised differentiation. Measurements of large samples from two sites indicate that this species may reproduce continuously throughout the year, but with a substantial decrease during the winter.

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*Crenoicus* Nicholls, 1944 is known from the highlands of New South Wales and Victoria (Fig. 1). In New South Wales, species are found in *Sphagnum* swamps (discussed herein), spring-fed seeps (pers. obs.) and cavernicolous ground waters (S. Eberhard, pers. comm.). In Victoria, specimens are also found at lower altitudes among root masses in small streams. Where these habitats are undisturbed, localised population densities may exceed several hundred per square meter. Because of its relative abundance and ease of collection in the highlands of New South Wales, a new species (*Crenoicus buntiae* n.sp.) was chosen for our initial studies of the suborder Phreatoicidea.

First reviewed by Nicholls (1943, 1944), more recent publications on the suborder Phreatoicidea have dealt with their distribution (Knott, 1986; Banarescu, 1990; Eberhard *et al.*, 1991), specific aspects of morphology (Martin, Wägele & Knott, 1990; Wilson, 1991), or treatments of their phylogenetic position in the Isopoda (Wägele, 1989; Brusca & Wilson, 1991). Williams (1980, 1981) provides general accounts of the Phreatoicidea in Australian fresh waters. More recently Poore, Knott and Lew Ton (in press) revise the taxonomic names of the suborder and diagnose the families, primarily based on Knott (1975). Our paper provides an inventory of phreatoicidean external anatomy and