Short Communication

South-western extension of the known range of two freshwater shrimps, *Caridina nilotica* (Roux) and *Macrobrachium petersi* (Hilgendorf), in South Africa

D.J. Coetzee

Cape Department of Nature and Environmental Conservation,
Jonkershoek Nature Conservation Station,
Private Bag 5014, Stellenbosch, 7600 Republic of South Africa

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Two freshwater shrimps, *Caridina nilotica* (Roux) and *Macrobrachium petersi* (Hilgendorf), were collected in the Gamtoos River in the eastern Cape, representing a south-western range extension for both. This is the first known record of these species west of Port Elizabeth, and also the first record of an overlap of their distribution ranges with that of the Cape river shrimp, *Palaemon capensis* (de Man).

Twee varswatergarnale, *Caridina nilotica* (Roux) en *Macrobrachium petersi* (Hilgendorf), is in die Gamtoosrivier in die Oos-Kaap versamel, wat 'n suidweswaartse uitbreiding van albei se verspreidingsgebiede verteenwoordig. Dit is, sover bekend, die eerste optekening van hierdie spesies wes van Port Elizabeth, en ook die eerste optekening van 'n oorvleueling van hulle verspreidingsgebiede met dié van die Kaapse riviergarnaal, *Palaemon capensis* (de Man).

During September 1984 the Cape Department of Nature and Environmental Conservation started a series of investigations into the status and distribution of freshwater decapods in the larger rivers of the Cape Province. Since the major work by Barnard (1950), little has been done to update their distribution records. In a review of southern African decapods, Kensley (1981) mentioned freshwater decapods briefly and emphasized the need for further collecting. Initial surveys have already shown the disappearance of certain decapods from some of our rivers (Coetzee, unpublished data), and it is feared that agricultural practices, the building of large dams and the introduction of exotic fish species have also taken their toll in other rivers.

Trial surveys to test sampling equipment (traps and small-mesh seine-nets) were conducted in a few southern and eastern Cape rivers during February 1983. At the uppermost sampling locality in the Gamtoos River (Site A, Figure 1), two freshwater shrimp species, namely six specimens of *Caridina nilotica* (Roux) and five specimens of *Macrobrachium petersi* (Hilgendorf), were collected. Both species occurred over a sandy bottom in shallow water (about 0,5 m deep) with a salinity of approximately 2‰, illustrating the relatively high salinity of the Gamtoos water during that time.

The Gamtoos River was again sampled during November 1984, working upriver from Site B as far as the lower reaches of the Groot and Kouga rivers (Figure 1). This time two *M. petersi* and three specimens of another freshwater shrimp, *Palaemon capensis* (de Man), were collected. They were only obtained at Site B, namely over a sandy bottom in shallow water (about 1 m deep) with a salinity of approximately 2‰. *P. capensis* was previously recorded from the Gamtoos River at Patensie by Barnard (1950) in October 1938 (South African Museum specimen SAM — A8436). It is endemic to the region between the Palmiet River in the south-western Cape and the Baakens River at Port Elizabeth (Barnard 1950).

According to Barnard (1950) *C. nilotica* occurs from just north of Port St. Johns (Transkei) through East Africa to India, China, the East Indies and Australia (Queensland), as well as on Mauritius and Madagascar. Recently its known

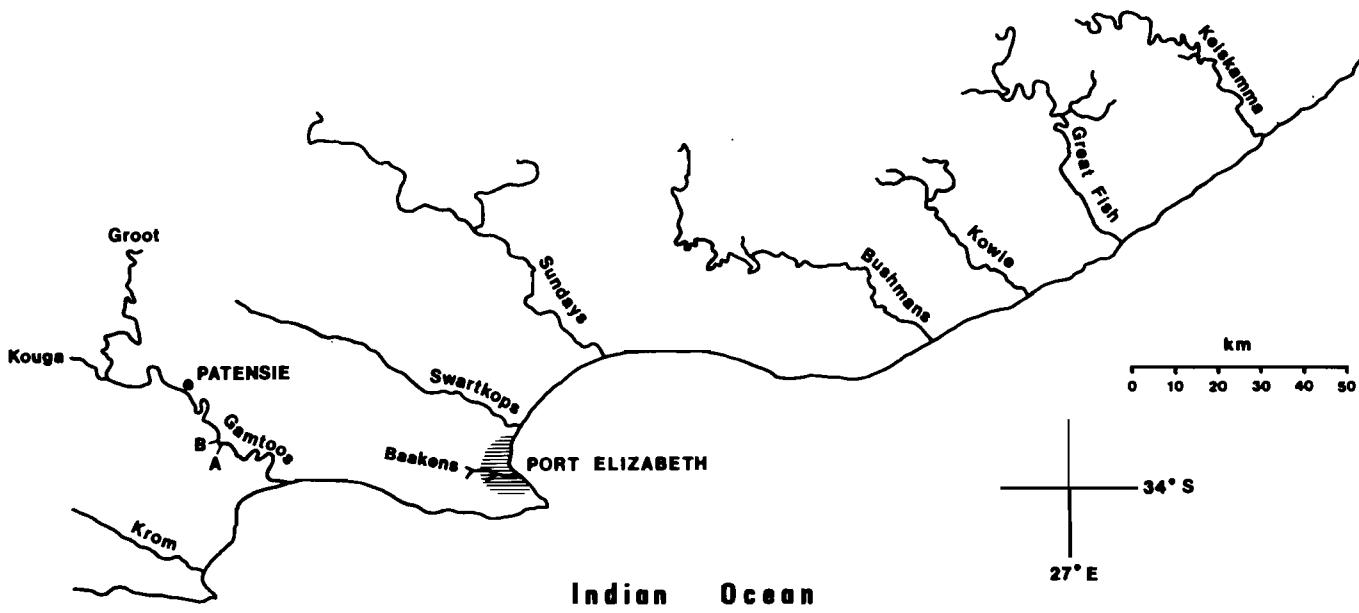

Figure 1 Map of part of the eastern Cape and Ciskei illustrating the region under discussion.

distribution range in South Africa has been expanded westwards to within 1 km of the mouth of the Orange River (Cambray 1984) and south-westwards to the Bushmans River (Hart 1983). The present record therefore represents a further south-westerly range extension for *C. nilotica*.

Barnard (1950) gives the distribution of *M. petersi* as the region between Tete on the Zambezi River in the north and the Illovo River, Natal, in the south. Recently Read (1982, 1983) recorded it further south in the Keiskamma, Great Fish and Kowie rivers (Figure 1). Although it is a freshwater organism, Read has shown that larval *M. petersi* require saline water for growth and development, and that larvae and post-larvae can tolerate a salinity of 35‰ at higher temperatures. Their tolerance decreases with a drop in temperature and this has led Read to suggest that his records of *M. petersi* probably represent the southernmost limits of this species's distribution, because the rapid decrease in sea temperature between latitudes 31°S and 33°S during its optimal breeding period could restrict a further south-westward marine transport of its larvae or post-larvae. However, the recording of *M. petersi* in the Gamtoos River in February 1983 (two males and three ovigerous females, one carrying 'eyed' eggs) and November 1984 (one male and one female), show that this species does occur further south-westwards. The data furthermore represent the first known record of an overlap of the distribution ranges of *M. petersi* and *C. nilotica* with that of *P. capensis*.

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