

# Occurrence of the red swamp crawfish *Procambarus clarkii* (Crustacea: Cambaridae) in the Crocodile River at Dullstroom, Transvaal

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## Abstract

The red swamp crawfish *Procambarus clarkii* (Girard) has been found in the sponge area of the headwaters of the Crocodile River in the Transvaal. Indications are that it occurs in relatively low numbers despite potentially favourable environmental conditions. Predators such as otters may play a role in its control. The danger exists that it may spread further downstream with time or be translocated to other localities by anglers visiting the site.

## Introduction

There are presently a number of alien aquatic plant and animal species which were either intentionally or accidentally released over the years into local inland waters in South Africa (Bourquin et al., 1984; Bruton and Merron, 1985; Julien, 1992). Some of these adapted well and established viable populations under a variety of local environmental conditions, while others such as rainbow trout and black bass are exploited commercially or used for angling purposes (Safriel and Bruton 1984; De Moor and Bruton, 1988). Some alien plants introduced here invaded aquatic and terrestrial habitats, and because of their nuisance or pest status, had to be eradicated using mechanical, chemical or biological means of control (Cilliers 1987, 1991; Julien, 1992).

In Africa, the introduction of alien aquatic animals has already caused major disturbances in the ecology of some of the larger lakes (Lowery and Mendes, 1977a,b; Barel et al., 1985), and care is now taken to avoid the further release of potentially harmful species into local waters, even if some of these appear to be potentially suitable aquaculture candidate species. Freshwater Crustacea imported into South Africa for aquaculture purposes include the giant Malaysian prawn *Macrobrachium rosenbergii* (De Man) (Taylor et al., 1992) and species of the Australian crayfish genus *Cherax* (De Moor and Bruton, 1988). Because of the high temperature and salinity requirements of the larvae, *M. rosenbergii* was never able to establish itself in local waters. The marron *Cherax tenuimanus* (Smith) has, however, escaped into the Buffalo River in the Eastern Cape (De Moor and Bruton, 1988) and appears to survive there, but has apparently not been able to establish a viable population, probably because of numerous predators present in local waters. The Louisiana red swamp crawfish *Procambarus clarkii* (Girard) which is cultivated on a large scale in North America and in a number of countries outside its native range (Holdich and Lowery, 1988), is known to have caused serious destruction of some aquatic habitats (Parker, 1974; Huner, 1977; Lowery and Mendes, 1977a,b). Despite its apparently sporadic importation into South Africa by the aquarium trade (Van Eeden et al., 1983; Schoonbee, personal observations), it was only in 1988 that the presence of a viable colony of *P. clarkii* in the headwaters of the Crocodile River first indicated its establishment in an inland

water ecosystem in the Transvaal. Material collected from the site as well as specimens obtained during the same year from an aquarium shop in Johannesburg were provisionally identified by the author as *P. clarkii*, which was later confirmed by Prof JV Huner, Director of the Crawfish Center of the University of Southwestern Louisiana (Huner, 1990).

In this paper a brief description is given of the locality in which *P. clarkii* occurs (Fig. 1). A brief description of the animal supported by photographs, is given to facilitate its identification, should it already occur elsewhere in local waters in South Africa. Reference is also made to its natural dietary habits.

## Description of *P. clarkii*.

The first pair of walking legs are typically enlarged, with strong claws used to capture food and for protection (Fig. 2A). Young

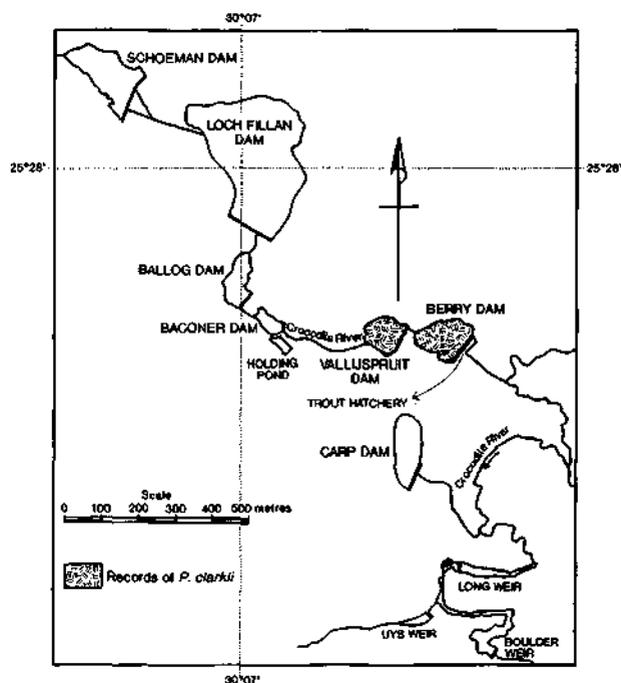


Figure 1  
Driehoek Farm Dams with an indication of the present occurrence of *Procambarus clarkii*

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