The Introduced Red Claw Crayfish in Jamaica

The red claw crayfish, *Cherax quadricarinatus,* has been a popular choice for aquaculture since the late 1980s. Brood stock of this Australian native was introduced in 1993 to farms in Jamaica. The first known established specimen living in the wild was collected from the Black River in 1999.

Plate 1. Cherax quadricarinatus

Characteristics of *Cherax quadricarinatus*

The species grows to about 100 mm in carapace length. The carapace is usually green-brown with paler spots and mottles; claws tend to be a deeper green colour (Jones and Morgan, 1994).

A prominent feature of this species is the red claw, which gives the species its common name. The soft red patch on the outer margins of the fixed finger of the claw is only seen in males, and becomes increasingly prominent through successive moults. Females have slimmer blue-green claws that never show any red colouration (eFishbusiness Online).

Plate 2. Male red claw crayfish

Jones (1990) reported that aside from the red colouration and larger size of the cheliped or claw of the mature male, sexual differences in *C. quadricarinatus* are reasonably subtle. The only characteristic that can be used to distinguish between the sexes in juveniles is the position of the genital opening: at the base of the 3rd and 5th pereiopods (walking legs) in females and males respectively (Shao *et al*., 1996).

Distribution

Cherax quadricarinatus is native to the southern hemisphere: throughout the streams and rivers of northern Australia (Jones and Morgan, 1994).

In Jamaica, they have become established in two of the largest river systems in Jamaica: Black River in the parish of St. Elizabeth, and Rio Cobre in St. Catherine.

Behaviour

Red claws are very hardy and can tolerate a wide range of conditions, including low water quality in moderately polluted rivers. They are capable of dispersing further than native shrimp, and have been reported to actively move during times of drought to locate permanent bodies of water in their native ecosystem (Wingfield, 2000). This may have applications to its capacity disperse to other rivers in Jamaica.

Impacts

Several crayfish species have been introduced beyond their natural ranges worldwide, either accidentally or intentionally for aquaculture. Typically, these animals had adverse effects on the existing crayfish fauna, including the elimination of native species (Vorburger & Ribi, 1999). No crayfish are native to Jamaican rivers and streams; however there are 14 indigenous freshwater shrimp species (Hunte, 1978). Of this number, nine occur in the Black River and Rio Cobre systems collectively. The impact of the crayfish on the native crustacean fauna is being investigated.

Preliminary results indicate, contrary to reports that *C. quadricarinatus* does not dig burrows in Australia (Wingfield, 2000), that individuals in Jamaican rivers are generally found occupying burrows which they construct in the banks of the rivers.

Plate 3. Crayfish burrows in river bank – Black River

Red claws now contribute to the livelihoods of many fishermen and vendors in St. Elizabeth, St. Catherine and Kingston; the crayfish are purchased alongside native shrimp in large numbers in St. Elizabeth, St. Catherine and Kingston. The quantity in which this crayfish is caught and sold is an indication of its local abundance.

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