

Eudaniela garmani (Manicou Crab)

Order: Decapoda (Shrimps, Lobsters and Crabs)

Class: Malacostraca (Crustaceans: Shrimps, Sand-hoppers and Woodlice)

Phylum: Arthropoda (Arthropods)



Fig. 1. Manicou crab, *Eudaniela garmani*.

[<http://www.ttnaturelink.com/wp-content/uploads/2013/09/Asa-Wright-Nature-Centre-crab-trinidad-wildlife-birds-flora-fauna.jpg>, downloaded 2 April 2015]

TRAITS. It is a freshwater land crab, with a carapace that can exceed 100mm in width. The carapace is flat, with distinct grooves that almost reach the margin. On the adults the H-shaped groove on the carapace is whitish, as is the ventral surface. The chelipeds (front legs, with pincers) are unequal in size especially in the adult males. They have excellent vision which is adapted to seeing in the night. They have powerful pincers that slice through soft tissues and crush harder objects. The female pleopods (swimming legs) are stout and oar-like, and females also possess a pouch formed by the abdomen which is tucked underneath the body (Maitland and Maitland, 1998). The juveniles are dark brown and adults are a chestnut brown colour (Fig. 1).

DISTRIBUTION. The manicou crab first evolved in Puerto Rico, then expanded to South America and then to Trinidad and Tobago. Today this species thrives in their self-dug burrows near the mountain streams of Trinidad and Tobago, Margarita and eastern Venezuela (Fig. 2).

HABITAT AND ACTIVITY. *Eudaniela garmani* are found close to fast flowing streams at elevations of 50-800m. They dig burrows, or use boulders and rock crevices as refuges. Due to the nature of the streams the larger adult crabs are less likely to be found in burrows and more under boulders and rock crevices. They are nocturnal, hence they are more active at night. The juveniles wander along the river, the adults stays close to the burrows or places of refuge and female crabs move upstream dispersing eggs. *Eudaniela garmani* is sometimes active during the day in the rainy season or after heavy rainfall.

FOOD AND FEEDING. They are voracious predators since they have a hard exoskeleton, powerful limbs and claws. Their diet consists of fruits and animals. They feed on snakes, prawns, each other, fish, wild fruits and insects. They catch their prey by taking the prey-catching stance, straddling a suitable riffle (shallow section of stream) and adopting a sit and wait strategy (Maitland, 2003). Therefore they do not chase their prey. They lift their body into the air facing downstream with tips of their legs dipped in the water and their claws outstretched in front and touching the water's surface (Maitland, 2003). Their weight is supported by their walking legs. *Eudaniela garmani* pounce on animals that brush their probing legs, such as shrimps. The manicou crab uses its pincers to break up the prey and to keep it close to its mouth. Manicou crabs are night hunters. When large prey such as snakes are caught the manicou crab goes to a place of refuge to consume its meal (Fig. 3).

POPULATION ECOLOGY. *Eudaniela garmani* is typically solitary predominantly because they are aggressive and challenge each other for food and burrowing holes. However, they gather together during the mating season. The average life span of manicou crabs is 2-3 years, solely because many are harvested before they die naturally. These crabs are cryptic, but, the population is thought to be decreasing due to over-hunting.

REPRODUCTION. There is no fixed breeding time for manicou crab as females with young were seen in both the rainy and dry season. Unusually for crabs, reproduction is independent of the sea. The female crab can only reproduce after they reach sexual maturity, at age 3-4 years a size of approximately 67-69mm. Females can lay 200-300 large eggs, with diameters of 3mm. The eggs are directly hatched into miniature crabs, without a larval stage as in most other crabs. They are retained in the female's pouch until the first moult, when they are released into the water.

BEHAVIOUR. When the young are released at night, they wander along the riverside away from the burrow. To deter predators *Eudaniela garmani* makes a tapping or scrabbling sound by rubbing its claws against each other. They also make a hissing or bubbling noise from their mouth.

APPLIED ECOLOGY. *Eudaniela garmani* is not on the IUCN red list of threatened species. In Trinidad they are overhunted as they are said to be the tastiest crab. However, in the other native countries and Tobago there is no data to support if their population is declining.

REFERENCES

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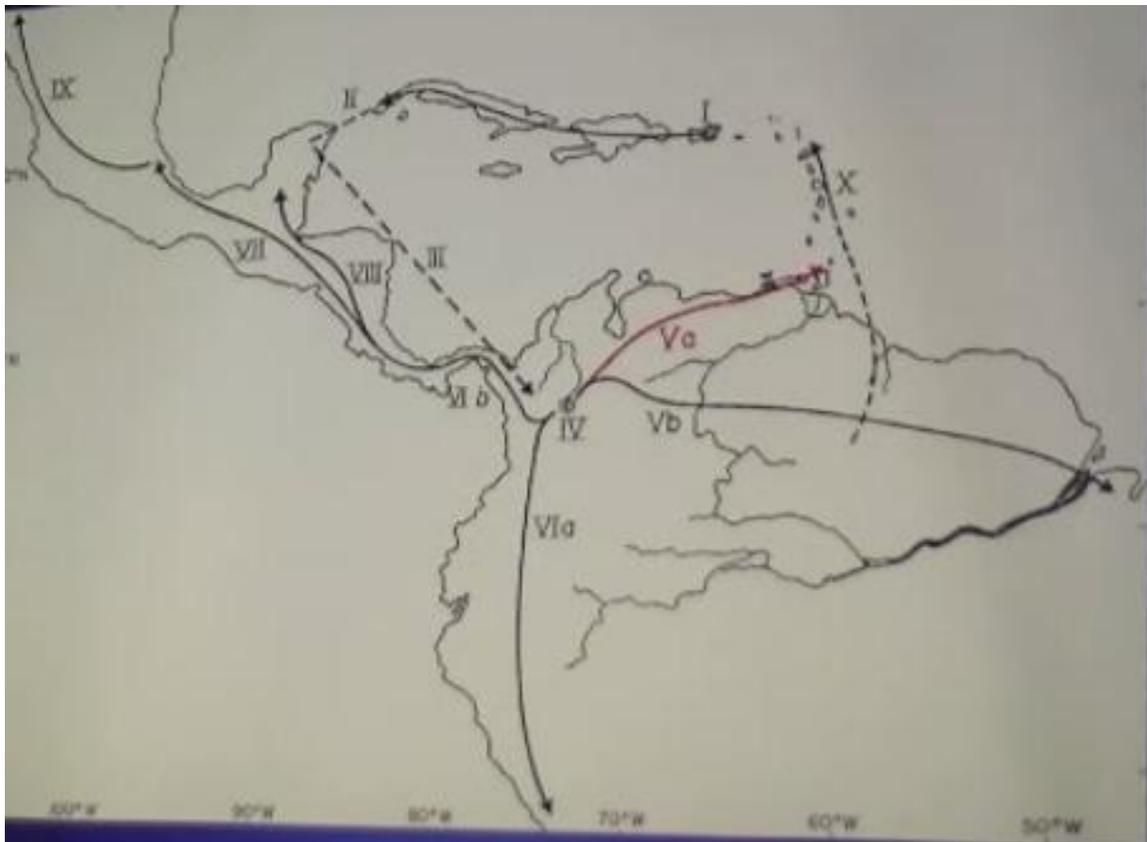


Fig. 2. The distribution of *Eudaniela garmani*.

[From Rostant et al. (2008)]

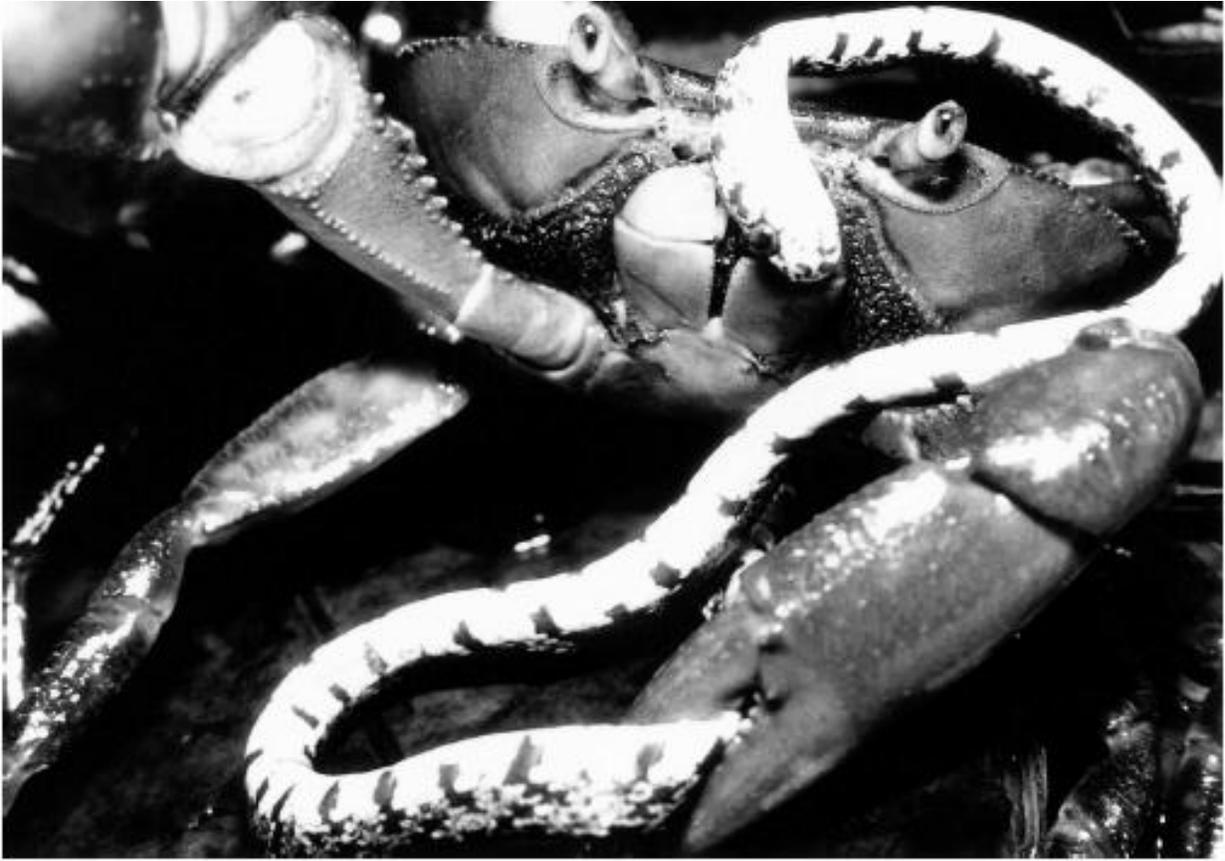


Fig. 1. Adult *Eudaniela garmani* eating a clouded slug-eating snake, *Sibon nebulata nebulata*. The crab's carapace width is 70 mm.

Fig. 3. Predation of snake by the manicou crab.

[From Maitland (2003)]

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