

The Mud Prawn (*Upogebia africana*)

Several of our dedicated local river fishermen, two of whom are members of the BRMRPA committee, namely Dennis Laubscher and Jimmy van Rensburg, have been alarmed as to the dwindling population of the most popular bait used in catching fish, the mud prawn. On the strength of this information, and opinion from other fishermen, we decided to investigate the matter further.

Our first stop was the South African Institute for Aquatic Biodiversity (formerly the J.L.B. Smith Institute of Ichthyology). We spoke to Dr. Allan Whitfield who claimed he was not an expert on the subject, but none the less pointed us in the right direction.

Upogebia africana (the common mud prawn) is a water column feeder. That is to say that it filters out micro organisms and nutrients out of the water column and does not feed directly on the substrate. It is located in the U-shaped burrows. This is in contrast to *Callinassa kraussi*, the common sand prawn or cracker shrimp, as it is sometimes known, which has proliferated over the years. *Callinassa* feeds in the substrate rather than in the water column.

You may well ask, "What the hell has this to do with population dynamics?". It gives us the first clues as to the divergence in terms of population. *Upogebia* by the nature of its habitat has a different breeding cycle to that of *Callinassa*. The *Upogebia* female holds eggs (berry) under her abdomen and then releases them into the water column where they are fertilized and drift in the river and out to sea. The eggs then hatch and the prawn is in the planktonic form for a period of time (possibly 3 weeks). The plankton or minute prawns then find their way back into the estuary and look for a suitable habitat. That habitat has to be muddy so the little prawn can form a burrow which will not collapse and carry on as its parents did by feeding in the water column. We have all seen the prawns pumping away in their U-shaped burrows which are open at both ends. This is to facilitate the flow of water through the burrow bringing in "fresh water" with more micro organisms to feed on.

Callinassa is, however, sedentary and remains in the sandy substrate throughout its life cycle. It does not have a planktonic stage. Hatchlings will move in the substrate and feed in the same areas where their parents are located.

You may say "So what everybody is happy!" This is not so. The poor little mud prawn comes into the river and desperately seeks out a suitable substrate, but this is to no avail, because there is so much sand and so little mud. The juvenile sand prawns, by contrast, are as happy as can be as there are more and more areas where the correct environment and sandy habitat are available.

The scenario is that the silting of the rivers by ingress of marine sand is changing the population dynamics of the two estuarine prawn species. This may be a simplistic view, but may well be a contributing factor, as to the demise of the mud prawn. There are several other possibilities, one is that there is no fresh water inflow into the river and hence source of nutrients in the water column for micro organisms to proliferate and thus a reduced food source. Another is that there has been over exploitation of the resource because of lack of policing and control. Yet another possibly is a complication caused by external factors like the ever popular global warming concept or sea currents as a result of changing weather patterns due to global warming which has affected the breeding cycle during the planktonic stage of the mud prawn.

We could even adopt a more lateral approach in our thinking and blame the whole thing on something completely different. The *Megaptera novaeangliae* (humpback whales) and *Balaena glacialis* (right whales) off our coast which have proliferated in number are sucking up tons of our planktonic mud prawns. The solution would be a campaign which is the converse of the old bumper sticker, "Save the Whale, spear a fat chick".

Sorry, there are no definitive answers and explanation will only come by way of thorough research into the problem.