

# Prawnography shows captive bred prawns lack lust

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A Queensland University of Technology researcher has filmed hours of prawn "sex tapes" to find out why prawns bred in captivity did not go on to breed well.

Life sciences researcher Gay Marsden spent two months at the Bribie Island Aquaculture Research Centre, run by the Department of Primary Industries, filming what prawns got up to when the sun went down.

"The Australian prawn aquaculture industry depends on black tiger prawns, *Penaeus monodon*," Ms Marsden said.

"Currently the broodstock that supply the larvae to stock the ponds are captured from the wild.

"Wild-caught prawns spawned millions of eggs, which meant that not many needed to be caught for commercial production, but there was a high risk of disease.

"Viruses can be introduced by wild broodstock, and in high density ponds, crops can be wiped out in days."

Ms Marsden said it is therefore preferable to use captive-bred prawns as broodstock as they can be kept free from the troublesome viruses.

"When prawns are caught from the wild and put into tanks, they have no problem breeding," she said.

"It is a different story for the prawns reared in captivity.

"It was suspected that prawns bred in captivity weren't interested in sex but very little was known about why this was the case, so I undertook the study to try to find out."

Using infrared cameras, Ms Marsden compared the bedroom behaviour of captive-bred prawns with wild prawns and observed combinations of captive-bred prawns mating with wild prawns.

"Males mate with females after the females moult, when they have lost their shells their bodies are soft and can be implanted with sperm," she said.

"But when I looked at the videos of the captive-reared prawns, when the females moulted, the males weren't interested, indicating pheromones were lacking.

"Their non-reproductive behaviour is normal, so they appear healthy in that regard, but there is a problem, the male and females are not attracted to each other.

"I found it was partly the females fault probably for not releasing many pheromones, but there was also something wrong with the males, they weren't very receptive to what pheromones there were."

Ms Marsden said that for an animal that had a brain the size of a pin head, prawns were surprisingly complex.

"From my research, we've got leads for improved nutrition and have also carried out some trials looking at the effect of different hormones on the prawn reproduction," she said.

"Their endocrine system is not functioning normally and further research is needed to find out why that is."

Ms Marsden said while prawns were best eaten at smaller sizes, the black tiger prawn broodstock grew to about 23cm long. They are found off the Australian east coast and in South East Asia.

Source: Queensland University of Technology

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