

LOOKING AT THE Rainbow Stag Beetle

PHALACROGNATHUS MUELLERI is a well known for its beautiful iridescent rainbow colouring. An absolutely stunning beetle.

DISTRIBUTION

The Rainbow stag beetles is confined to the rainforests and adjacent wet sclerophyll forests of coastal north-eastern Queensland, between Helenvale near Cooktown and the southern end of the Paluma Range.

BREEDING SITES

This beetle breeds in rotting wood in both fallen and standing living or dead trees. The larvae feed on the decaying wood of various species of trees. This decaying matter is usually moderately moist although they can at times be found in relatively dry timber.

OVIPOSITION

Up to 50 eggs are laid by each female. Eggs are deposited singly, but females have been observed to lay up to 30 eggs in a close group. Eggs take 10 to 14 days to hatch, in which time each egg expands to become almost double its original size. The larva is visible within the egg just before emerging. Oviposition occurs throughout the year. Males have been recorded in the company of ovipositing females.

PUPATION

The larva constructs a pupal cell which may take up to a week to complete. At this stage the larva moults and a pupa is formed. The pupa will change position in the cell many times during its development. The pale pupa begins to attain a metallic colour, almost opal like. The soft beetle then emerges with soft white wings which harden and develop their brilliant rainbow colours over a period of one week. The adult may remain within the pupal cell for up to 8 months.

ADULTS

Males can vary in length from 24 mm to 70mm. Females are generally much smaller measuring from 23 mm to 46 mm. Irrespective of individual beetle size, mandibles can vary considerably between males.

Adults break out of the pupa cell using the mandibles and legs. Males with well developed mandibles use the base of these for chewing while using their tarsi for raking out any

excavated material. Upon emerging from the cell and adult will disperse in search of food and a female. Adults are known to live for up to 18 months in captivity.

Males use their mandibles as levers when in conflict with one another. Two protagonists will approach each other with the mandible lowered. Each beetle tries to pass beneath its opponent's body or legs, at which point the mandibles are raised in an attempt to dislodge the rival. It is not unusual for the combatants to be thrown into the air or rolled over and perhaps a tarsi may be bitten off.

GLOSSARY

- **Larva**, a young insect which leaved the egg in an early stage of development and differs fundamentally in form from the adult.
- **Mandibles**, the first pair of jaws of an insect.
- **Oviposition**, the act of depositing an egg.
- **Pupa**, the resting stage of an insect, the intermediate srage between the larva and adult.