

***Philonthus castaneus* Motschulsky (Coleoptera : Staphylinidae),  
a predator of *Odontotermes redemanni* (Wasmann)**

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**ABSTRACT** : Studies carried out to know the association of staphylinids with termite, *Odontotermes redemanni* (Wasmann) revealed *Philonthus castaneus* Motschulsky as a potential predator of termites during rainy season.

**KEY WORDS** : *Odontotermes redemanni*, *Philonthus castaneus*, predator

In India, *Odontotermes redemanni* (Wasmann) cultivates the mushrooms *Termitomyces microcarpus* (Berk. and Br.) Heim on the mound surface during the rainy season. Several species of the staphylinids found as fungal inhabitants, feed on the fungus in larval stage; while adults are known to be predators (Crowson, 1981; Newton, 1984). However, certain species of staphylinids are found as termitophile associates in the nests of *Odontotermes* spp. (Kistner, 1969).

During the rainy seasons of 1986 and 1987, a survey was made in and around Bangalore to find out the association of staphylinid beetles with *T. microcarpus*. Observations were made on the feeding behaviour of these beetles both under field and laboratory conditions.

The present investigations revealed that *O. redemanni* built sub conical closed mounds over which the small mushrooms are cultivated. During the mushroom cultivation, the adults of the staphylinid *Philonthus castaneus* Motschulsky are found to be more aggressive and actively feeding on termites. The workers of *O. redemanni* bring fresh fungal comb fragments along with the basidiocarps and deposit on the mound surface, on which the mushroom *T. microcarpus* grows during the rainy season (Sidde Gowda and Rajagopal, 1990). The adults of *P. castaneus* are found to hide inside the fungal comb fragments and attack the termites. They are found to prey on the worker termite by severing at neck region by their sharp mandibles and feed only on thorax and

abdomen, leaving the head capsule. After predation they are found to heap the head capsules at one place. About 80 - 120 head capsules are collected from different places. This storing of head capsule is also observed inside the damaged and deserted mounds of *Odontotermes obesus* Rambur. The abdomen of the beetle is used as a defensive organ. When a soldier termite approach the beetle, it gives lateral blows from the abdomen on the frontal region of the termite, till it is paralysed. On an average about 30 beetles were collected from a single mound.

So far, the records of staphylinids were as termitophile associates especially in the mounds of *Odontotermes* spp. (Kistner, 1969; Rajagopal and Veeresh, 1981). For the first time the predatory staphylinids were recorded on termite species in Karnataka. However, some genera of *Philonthus* were known as predators on mycophagous dipteran and other insects (Benick, 1952).

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