**Table 1** *Escape efficiency of cockroach, Periplaneta americana, in response to attack by selected predators*

| Predator | Condition of prey (cockroach) | No. of strikes | No. of escapes | Per cent escape | Mann-Whitney[7] *U*-test |
|---|---|---|---|---|---|
| *Bufo malanosticus* | Normal | 54 | 26 | 48.15 | |
| | Unilaterally cercectomised | 46 | 11 | 23.91 | $P < 0.01$ (1 vs 3)<br>$P < 0.01$ (2 vs 3)<br>$P > 0.05$ (1 vs 2) |
| | Bilaterally cercectomised | 34 | 4 | 11.76 | |
| *Heterometrus fulvipes* | Normal | 40 | 23 | 57.5 | |
| | Unilaterally cercectomised | 31 | 14 | 45.2 | $P < 0.01$ (1 vs 3)<br>$P < 0.01$ (2 vs 3)<br>$P > 0.05$ (1 vs 2) |
| | Bilaterally cercectomised | 21 | 3 | 14.2 | |
| *Calotes nemoricola* | Normal | 25 | 10 | 40.0 | |
| | Unilaterally cercectomised | 24 | 10 | 41.67 | $P < 0.01$ (1 vs 3)<br>$P < 0.01$ (2 vs 3)<br>$P > 0.05$ (1 vs 2) |
| | Bilaterally cercectomised | 25 | 9 | 36.0 | |

$P < 0.01$ : Significant; $P > 0.05$ : Not Significant.

*Calotes nemoricola*, was found to be a more successful predator on cockroaches as revealed by the low rate of prey escape (table 1). Furthermore, predator evasion ability was almost the same in normal and in deafferented (cercectomised) cockroaches (table 1). Since cockroaches are nocturnal animals[5] they become more susceptible to capture by predators during the daytime than in the night.

These observations suggest a rhythmic sensory input into the neural circuitry of the escape system in the cockroach which would alter the predator evasion efficiency of these animals during light and dark hours of a solar day. A circadian pattern of giant-fibre-mediated spontaneous activity has been reported in cockroaches[6] and further supports this assumption.

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## TRANSPORT OF YELLOW MITE *POLYPHAGOTARSONEMUS LATUS* BY COTTON WHITEFLY

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CERTAIN insects have been reported to transport mites on their bodies from one host to another and

from place to place and aid in their dispersal[1]. Long-distance transportation of the predatory mite, *Macrocheles peregrinus*, by dung beetles, *Onthophaga* spp., has been established[2]. Recent investigation on the behaviour of the whitefly, *Bemisia tabaci* Gennadius, revealed that it acted as a carrier of the yellow mite, *Polyphagotarsonemus latus* Banks, which is an important pest of cotton, brinjal, tomato, chillies and several other field and vegetable crops, on which the whitefly also feeds.

Adult whiteflies collected from a brinjal field were examined and found to carry *P. latus* on their legs. There were 4–5 nymphs clinging firmly to the tibia and tarsus on one adult fly and 30% of the examined whitefly population of both sexes had the mites. When these adults were transferred to mite-uninfested brinjal and cotton plants, collected after two hours, and examined for the presence of mites, it was found that the mites had settled on the experimental plants.

Both the whitefly and yellow mite are polyphagous with similar host range, and prefer the terminal leaves for feeding and oviposition. *B. tabaci* causes economic damage by sucking the sap, contaminating leaf and produce with honeydew and associated fungal growth, and acts as a vector of several important diseases. The present investigation reveals that in addition to these, it also acts as a carrier of *P. latus* and aids in its dispersal. The latter observation has not been reported earlier.

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