

**STUDIES ON THE SELECTION OF *PERPLANETA AMERICANA* OOTHECAE FOR  
OVIPOSITION BY THE PARASITE *EVANIA APPENDIGASTER*  
(HYMENOPTERA : EVANIDAE)**

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*Evania appendigaster* is an oothecal parasite of the cockroach *Periplaneta americana*, in Sri Lanka. Cockroach eggs take 44 days to develop after which the nymphs emerge leaving an empty ootheca. Hence oothecae of 0-44 days old are available for oviposition by *E. appendigaster*. Experiments indicated that

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*E. appendigaster* is able to distinguish between empty and viable oothecae and that it does not oviposit in empty oothecae.

Since the age of a viable ootheca varies from 0-44 days, preference for oothecae of a particular age was tested. Results indicated that *E. appendigaster* oviposits in fresh oothecae of any age. However, development of *E. appendigaster* up to adult stage occurs only in oothecae of 0 - 30 days old. Experiments were carried out to find out whether *E. appendigaster* can distinguish an ootheca already parasitized. Results indicated that parasitized ootheca will be selected by the same or different female(s) during the first four days after oviposition, and not thereafter.

*P. americana* oothecae are parasitized by another Hymenopteran; *Tetrastichus hagenowii*. Therefore experiments were carried out to determine whether *E. appendigaster* is able to distinguish oothecae parasitized by *T. hagenowii*. Results indicated that it cannot distinguish an ootheca parasitized by *T. hagenowii*.

When *E. appendigaster* oviposits in an ootheca already parasitized by *T. hagenowii* it is only *T. hagenowii* that emerges because *E. appendigaster* eggs are destroyed by the larval stages of *T. hagenowii*.