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Seasonal Reproductive Cycle in the Australian Wood Feeding Cockroach Panesthia cribrata (Blattodea: Blaberidae)

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Field and laboratory investigations in *Panesthia cribrata* Saussure 1864 show that the ♀♀ of this cockroach species produce young only once each year, and that their reproductive cycles are remarkably synchronised. Ovaries remain dormant for most of the year. Oocyte maturation begins in early spring and takes approximately 2 months with yolk being deposited in basal oocytes only. The incubation period of eggs is about 2 months, and parturition occurs around midsummer. While T affects the rates of oogenesis and embryogenesis, the annual reproductive cycle is not solely dependent on T.

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Freiland- und Laborstudien an *Panesthia cribrata* Saussure 1864 zeigen, daß die ♀♀ dieser Schaben-Art nur 1 x im Jahr Junge hervorbringen, und daß ihre Reproduktionszyklen bemerkenswert synchronisiert sind. Die Ovarien ruhen für den größten Teil des Jahres. Das Wachstum der Oozyten beginnt zu Frühlingsanfang und dauert ungefähr 2 Monate; Eidotter wird nur in die basalen Oozyten eingelagert. Die Inkubationszeit der Eier beträgt etwa 2 Monate, und die Geburt findet ungefähr im Mittsommer statt. Oogenese und Embryogenese werden von der T beeinflußt, aber der Reproduktionszyklus ist nicht allein von dieser abhängig.

1 Introduction

If environmental conditions are favourable most cockroach ♀♀ produce eggs virtually continuously through their adult life. Each ovariole contains one mature oocyte at its base and the remainder at various stages of growth [Cornwell 1968]. The maturation of oocytes by deposition of yolk is stimulated by juvenile hormone produced by the corpora allata [Lüscher & Engelmann 1955, Engelmann 1957, 1962]. In Blaberidae oocyte maturation is inhibited whilst eggs are retained in the brood sac [Roth & Stay 1959, 1962, Engelmann 1964]. The colleterial glands, which produce the secretions that form the oothecal membrane, are small and inactive while the ootheca is being carried but become enlarged and active again during the maturation of the next batch of basal oocytes [Stay & Roth 1962].
Thus the major factors affecting the period between the production of successive broods are the time the eggs remain in the brood sac (incubation period) and the time required for the basal oocytes to mature once the young are born. For 6 Blaberidae species the intervals between broods are 4—28 d longer than

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