

**B-96: Timing of oviposition in *Aphytis lingnanensis* compere females: a parasitoid of California red scale [*Aonidiella aurantii* (Maskell)]**

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In the presence of suitable hosts *A. lingnanensis* (Hymenoptera: Aphelinidae) females oviposited in California red scale insects during daylight hours. Whether females would oviposit at night was determined by experiments in the laboratory and under natural conditions.

Each batch of females was individually confined in cages and subjected to different conditions (hosts and light) during the day and at night for 5 consecutive days. Females provided with hosts and light ( $30 \mu\text{molm}^{-2} \text{S}^{-1}$ ) during the day and with hosts and stimulated moonlight conditions ( $0.004 \mu\text{molm}^{-2}\text{S}^{-1}$ ) at night, did not oviposit at night. Females withheld from hosts during the day and provided with hosts and simulated moonlight conditions at night, also did not oviposit at night. But females that had oviposited during the day, oviposited at night when a high light irradiance ( $1.5 \mu\text{molm}^{-2}\text{s}^{-1}$ ) was provided. Confirming the laboratory observations, females that were exposed to natural environmental conditions (maximum moonlight) also did not oviposit at night.

Results indicated that in *A. lingnanensis* light is an important external factor that governs oviposition and that it would not occur under very low irradiance. Females that had oviposited during the day were not depleted of mature eggs during night. *A. lingnanensis* females deposited a limited number of eggs in a 24 h period regardless of whether they deposited only during daylight hours or whether oviposition took place during the day and at night (*when illumination is provided*). The limitation of egg supply in *A. lingnanensis* has implications for several theories on foraging behaviour of parasitoids.