

A comparison of the developmental and reproductive biology of two soybean pod borers, *Etiella* spp. in Indonesia

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Abstract

Experiments conducted in West Java, Indonesia investigated the developmental biology and reproductive behavior of two sympatric soybean pod borers, *Etiella zinckenella* Treitschke and *E. hobsoni* Butler (Lepidoptera: Pyralidae). It was determined that: (1) significant interspecific differences occurred between the egg, larval, pupal and total egg-to-adult developmental periods of laboratory raised *E. zinckenella* and *E. hobsoni*; (2) the pre-pupal and total egg-to-adult development periods of female *E. zinckenella* were significantly shorter than for males; (3) the longevity of virgin female *E. zinckenella* was significantly longer than that of virgin males, or virgin male and female *E. hobsoni*; (4) interspecific differences occurred in the female: male sex-ratios of laboratory raised adults; (5) peak mating for both species occurred on the second night after eclosion; (6) interspecific differences occurred in the temporal distribution of calling and mating behaviors; (7) repeated mating was observed for both species at a very low frequency; (8) interspecific mating did not occur; (9) female *E. zinckenella* were significantly more fecund than *E. hobsoni*; (10) the duration *in copulo* of *E. zinckenella* was significantly longer than that of *E. hobsoni*; and (11) wingtraps baited with virgin females caught only conspecific males, and reduced numbers of males were captured in traps simultaneously baited with virgin females of both species. This study demonstrates distinct biological differences and reproductive isolation between the two *Etiella* spp.

Etiella zinckenella - *Etiella hobsoni* - Lepidoptera - Pyralidae - soybean - development - reproduction