

Comparative adaption of cotesia sesamiae (Cameron) hymenoptera braconidae to chilo partellus (Swinhoe) and chilo orichalcociliellus: braconidae to Chilo partellus (swinhoe) and chilo arichalcociliellus (strand) (Lepidoptera: pyralidae) on the Kenta coast

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Studies were conducted to determine the effect of temperature and diet on the development of *Chilo partellus* (Swinhoe) and *Chilo orichalcociliellus* (Strand) (Lepidoptera: Pyralidae). Developmental times of *C. partellus* and *C. orichalcociliellus* for the egg, total larval and egg-adult life stages were inversely related to temperature. Larval developmental period of *C. orichalcociliellus* reared on artificial diet was slower than the developmental period on natural diet. Pooled head capsule width of both *Chilo* species indicated some overlap between instars. *Chilo partellus* had a higher intrinsic rate of natural increase than *C. orichalcociliellus*. Studies on the effect of temperature on development, longevity and population growth of *Cotesia flavipes* Cameron and *Cotesia sesamiae* (Cameron) (Hymenoptera: Braconidae) indicated that, the development of both *Cotesia* spp. from oviposition to cocoon formation and adult emergence was inversely related to temperature. The longevity of the parasitoids was also inversely related to temperature. Both parasitoids lived longer when moisture and food (agar + honey/water) were provided. The mean number of females and total adult progeny produced by *C. flavipes* was, in most cases, higher than *C. sesamiae*. The intrinsic rate of natural increase of *C. flavipes* was higher than that of *C. sesamiae*. Oviposition, development and searching behaviour of *C. flavipes* and *C. sesamiae* on aestivating *Chilo* spp. and non-aestivating *C. partellus* larvae were investigated. Oviposition experiments indicated that, parasitoids readily accepted aestivating and non-aestivating larvae for oviposition when offered in an artificial laboratory set up. The developmental periods of *C. flavipes* in aestivating and non-aestivating host larvae were not significantly different (G-test 1.60; $P < 0.05$). Field cage studies demonstrated that *C. flavipes* and *C. sesamiae* were unable to locate and parasitize aestivating *Chilo* spp. larvae in dry maize stems. Parasitization of non-aestivating *C. partellus* larvae was significantly higher (G-test 7.57; $P < 0.05$) in cages where *C. flavipes* was released (26.213) than in cages where *C. sesamiae* was released (11.323). The population dynamics of *C. partellus* and other stemborers

was investigated in wild sorghum, (*Sorghum arundinaceum* (Steud) Stapf., napier grass (*Pennisetum purpureum* Schumach) and guinea grass (*Panicum maximum* Jacq.) *Chilo partellus* was the most abundant stemborer species recovered in maize, while *C. orichalcociliellus* was more abundant in napier and guinea grass. Wild sorghum was the most preferred alternate host among the wild grasses sampled.