BIOSYSTEMATIC STUDIES OF TELENOMUS EGG PARASITOIDS ATTACKING ARMYWORMS (SPODOPTERA SPP.)

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Taxonomic separation of the Telenomus spp. associated with Spodoptera app. is difficult because of their minute size and the relative scarcity of

reliable diagnostic morphological characters. Detailed studies were made on the biology and cross breeding ability of Telenomus spp. populations parasitizing eggs of Spodoptera spp. from eight different localities of the world to determine the systematic relationship between these populations.

The developmental times of these populations were studied on Spodoptera littoralis and Spodoptera frugiperda and it was found that the developmental time of the Telenomus population from the Hawaiian region was significantly longer (14 days) than the others (10 days) on both host species.

Longevity was measured for each population in the presence and absence of host. In all the Telenomus populations mated males are short lived and the longevity of mated females was reduced considerably when exposed to hosts.

The fecundity of these Telenomus populations was studied on S. littoralis and S. frugiperda. In both host species, the highest (150.6) and lowest (138.6) potential fecundity was recorded in the Telenomus populations from Barbados and Hawaii respectively.

Findings from the cross breeding experiments along with the biological differences suggest that there are two distinct biological species, T. nawaii (Hawaiian region) and T. remus (Barbados and elsewhere).