

THE PROGRESS OF *SCOLIA MANILÆ* ASHM. IN HAWAII.

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In a former article* the introduction of *Scolia manilæ* into, and its establishment in, the Hawaiian Islands was described. At that time the wasp was well established but its host, *Anomala orientalis*, was very abundant and doing great damage.

As an example of the difference between the conditions then and now the following comparisons are of interest. In 1917 from one-twentieth of an acre, 3500 *Anomala* grubs were collected from between the rows without digging around the roots of the sugar cane. Now in the same locality but over a larger area only four grubs could be found by following the plow and searching. In another locality 104 eggs, 181 grubs, 7 pupæ and 10 adults were collected from around the roots of one stool of sugar cane, now in the same locality one can only find a stray specimen after considerable search.

The parasite has extended its range beyond the area infested by *Anomala orientalis*, and is now working on *Adoretus tenuimaculatus*, a beetle common all over the archipelago.

The reduction of the *Anomala* is due solely to the action of the *Scolia* as all other factors are the same as previous to the introduction of the *Scolia*, when the *Anomala* was constantly increasing and spreading.

The phenomenal reduction of *A. orientalis* has raised the question as to the possibility of its eventual extinction. Should the *Scolia* maintain itself upon the *Adoretus* but show a great predilection for the *Anomala* such a thing may happen. The final outcome is being watched with great interest.

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