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**Biology and Natural Control of Pest Millipedes *Spinotarsus
caboverdus* PIERRARD (1987) from Cape Verde**

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Abstract

Millipedes as a crop plant pest have been present in Cape Verde for 30 years. The species *Spinotarsus caboverdus* is well known as a feeder on crops of potatoes, sweet potatoes, cassava, pumpkins, corn and bean seedlings. The millipedes also destroy fruits like papayas, mango, bananas and pineapples by drilling into them as soon as they fall onto the ground.

With the aid of laboratory cultivation, we wanted to answer specific questions about the pest's development cycle and reproduction process, as there are still substantial knowledge gaps in those areas.

Females scatter the oval, whitish eggs individually on the ground. By means of 8 moltings the larva develops into an adult animal. The development of the larva under the laboratory conditions takes 7 months, and the adult animals have a life duration of approximately 8 months. All examinations of the development data so far have shown that the species *S. caboverdus* only produces one generation per year.

There are reasons to believe that the appearance and uncontrolled eruption in numbers of *S. caboverdus* is a result of the absence of its natural enemies, normally present in the country of origin.

The environment in Cape Verde, and, in particular, the traditional channel irrigation, seem conducive to the development of millipedes.

We know that carnivorous beetles and frogs capture millipedes in captivity. However, this does work in nature. The specific covert development cycle and the defensive chemicals that are present in millipedes provide effective defence against most predators. Some parasites could possibly act as biological control agents for *S. caboverdus*. Laboratory tests showed that fungi *Beauveria bassiana*, *Metarhizium flavoviride* and nematodes *Rhabditis necromena* could be possible biological control agents for the millipede in Cape Verde.

Keywords: Millipedes, natural control, *Spinotarsus caboverdus*