

Carnivorous plants for the control of mosquitoes.

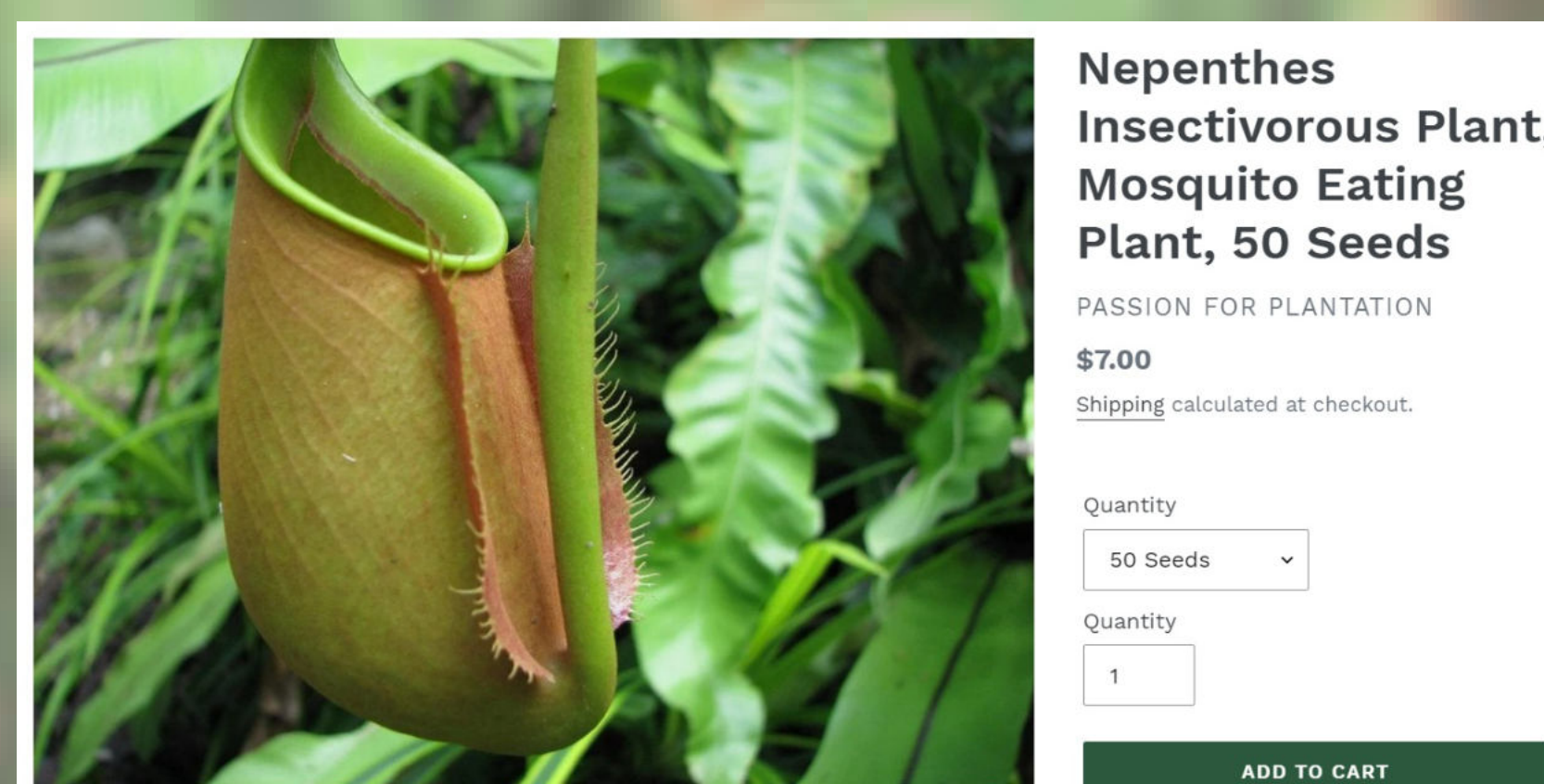
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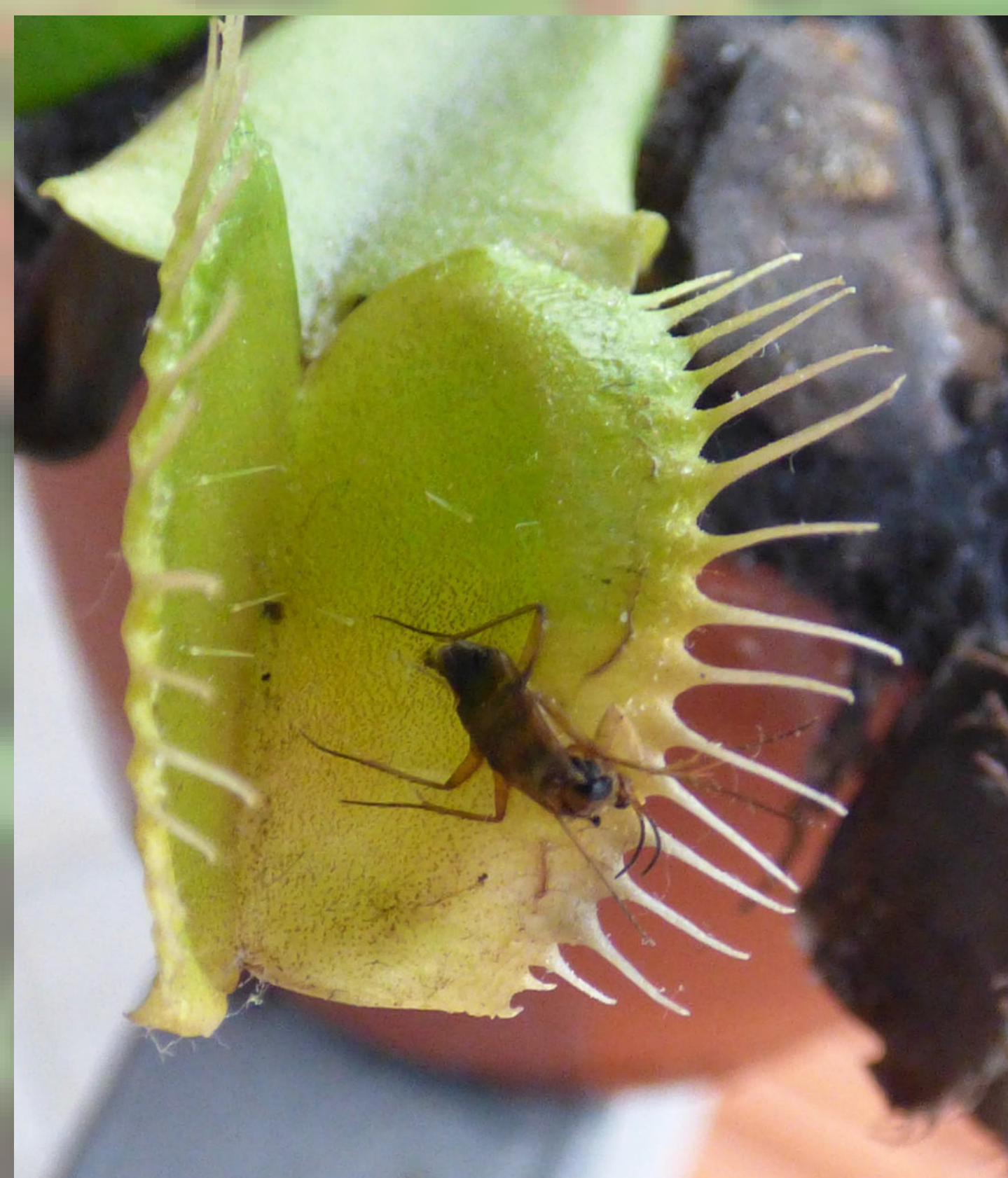
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Introduction

In recent years an increased interest in the environment and distrust in the use of chemicals have led to the appearance on the market of more natural methods to fight mosquitoes. Besides repellent plants, bats, microwaves and ultrasounds, we can also find the cultivation of carnivorous plants, like *Dionea* spp., *Drosera* spp., *Nepenthes* spp. etc. These plants live in very poor soils and therefore derive part of their nutrients from insects that are captured by leaves modified into trapping devices, where digestion and absorption also take place. Carnivorous plants have evolved different types of trap-leaves, diversified by both the type of capture method and the attractant. Insects tend to be blocked by the plant mechanically, through traps with jaw closure, through secretions of glue substances (Gibson, 1991; Blondeau, 2011; Bauer et al., 2015) or are drowned (passive trap systems) (Bauer et al., 2015). There are also some aquatic species that suck insects by particular root structures.



ZLKing 100 Pcs Flytrap Carnivorous plant Bonsai house p mosquitoes



Results

Each plant was checked 12 times over three months, finding 107 insects: *Musca domestica* (26), *Lucilia* spp. (14), *Calliphora* sp. (1), *Aphis* spp. (44), others (21) and just 1 mosquito (*Culex pipiens*).

These data clearly show how the use of carnivorous plants cannot reduce the mosquito population, at least not of the two considered species, in the environment where the study was conducted.

The odd thing was that these plants were grown in pots with saucers where the water was left almost continuously to simulate their original environment (marshes and peat bogs), where mosquitoes can develop. In fact 28 larvae of *Aedes albopictus* and 97 of *Culex* spp. were found.

The final contribution of the plants to the mosquito population is therefore an improvement of + 224 mosquitoes.

Materials and methods

In order to verify the "insecticidal" capability against mosquitoes, over the months of July, August and September 2020, 3 *Dionea muscipula* (Ellis, 1773) and 3 *Drosera capensis* (L., 1753) were placed in pots on bedroom window sills (one plant per sill). The study was conducted in Piedmont (north-west Italy) at ground floor in dwellings located in areas with an established presence of *Culex pipiens* (L., 1758) and *Aedes albopictus* (Skuse, 1894). Each plant was checked every week to verify the number and species of trapped insects.

