
**A FIRST INTERCEPTION OF THE EDIBLE LAND SNAIL
HEMIPLECTA DISTINCTA AT AN AIRPORT IN ISRAEL
(GASTROPODA, ARIOPHANTIDAE)**

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Abstract: A first case of interception of the edible land snail *Hemiplecta distincta* is here reported from Israel. A batch of 23 living snails was discovered during a check of the luggage of a temporary labourer arriving at the Ben Gurion Airport from Thailand. This exotic species is a well-known intermediate host of the Rat lungworm *Angiostrongylus cantonensis*, which may infect also human beings. The Import and establishment of these snails in Israel should therefore be avoided from a zoological and parasitological point of view.

Key words: Mollusca, Gastropoda, Stylommatophora, Ariophantidae, Hemiplecta, Thailand, Israel, exotics, parasitology.

The Plant Protection & Inspection Services (PPIS) of the Ministry of Agriculture in Israel maintains permanent control posts at the places of entrance to Israel like international airports, harbours and land border crossings with Egypt and Jordan. Some of these posts are operated 24 hours a day like the one at Ben-Gurion Airport, others only during the usual office hours.

The rate and intensity of the inspection of arriving merchandise depends on the nature of the items. Agricultural and horticultural imports receive much more attention than bulk shipments of raw material for the heavy industry. Likewise personal possessions i.e. the luggage of the arriving passengers, don't receive always the same attention. Experience has shown however that people arriving from the Far East, West Africa or South America are more likely to smuggle into Israel more exotic wildlife, both animals and plants, than people arriving from Western Europe or North America. Therefore passengers arriving on such flights receive more attention and more pieces of luggage will be inspected.

During the last ten years there has been a remarkable increase of cases in which temporary labourers arriving from Thailand are trying to smuggle edible snails into Israel (Mienis, 2009a, b). Until quite recently always only freshwater snails were involved (Mienis, 2009a), however on 26th of December 2009 a person arriving at Ben Gurion Airport from Bangkok tried to enter Israel with a number of fairly large land snails in his luggage. During interrogation he admitted that he tried to smuggle these snails into Israel in order to grow them for consumption (Interception Report by H. Goldman, 26.12.2009).

The material (PPIS Mollusc sample # 265) consisted of a batch of 23 rather flat specimens ranging in diameter from 55-70 mm (Fig. 1). They turned out to belong to a single species: *Hemiplecta distincta* (Pfeiffer, 1850), Fam. Ariophantidae. This identification was confirmed by a comparison of several representative specimens from among the intercepted material with shells present in the Mollusc Collection of the Hebrew University of Jerusalem (HUJ): THAILAND, Lampang (HUJ 52456/1, ex-col. Peile = Blok 6103A); VIETNAM, southern Vietnam (HUJ 52457/1, ex-col. Wintle, ex Blok) and Saigon (HUJ 52458/1, ex-H. McClelland = Blok 6103).

Hemiplecta distincta (Fig. 2) is a well-known tropical land snail distributed in the north-eastern part of Thailand and adjacent areas in SE-Asia (Panha, 1988a; Hemmen & Hemmen, 2001). Among the local people it is intensively exploited as a food source (Panha, 1984 & 1987a) this in spite of the fact that the snails are known to serve often as an intermediate host of the parasitic Rat lungworm *Angiostrongylus cantonensis* which may cause meningoencephalitic angiostrongylosis or parasitic meningoenephalitis in human beings (Panha, 1988a).

These snails or "Hoi due", as they are locally known (Panha, 1994), which may reach a diameter of almost 8 cm (Panha, 1988b), are collected in Thailand in the wild by peasants and are either used for local consumption or are sent to markets in other parts of Thailand.

Hemiplecta distincta may be considered a nocturnal species (Panha, 1988b), which feeds on a large variety of foods including not only fresh green leaves, fruit, fungi and algae, but also decaying plant material, dead animals and soil. While adults are usually hiding under all kind of items during daytime, juveniles are usually found adhered to the trunks of trees (Panha, 1988b & 1994). In their native area of distribution they breed only once a year during the dry season (Panha, 1987a-b).

Since these terrestrial snails like many freshwater species form part of the daily food consumed by local villagers in Thailand, it is no wonder that temporary labourers from Thailand try to grow such snails in Israel, where similar edible snails hardly exist. Unpublished experimental trials carried out by one of us (HKM) have shown that the freshwater snails which Thai labourers tried to smuggle into Israel: *Filopaludina*, *Pila* and *Pomacea*, are capable of reproducing under natural local conditions. About *Hemiplecta distincta* we have no information. As a typical tropical species it is most unlikely that it is able to establish populations under natural or even semi-natural conditions in Israel. However, that was also the general opinion when we were first confronted with the Giant African snail *Achatina fulica* Bowdich, 1822, Fam. Achatinidae, until viable populations consisting of at least three generations were discovered in gardens in



1: Part of a batch of 23 specimens of *Hemiplecta distincta* (Pfeiffer, 1850) intercepted at Ben Gurion Airport from the luggage of a temporary labourer arriving from Thailand. (Photo: Oz Rittner)



2: Close up of an adult specimen of *Hemiplecta distincta* (Pfeiffer, 1850). (Photo: Oz Rittner)

Rehovot, Ramat HaSharon and Tel Aviv! So the question reads: Is it possible for *Hemiplecta distincta* to get a foothold in Israel under similar conditions as the Giant African snail.

An acquaintance had once tried to grow this species without success in a terrarium. He got by chance several life specimens from an Israeli tourist returning from Thailand. Of the 23 specimens intercepted at Ben Gurion Airport 13 have been killed and they are kept at the PPIS in Bet Dagan. The ten additional specimens are intended to be lodged permanently in the mollusc collection of the National Collections of Natural History of the Tel Aviv University. In order to learn more about the possibility to grow them in Israel they have been divided into five pairs and these are being kept under quarantine conditions in captivity under five different regimes: four pairs are being held under artificial conditions at room temperature and one pair is exposed to natural, daily weather conditions outside. As soon as we have the first results we will report on it. For the meantime these snails have shown hardly any vitality and the only thing they are willing to eat is cucumber pulp and soil. However, it is not the possibility that it may be able to establish viable populations in Israel, which keeps us awake. Of much more concern is the fact that populations of these snails may become foci for the transmission of the Rat lungworm *Angiostrongylus cantonensis* in Israel, an unwanted, dangerous parasite.

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