

## **Living *Statilia maculata* Thunberg (Insecta: Mantodea: Mantidae) and other invertebrates, frequently imported into Dunedin on used cars**

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On 27 January 2007 I was brought an ootheca of the common Japanese mantid, *Statilia maculata* Thunberg (Mantodea: Mantidae) from which live nymphs were emerging (Fig. 1), and 26 further live nymphs that had emerged from other oothecae, also *S. maculata*, by Mr D. W. Gray of Dunedin. The oothecae were found on the inside spokes of aluminium-magnesium alloy wheels, on a Japanese car imported into New Zealand that had been stripped for inspection by Mr Gray in the course of his work at “Vehicle Inspection New Zealand” (VINZ). All imported, second-hand Japanese cars are stripped down in New Zealand and examined to ensure that they comply with New Zealand standards of roadworthiness. Before importation, such vehicles are cursorily steam-cleaned in Japan. Despite this, imported vehicles frequently contain Japanese insects. Mr Gray said that about 90% of these insects are dead and 10% living.



**Figure 1.** Ootheca and nymphs of *Statilia maculata* Thunberg, found on the inside spokes of the wheel of a car imported from Japan in January, 2007. These oothecae are frequently observed on the lower parts of secondhand cars imported into New Zealand. Scale in mm.

Mr Gray has frequently seen mantid oothecae on imported cars, but in the past had not recognized them for what they were. In the present instance there were many oothecae, none of which was visible before the wheels were removed. Mantid nymphs were emerging from all of them, and were dropping onto the ground at “Carbase”, Kaikorai Valley, Dunedin. Had Mr Gray not been alert, these nymphs may have escaped and the species could possibly have become established in New Zealand. It is possible that *S. maculata* has already become established somewhere in New Zealand, given the frequency with which its oothecae are observed on wheels and elsewhere on imported, used vehicles.

Mr Gray said that many insects are found inside cars when the interior plastic panels are removed in the course of vehicle inspections. Cars from all over the world are inspected by VINZ. In late 2006, Mr Gray found a live ant nest under a plastic inside panel of a used Japanese car. Although the Ministry of Agriculture and Fisheries (MAF) is contacted whenever an insect is observed, Mr Gray suspects that many insects go unnoticed.



**Figure 2.** Some of the specimens from William Gray’s collection, all of which came from imported used cars (although there are two New Zealand species represented). Scale in mm and cm.

Mr Gray's son William has a large collection of insects and other invertebrates, all of which were taken from either the inside bodies, or the chassis, of imported cars (Fig. 2). These include: Phylum Arthropoda: Subphylum Insecta: Order Orthoptera: Family Acrididae: three individuals representing three species, including a migratory locust, Family Gryllotalpidae: one individual. Order Hemiptera: Family Cicadidae: four individuals in three species, Superfamily Pentatomoidea: five individuals in five species. Order Blattodea: Family Blattidae: one individual. Order Hymenoptera: Family Vespidae: four individuals representing four species in four genera, Family Eumenidae: one individual. Order Coleoptera: Family Dytiscidae: one individual, Family Scarabaeidae: six individuals in five species, including a Japanese beetle, *Popillia japonica* Newman, Family Cerambycidae: one individual, Family Lycidae: one individual, Family Oedemeridae: one individual. Subphylum Crustacea: Class Malacostraca: Order Isopoda: one individual. Subphylum Chelicerata: Class Arachnida: Order Araneae: three individuals in three species. Phylum Mollusca: Class Gastropoda: one large Oriental land snail. (Note: two New Zealand species are present, *Amphisalta zealandica* (Boisduval) and *Thelyphassa* Pascoe, sp., and the red cerambycid may be Australian.)

Mr Gray commented that spiders frequently arrive live, and that mantid oothecae, which in the past have been disregarded, may well have contained viable eggs.

The native mantid *Orthodera novaezealandiae* (Collenso) is already declining in some parts of New Zealand, where it is being replaced by *Miomantis caffra* Saussure, a South African species first found in New Zealand in 1978; proof that an introduced mantid can have serious consequences for the single native species. The establishment of another species of introduced mantid could provide further competition for *O. novaezealandiae*. The live *S. maculata* mantid introductions and the large collection of accidentally-introduced, mostly Japanese, invertebrates owned by William Gray, is convincing evidence of the ease with which overseas insects can be imported, often live, into New Zealand, and indicates a potential risk to New Zealand biosecurity.

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### **Reference**

Ito, S., et al. 1990. *Coloured illustrations of the insects of Japan. Vol. 2. (10<sup>th</sup> printing)*. Hoikusha Publishing Co. Ltd. Japan. 385 p.