

The earwig *Chaetospania gardineri* (Burr, 1910) rediscovered

Pat Matyot

PO Box 321, SEYCHELLES

Key words: Dermaptera, Seychelles, Insecta, Mahé, Silhouette,

Abstract:

The earwig *Chaetospania gardineri* (Burr, 1910) has been rediscovered on Silhouette and Mahé islands, Seychelles. The historical background to the feared extinction of the species is summarised and details of two recent sightings are given, together with notes on threats to *C. gardineri*, one of which could be another earwig, the introduced *Chelisoches morio* (Fabricius, 1775).

Introduction

The carwig *Chaetospania gardineri* (Burr, 1910) was described under the name of *Sparatta gardineri* by Burr (1910), who studied the 47 specimens collected by Scott in August-September 1908 on the island of Silhouette and in December 1908 - February 1909 on Mahé during the second Percy Sladen Trust Expedition to Seychelles. Later, Burr (1911) moved the species to its present generic placement under *Chaetospania*. As Table 1. shows, Scott found almost equal numbers of males and females.

Table 1. Numbers of males and females of *C. gardineri* collected by Scott in each locality (compiled from locality data in Burr (1910) and Scott (1910)).

Locality	males	females
Silhouette ¹	4	7
Mahé ²	21	15
Total	25	22

¹ highest forest, 450m and above; forest near Mare aux Cochons, over 400m

² forest between Trois Frères and Mome Seychellois, 450-600m; forest above Cascade Estate, 300-600m; near Mome Blanc over 400m.

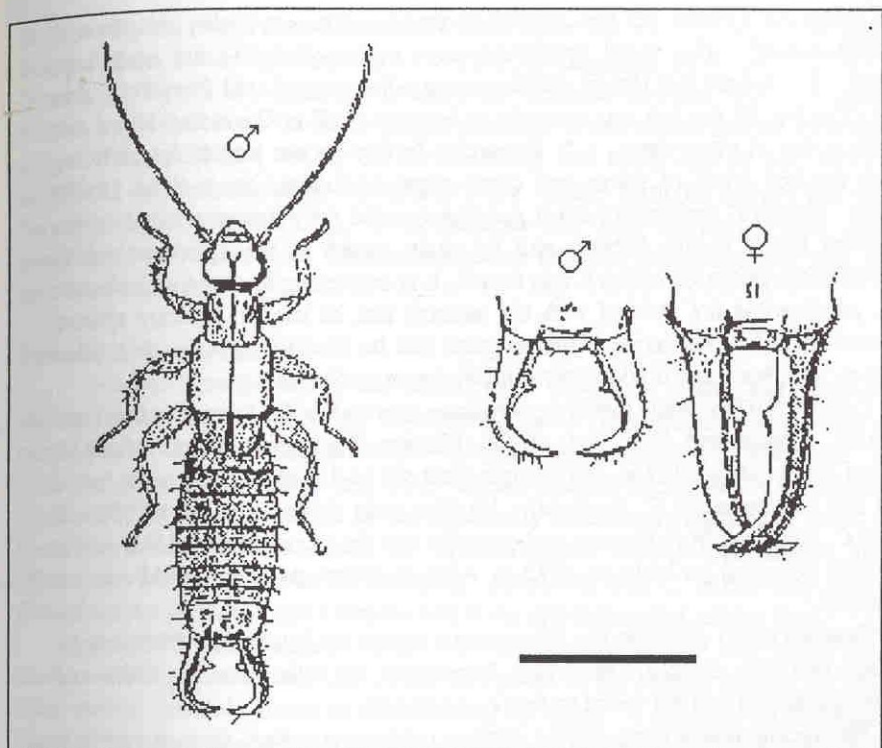


Fig. 1. *Chaetospania gardineri*, whole animal (male) and details of male and female cerci. After Burr (1910)
Scale bar: whole animal = 10mm, cerci = 2mm

According to the locality data accompanying Burr's description, Scott found *C. gardineri* at altitudes of 300-600 metres. Some specimens were collected from the leaf bases of a felled and decayed *Verschaffeltia splendida* Wendland, 1865 palm and from the leaf bases of growing *V. splendida* and *Phoenicophorium borsigianum* (Koch) (known to Scott as *Stevensonia grandifolia*) palms, but no details regarding habitat are given for the remaining specimens. Both species of palm are endemic to the Seychelles islands.

In a separate account Scott (1910) mentions that "numbers of small Forficulidae with white tegmina were found between the leaf bases of *Verschaffeltia* palms" - obviously a reference to *C. gardineri*, whose whitish elytra are a striking feature, although the genus *Chaetospania* actually belongs to the Spongiphoridae (=Labiidae) (Rentz & Kevan 1991).

The same report by Scott also provides useful meteorological data. Scott collected *C. gardineri* on Silhouette in August-September 1908 during the season of the south-east trade winds: "that is to say, in the coolest and driest time of the year.

On the whole the weather was fine, though broken by some wet spells, and often by short rain-storms". His Mahé specimens were collected during the north-west monsoon: "The season was that in which most rain is expected, and from December 19 to December 30 the sun was scarcely to be seen at all at Cascade. There was also heavy rain at other times. . ." Reporting further on the insects found living between the leaf bases of palms and screw-pines (*Pandanus* spp.), Scott (1932) mentions "*Sparatta*" (= *Chaetospania*) *gardineri* as the only representative of the Dermaptera found in this habitat, and he again names *P. borsigianum* and *V. splendida* as the plants on which it was found. It is interesting to note that in Scott's list, *C. gardineri* is not marked with the asterisk that he uses to indicate species found exclusively in leaf axils. This suggests that he found *C. gardineri* in other habitats as well, but there is no further information regarding this.

Brindle (1976) points out that sixty-three years after the Percy Sladen Trust Expedition, Benoit and Van Mol of the Mission Zoologique Belge of 1972, organised by the Musée Royal de l'Afrique Centrale in Tervuren (Belgium), failed to find any specimens of *C. gardineri*. He also casts doubt on a record (Borelli 1932) of *C. gardineri* from Borneo, and suggests that the record of *Platylabia major* Dohrn 1867 collected on Mahé in 1892 by Alluaud (Bormans 1895) could refer to *C. gardineri*.

Floater (1994) provides the most recent review of Seychellois Dermaptera. He notes that the Oxford University Expedition to Silhouette in 1990 and subsequent searches in 1991 failed to find *C. gardineri*.

The recent rediscovery of the species, eighty-six years after it was last collected by Scott, should be of considerable interest to Dermapterists and others who had been fearing its possible extinction.

Recent sightings

C. gardineri was rediscovered during a visit to Silhouette on December 11th 1994. A female was found in one of the leaf axils of a young *V. splendida* palm growing beside the lower path between La Passe and Grand Barbe, at approximately 370 metres above sea level, in the area between the ridge pointing towards Mont Laurent and the Mont Corgat - Gratte Fesse ridge. The leaf in question was the first one on the outside. It was dying and had started to turn brown although it was not quite dead.

Just over a month later, on January 15th 1995, a male was discovered in one of the leaf axils of a young *Nepthosperma vanhoutteana* (Wendland, 1865) palm, also endemic, in the vicinity of the large pitcher plant (*Nepenthes pervillei* Blume, 1852) patch on Mont Coton on Mahé, at around 500 metres altitude. The leaf, again the first outer one, was this time quite dead and had started to rot.

In both cases *C. gardineri* was found not in the upper part of the leaf axil, where there was an accumulation of organic debris, but lower down under the sheathing base of the leaf, where it clasps the trunk tightly. Further work is required

to determine if *C. gardineri* is actually much rarer than at the time of the second Percy Sladen Trust Expedition of 1908-1909, as suggested by Brindle (1976) and Floater (1994), or if it eluded later collectors because they did not investigate its habitat properly. Scott "devoted special attention to this milieu and its inhabitants, often felling trees and cutting off the sheathing leaf bases one by one, from the outermost inwards, carefully collecting every visible form of animal life found between them" (Scott 1932). It is possible that later collectors were not as perseverant and meticulous - but reluctance to sacrifice endemic palms may have been a consideration.

Threats to the species

Further disturbance of the native palm forests of Mahé and Silhouette, already considerably altered by tree-felling, forest fires and the introduction of exotic plants, will obviously affect the remaining populations of *C. gardineri*. The effect of introduced insects and other animal species needs to be investigated. Floater (1994) drew attention to the apparently recent colonisation of palm leaf bases at Bel Ombre on Mahé by the introduced earwig *Chelisoches morio* (Fabricius, 1775). There is the worrying possibility that *C. morio* may prey on *Chaetospania gardineri* and compete with it for egg-laying and resting sites.

In 1994, *Chelisoches morio* was discovered in the leaf axils of *N. vanhouteana* palms on the cliff at Ma Josephine in La Misère district on Mahé. This species certainly seems to be extending its range. It has also been observed, mainly in anthropophilic situations, at Marie Laure Estate in Bel Ombre district; at Hermitage in Mont Fleuri district; and at Fairview Estate in La Misère district, all on Mahé. The first Percy Sladen Trust Expedition, in 1905, had found *C. morio* only on the outlying coral island of Farquhar, and it was apparently not collected by the second expedition in 1908-1909 (Burr 1910).

References

- Borelli, A. 1932.
Dermaptères de Bornéo. *J. Fed. Malay States Mus.* 17; 179-190
- Bormans, A. de 1895
Mission scientifique de M. Charles Alluaud aux îles Séchelles:
Dermaptères. *Ann. Soc. ent. Fr.* 64; 387-388
- Brindle, A. 1976
Dermoptera from the Seychelles. *Rev. Zool. afr.* 90 (2); 435-445

Burr, M. 1910

Dermaptera (of the Percy Sladen Trust Expeditions). *Trans. Linn. Soc. Lond. (Zool.)* **14**; 123-133

1911

Dermaptera. *Genera Insect.* **122**; 1-112

Floater, G. 1994

Effects of habitat destruction on endemic Dermaptera of the Seychelles. *Entomologist's monthly Magazine* **130**; 59-61

Rentz, D.C.F. & Kevan, D.K.McE. 1991

Dermaptera. In CSIRO (Ed.) *The Insects of Australia* (2nd ed.), Vol. 1., Chapter 23, p360-368. Carlton: Melbourne University Press

Scott, H. 1910

Eight months' entomological collecting in the Seychelles islands, 1908-1909. *Trans. Linn. Soc. Lond. (Zool.)* **14**; 21-39

1933

General conclusions regarding the insect fauna of the Seychelles and adjacent islands. *Trans. Linn. Soc. Lond. (Zool.)* **19**; 307-391