

An Australian immigrant, *Clambus simsoni*, new to the Dutch fauna (Coleoptera: Clambidae)

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Abstract: The Australian beetle *Clambus simsoni* has been discovered in 1999 in The Netherlands, just over a decade after the first European record in 1988. Numerous specimens, many of them teneral, were found in November 1999 in heaps of cut *Juncus effusus* and *Agrostis* spec. in the nature reserve Mariapeel in the province of Limburg. Diagnostic features of *Clambus simsoni* are shortly described, among which a hitherto undescribed characteristic: the outline of the last abdominal sternite. The life-cycle is probably univoltine.

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Introduction

The introduction of species from the southern hemisphere into Europe is an ongoing process. Examples of Australasian beetles accidentally transferred to Europe are *Cartodere nodifer* (Westwood) and *C. bifasciata* (Reitter) (Corticariidae). Both species are nowadays common inhabitants of natural habitats in large parts of Europe since their first discovery there in the nineteenth and twentieth century, respectively (Vorst & Cuppen, 2000). After establishing a first stronghold in southern England both species spread over southern England, whereafter the Channel was crossed and their expansion in Europe started. The ptiliid *Ptinella errabunda* Johnson has a similar immigrant history (Vorst, 1993).

An other recent arrival in Europe of an Australian beetle concerns *Clambus simsoni* Blackburn. The species is also known from South Africa (Endrödy-Younga, 1990). The species was first reported from Sweden where it was collected in 1987 in the harbour of Varberg (Gillerfors, 1988). Hidden in a long species list this discovery got little attention, especially while the species was considered imported from France or Spain with pulpwood. We now presume that *C. simsoni* has first arrived in Europe in one of the southern

European harbours. Astonishingly, further European records are from widely separated localities and none of them seems to have a direct connection with import. Also the Dutch record of *C. simsoni* presented hereafter can not be associated with import.

Identification

The first European specimens of *Clambus simsoni* were identified by the specialist of this family, the recently deceased Dr. Endrödy-Younga (Gillerfors, 1988). The next European collectors (Brandstetter & Kapp, 1994; Johnson, 1997) had great difficulties to identify their specimens due to the absence of the species in European keys (e.g. Endrödy-Younga, 1960, 1971). Nowadays, the identification of *Clambus simsoni* is relatively simple with the key of Endrödy-Younga (1998). The combination of distinctly pubescent elytra (the distance between the hairs being less than the length of each hair, although basally and laterally slightly longer) with a distinct, coarse punctuation of the rear part of the elytra discerns *C. simsoni* from every other European *Clambus* except for *C. pubescens* Redtenbacher. However, the elytral pubescence of *C. pubescens* is more pronounced (hairs twice as long as distance between hairs), the punctures

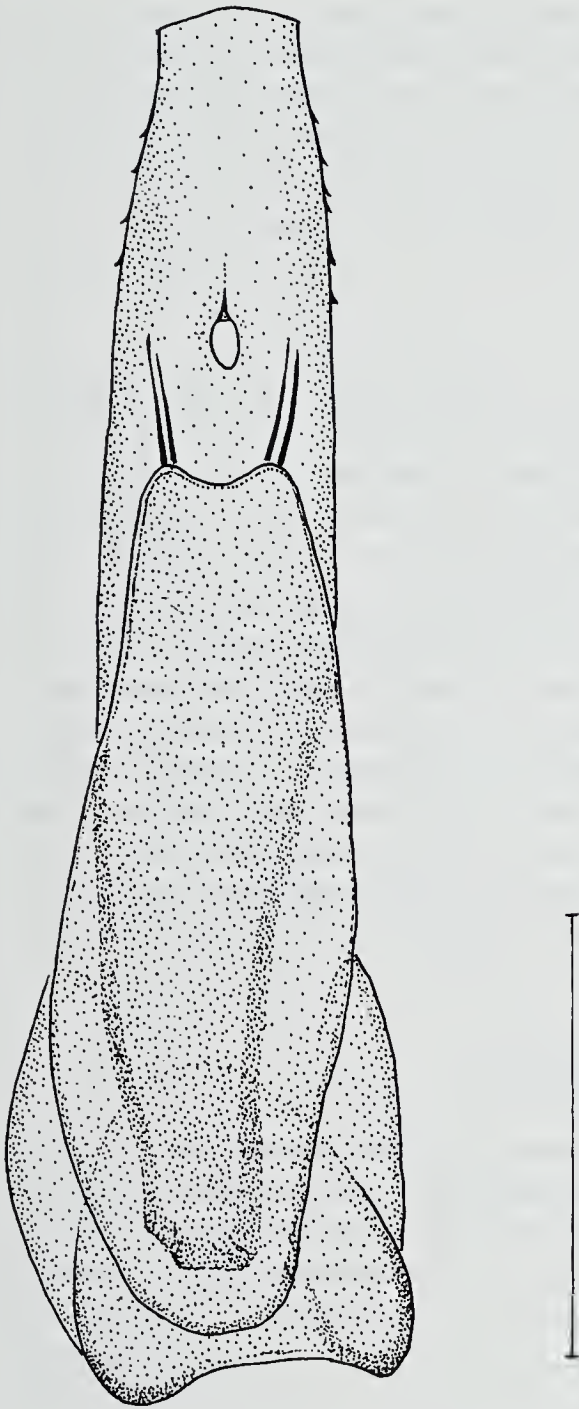


Fig. 1. *Clambus simsoni*, male genitalia (Scale: 100 μ).

on the elytra are less strong, and the elytra possess a distinct micro-reticulation in the posterior half. In *C. simsoni* these punctures are deeper and the elytra are glabrous. Also the male genitalia are characteristic (fig. 1). A comprehensive description of the species can be found in Endrödy-Younga (1990) and Johnson (1997).

A character, curiously not mentioned in any of these publications, and not described from any other species within the genus *Clambus* as far as we know, is the outline of the last sternite in both males and females.

Typically, the last sternite is emarginated at its posterior end with a small, obtuse projection in the emargination (fig. 2). As this character is most easily visible in teneral specimens, of which we had several at our disposal, it may have been overlooked by other authors. Though much less pronounced, an emargination of the last abdominal sternite is also present in some European species, e.g. *Clambus armadillo* (De Geer).

Distribution

Clambus simsoni originates from southeastern Australia and Tasmania (Endrödy-Younga, 1990) and is also known from New Zealand (Johnson, 1997) and South Africa (Endrödy-Younga, 1990). Within Europe the species has been reported from Austria (Brandstetter & Kapp, 1994), France (Johnson, 1997), Great Britain (Wales) (Johnson, 1997), Germany (Renner, 1999) and Sweden (Gillerfors, 1988). The present record from The Netherlands is situated amidst of all other European records. All records concern single localities in each country except for Wales with two records.

Sampling-locality

The sampling-locality (Amersfoort co-ordinates 191.0-383.7) is situated in the nature reserve Mariapeel (province of Limburg). This nature reserve is one of the last - more or less natural - remnants of a large peatbog area. Peat-digging and drainage of the peatbog, combined with an eutrophication by airborne pollution in the 20th century, has changed large parts of this landscape from a wetland dominated by peatmosses (*Sphagnum*) towards a desiccated one dominated by purple moor grass (*Molinia caerulea* (L.) Moench) and birch trees (*Betula pubescens* Ehrh.). Some small enclosures in the reserve consist of cultivated grasslands (mainly pastures).

One of these grasslands is situated east of the Eerste Hoofdwijk (a canal) near the village of Griendtsveen. This grassland with a surface of circa 4 hectares has a peaty soil and a



Fig. 2. *Clambus simsoni*, last sternite (Scale: 100 μ).

high watertable (recently even raised). The pasture is extensively grazed by Highland cattle, which have also entrance to the *Molinia*-plains and woodlands. The vegetation in the pasture is strongly dominated by *Juncus effusus* L. and *Agrostis* spec.

Very large heaps of cut material (about 500 m³) were found on 8 November 1999 on the eastern dyke of the Eerste Hoofdwijk, partly sun-exposed and partly heavily shaded by *Alnus glutinosa* (L.) Gaertn., *Betula pubescens* and *Quercus robur* L. As this material was deposited on both sides of the only entrance to the grassland, it was not clear whether the heaps originated from the grassland or were temporarily deposited there from elsewhere. The heaps consisted mainly of *Juncus effusus* and *Agrostis* spec. in diverse stages of decomposition and they varied in moisture from moist at the surface to (very) dry or mouldy deep inside the heaps. In the shaded heaps the upper parts were mixed with leaves of deciduous trees. The sun-exposed heaps were investigated on 8 November, the shaded ones on 22 November, respectively, by means of a sieve. *Clambus simsoni* was represented on the collecting days by 12 and 28 specimens, respectively, of which several were teneral.

Habitat

Endrödy-Younga (1990) gives no information about the natural habitat of *Clambus simsoni* in Australia and Tasmania. Also the catches of Brandstetter & Kapp (1994) and Renner (1999) give no information as their specimens were taken by "Autokescher". Johnson (1997) mentions grass heaps and a heap of shredded conifer bark for his European specimens, while for New Zealand fun-

gi and the skin of an opossum are given. The Dutch record also refers to a man-made heap of mainly *Juncus effusus*. These few observations indicate a preference for accumulations of organic materials of various kinds.

Apart from *C. simsoni*, more than hundred beetle species were collected from the *Juncus*-heaps in the Mariapeel. Many species like *Sericoderus lateralis* (Gyllenhal), *Cartodere nodifer*, *Ephistemus globulus* (Paykull), *Rugilus erichsoni* (Fauvel), *Euaesthetus ruficapillus* Lacordaire, *Stenus juno* (Paykull) and *Stenus cicindeloides* (Schaller) were abundant in both samples. With the exception of both *Stenus*-species and *Euaesthetus* these species are characteristic for heaps of decaying plant material. In the sun-exposed part, the staphylinid *Lithocharis nigriceps* Kraatz was common, but it appeared nearly absent in the shaded part. Two other species of decaying vegetable matter were only encountered in the shaded part: *Ahasverus advena* (Waltl) and *Monotoma longicollis* (Gyllenhal).

Phenology

Requests to State Forestry Service revealed that the pasture was cut between 20 and 23 July 1999 (W. Cruysberg, personal communication) and the fresh-cut plant material was deposited on the canal dykes. At the sampling-time the heaps of *Juncus* existed for three to four months only. *Clambus simsoni* was numerous on both sampling dates, with many teneral specimens. This suggests that the life-cycle of *C. simsoni* takes less than four months with a breeding period in late summer and early autumn. Nevertheless, breeding in other seasons or the occurrence of more generations a year can not be excluded.

On the continent of Australia *Clambus simsoni* was collected in all months but August to October, in Tasmania only from December to February (Endrödy-Younga, 1990) and in New Zealand in October and from January to March (Johnson, 1997), at least indicating that the main activity period of the species in the southern hemisphere al-

so falls in summer and autumn. The few European catches of *C. simsoni* are in the period of July to October (Brandstetter & Kapp, 1994; Johnson, 1997), with May as a notable exception (Renner, 1999). These observations suggest a univoltine life-cycle of *C. simsoni*.

Discussion

After its discovery in Europe, *Clambus simsoni* has been reported from several widely separated localities. Unfortunately, the few available records do not allow any conclusion on the approximate moment of arrival and dispersal route(s). Maybe these questions can be answered when more material has become available or old material has been revised. However, lack of material may prevent that these questions will be ever answered as Clambidae are small beetles, not very popular with coleopterists, and usually not collected. Anyway, to the present knowledge the distribution of *C. simsoni* in Europe shows a chaotic pattern without a centre or stronghold. On the basis of this distribution pattern and the habitat it seems likely that *C. simsoni* will soon be found in many localities under semi-natural and natural conditions as is the case with her predecessors in the genus *Cartodere*.

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