

# *Geotomus petiti* WAGNER, 1954, a new burrower bug for Belgium (Heteroptera: Cydnidae)\*

BEREND AUKEMA, JOS BRUERS & GABY VISKENS

## Abstract

*Geotomus petiti* (WAGNER, 1954) is recorded for the first time from Belgium. Information on the other Belgian representatives of the genus is summarized. *Geotomus elongatus* is only known from Liège province and the records of *Geotomus punctulatus* are doubtful.

**Keywords:** Cydnidae, *Geotomus*, Belgium

## Kurzfassung

***Geotomus petiti* WAGNER, 1954, eine neue Erdwanze aus Belgien (Heteroptera: Cydnidae)**

*Geotomus petiti* (WAGNER, 1954) wird erstmals aus Belgien nachgewiesen. Für die anderen Arten der Gattung werden Informationen zusammengestellt. *Geotomus elongatus* ist nur aus der Provinz Lüttich bekannt, und die Nachweise von *Geotomus punctulatus* sind anzuzweifeln.

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## Introduction

The genus *Geotomus* was represented in Belgium by two species: *G. elongatus* (HERRICH-SCHAEFFER, 1840) and *G. punctulatus* (A. COSTA, 1847) (KIRIAKOFF 1962; BOSMANS 1975; BAUGNÉE et al. 2003). *Geotomus elongatus* is known from a specimen in the collection of the Museum of Natural Sciences in Brussels, collected by LETHIERRY in Hologne-aux-Pierres, Liège province, on 19 May 1870 (BOSMANS 1975). *Geotomus punctulatus* was recorded for the first time from Belgium by KIRIAKOFF (1962), based upon a specimen collected by M. GOETGHEBUER on 24 April 1924 in Merelbeke, Oost-Vlaanderen province, and kept in the collection of the University of Ghent. BOSMANS (1975) listed a second specimen from the

same collection, collected on 16 August 1941 in Melle, Oost-Vlaanderen province. BAUGNÉE et al. (2003) included *G. punctulatus* with a question mark on their list of Belgian Heteroptera, because none of the authors actually saw the specimens concerned, and LIS (2006) followed this treatment in the Catalogue of the Heteroptera of the Palaearctic Region.

In 2010 new Belgian *Geotomus* material was collected at two different localities in the province of West-Vlaanderen, after dissection of the male genitalia these belong to a third species, the atlanto-mediterranean *Geotomus petiti* WAGNER, 1954.

An identification key for all European species, including drawings of the parameres, is given by STICHEL (1961). Drawings of the parameres of the relevant species are given by WAGNER (1963) and RIZZOTTI VLACH (1995).

The Belgian species are treated in more detail below, abbreviations used are:

KBIN: Royal Belgian Institute of Natural Sciences, Brussels; RMNH: Naturalis Biodiversity Center, Leiden; ZMAN: Zoological Museum University of Amsterdam [now housed in RMNH]; ZMUG: Zoological Museum University of Ghent.

*Geotomus elongatus* (HERRICH-SCHAEFFER, 1840)  
Liège province: Hologne-aux-Pierres, FS7512, 19.V.1870, 1 ♂, leg. L. LETHIERRY (coll. KBIN).  
Tilleur, FS7810-7910, 10.IV.2007, 3 ♀♀, leg. M. DETHIER (coll. M. DETHIER); Idem, 4.-7.VI.2007, 3 ♂♂, 3 ♀♀ and 1 nymph, leg. M. DETHIER (coll. M. DETHIER).

In Europe *Geotomus elongatus* (figs 1, 2) has a Mediterranean distribution and occurs further north only to the west of the Alps. In Europe it is known from Albania, Belgium, Bosnia-Herzegovina, Bulgaria, France, Greece, Hungary, Italy, Croatia, Macedonia, Montenegro, Ukraine, Portugal, Romania, Central and South Russia, Serbia, Slovenia, Spain, European Turkey and Switzerland (MISJA 1973; PROTIĆ 2001; LIS 2006; GOGALA 2008). The occurrence in the Czech Re-

\* Dedicated to our friend and colleague Dr. CHRISTIAN RIEGER on the occasion of his 70<sup>th</sup> birthday.



Figure 1. *Geotomus elongatus* ♀ from Croatia. – Photo: G. STRAUSS.

public is questionable (KMENT 2005). In Germany it is a very rare species, only known from the neighbouring area in Rheinland-Pfalz (GÜNTHER 2002). Outside Europe the species is known from North Africa and, in Asia, from the Middle East towards China (LIS 2006).

Like the other species of the genus, *Geotomus elongatus* lives in warm dry sites in sandy or stony soils, where they feed on the roots of plants. They are active on the soil surface mainly during the mating period. As far as known, they have only one annual generation and the adults overwinter. Adults of the new generation hatch from the end of June to early August (WACHMANN et al. 2008). Thus far, all Belgian records were overwintered specimens.

#### *Geotomus petiti* WAGNER, 1954

West-Vlaanderen province: Nieuwpoort, Lombardsijde (Brandaris), IJzer Estuary, DS8166, 3.IV.2010-8.XI.2010, 75 ♂♂, 144 ♀♀, 2.IV-8.VII.2011, 6 ♂♂, 21 ♀♀ in pitfall traps, leg. L. BAERT, F. HENDRIKX & W. DEKONINCK (coll. KBIN, ZMAN in RMNH). Idem, 17.V.2011, 12 ♂♂, 12 ♀♀ extracted from litter, leg. B. AUKEMA. Oostduinkerke, recreational park in the dunes, DS7763, 9.IV.2010, 2 ♂♂, 3 ♀♀, leg. A. & H. DRUMONT (coll. KBIN).



Figure 2. Paramere of *Geotomus elongatus* from Fuerteventura. – Photo: T. HEIJERMANN.

*Geotomus petiti* (figs 3, 4) has a very limited atlanto-mediterranean distribution. It was described from the French Pyrenees (Banyuls) (WAGNER 1954) and is also known from Italy and Spain (LIS 2006), and Morocco (MAGNIEN 2011). In France it is known from the departments of Bouches-du-Rhône, Pyrénées-Orientales and Seine-et-Marne (Forêt de Fontainebleau) (WAGNER 1954; MOULET 1986). According to MAGNIEN (in lit. 2011), who collected it in the départements of Charentes, Loire-



Figure 3. *Geotomus petiti* ♀ from Belgium. – Photo: G. STRAUSS.

Atlantique and Manche, it is quite often found in coastal dunes. In Italy, the species is known from the provinces of Trentino and Veneto (RIZZOTTI-VLACH 1995), and in Spain from the provinces of Barcelona, Madrid, Pontevedra and Saragossa (WAGNER 1954; DE LA FUENTE 1972; RIBES & SAULEDA 1979; RIBES 1986; RIBES & RIBES 2001). In Morocco, a single specimen was collected in the Middle Atlas in the province of Ifrane (MAGNIEN 2011). In Belgium, in the nature development area of the IJzer Estuary *G. petiti* occurs in the older dry dune grassland at the higher edge of the salting (fig. 7), which is flooded at high tide only a few times a year. The vegetation is dominated by mosses, sand sedge *Carex arenaria* L. and seedlings of sea buckthorn *Hippophae rhamnoides* L. The population in Oostduinkerke was also found in old dune grassland not far from the coast.

*Geotomus punctulatus* (A. COSTA, 1847)

Oost-Vlaanderen province: Melle, 16.VIII.1941, 1 ex. (coll. ZMUG?). Merelbeke, 24.IV.1924, 1 ex., leg. M. GOETGHEBUER (coll. ZMUG?).

The distribution area of *Geotomus punctulatus* (figs 5, 6) largely overlaps that of *G. elongatus*,



Figure 4. Paramere of *Geotomus petiti* from Belgium. – Photo: TH. HEIJERMANN.

but the species is not present in Germany (LIS 2006, WACHMANN et al. 2008). In addition to North Africa, the Middle East and Central Asia, it is also present in the Azores, Madeira and the Canary Islands (LIS 2006).

The only two Belgian specimens were in the entomological collection of the University of Ghent (BOSMANS 1975), but now cannot be found. Since the genitalia of the specimens were not dissected, it seems quite possible that they were actually *Geotomus petiti*. Because their localities, most likely river dunes, resemble present habitats of the latter, this points in the same direction. In conclusion, for the time being, there is no evidence for the occurrence of *G. punctulatus* in Belgium.

**Acknowledgements**

WOUTER DEKONICK supplied the pitfall catches of *Geotomus petiti* and introduced us to the nature development

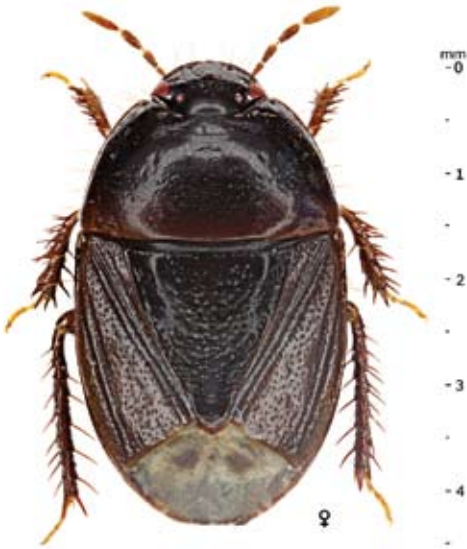


Figure 5. *Geotomus punctulatus* ♀ from the Azores. – Photo: G. STRAUSS.

area of the IJzer estuary, ALAIN DRUMONT supported us with the specimens he collected in Oostduinkerke, and DOMINICK VERSHELDE assisted in our unsuccessful search for the specimens of *G. punctulatus* in the collection of the University of Ghent. The photos were supplied by WOUTER DEKONINCK (IJzer Estuary), THEODOOR HEIJERMAN (parameres) and GERHARD STRAUSS (habitus of the species). BERNARD NAU corrected the English text.



Figure 6. Paramere of *Geotomus punctulatus* from the Azores. – Photo: TH. HEIJERMANN.



Figure 7. Habitat *Geotomus petiti* near Lombardsijde. – Photo: W. DEKONINCK.

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Autor(en)/Author(s): Aukema Berend, Bruers Jos, Viskens Gaby

Artikel/Article: [Geotomus petiti Wagner, 1954, a new burrower bug for Belgium \(Heteroptera: Cydnidae\) 15-19](#)