

## On *Blastophagus destruens* Woll. and a description of its larva (Col. Scolytidae)

By BERTIL LEKANDER

Several years ago I received larvae and imagines of what I took to be *Blastophagus piniperda* L., from dr J. Halperin, of Israel. However, on examination, the larvae proved to differ from this species by certain distinct characters. It was quite obviously a different species altogether and unknown to me.

Later I received material of the same species from various localities in the Mediterranean region and, up till now, I have been able to examine the following:

*Cyprus* — imagines (T. Palm)

*France*, Janas and Pic de la Gardiette — larvae and imagines

Bordeaux and Toulouse — larvae and imagines of *B. piniperda* (P. Carle)

*Israel*, Mt Carmel — larvae and imagines (J. Halperin)

*Italy*, Lignano Pineta (prov. Udine) — larvae and imagines

Laggio di Cadore (prov. Belluno) — larvae and imagines of *B. piniperda* (L. Masutti)

*Portugal*, Maderia — imagines (T. Palm and coll. Lindberg) and a cotype from Wollaston's collection (London)

*Spain*, Mallorca — larvae and imagines (S. Ringselle)

Prov. of Cordoba — larvae and imagines

Prov. of Logroño — larvae and imagines of *B. piniperda* (M. de Viedma)

*Turkey*, Marmaritsa — larvae and imagines (T. E. Leiler)

The material made available from Italy, France and Spain was particularly interesting, because it consisted of both *Blastophagus piniperda* and the other species. An analysis showed that the latter had been found in most cases at low altitude near to the Mediterranean, and that *piniperda* had been taken at higher altitudes some distance from the coast, see map, figure 1.

The larvae of the two species are easily distinguished but the imagines not, and this may be the reason why entomologists had not noticed, or even suspected that, behind the common and well known *piniperda* was hidden another species. At first, I had thought that it was possibly a new species and as a "working name" in correspondence with entomological colleagues, I had referred to it as *halepensis* because Halperin had found the larvae and imagines in *Pinus halepensis*, see MASUTTI 1969. After having received material taken from different pine species — *brutia*, *pinea*, *pinaster* — I changed the name to *mediterraneus*.

A thorough investigation of the literature revealed, however, that WOLLASTON 1865 had described a bark beetle from Madeira which he called *Hylurgus*

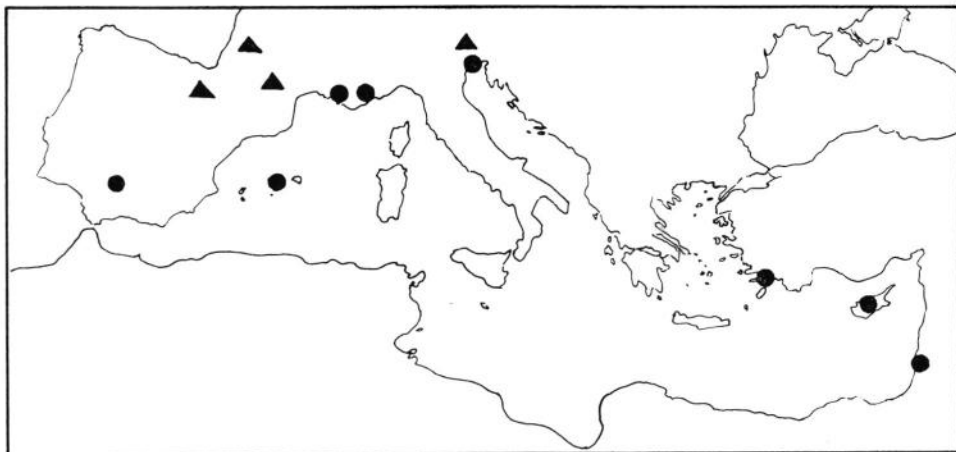


Fig. 1. The Mediterranean Region. Dots: Known distribution of *Blastophagus destruens* Woll. (Excluding Madeira). Triangles: *Blastophagus piniperda* L.

*destruens* and stated to be closely related to *Hylurgus (Blastophagus) piniperda* L. In his 1865 paper, he says in the appendix, page 46 — "In the Ins. Mad." as well as in my Madeiran Catalogue, I referred this *Hylurgus* to the common European *H. piniperda*; but I had not compared the species very rigidly, and there can be no doubt that it is in reality quite distinct from that insect." HAGEDORN, 1910 in Junk's *Coleopterorum Catalogus* includes both species, but under different genera, the first *Hylurgus* and the second *Blastophagus*. In 1929, EGGERS, having examined a cotype from Wollaston's collection stated, without additional comment, that *Hylurgus destruens* Woll., and *Blastophagus piniperda* L. were synonymous. In WINKLER's *Catalogus Coleopterorum* of 1932, *destruens* is included as a synonym of *piniperda*. SCHEDL, 1946, however, in his keys to the palearctic bark beetles, makes no mention of *destruens* under the genus *Blastophagus*, not even as a synonym of *piniperda*. In a catalogue of coleoptera found on Madeira JANSSON 1940 mentions only *piniperda*. On the other hand, LUNDBLAD 1958, in a footnote to his work on the arthropod fauna of Madeira calls attention to the fact that *Hylurgus destruens* probably is a separate species from *B. piniperda*. After examining a fair quantity of larvae and imagines of both species, and also comparing the imagines with one of Wollaston's cotypes from the British Museum, I am convinced that *destruens* Woll. is a good species and separate from *piniperda* L.

*Description of the larva* (for morphological terminology see LEKANDER 1968)

Head capsule index 0.95. Frontal shield, fig. 2: A, broad, triangulate with straight sides and distinct endocarinal line. Frontal setae five pairs of which

Fig. 2. The larva of *Blastophagus destruens* Woll. A: Frontal shield with clypeus and labrum 110×. B: Epipharynx, 160×. C: Antenna with antennal field, 333×. D: Maxilla, mentum, submentum and ligula, 170×. The larva of *Blastophagus piniperda* L. E: Part of epistoma and clypeus, 100×. F: Epipharynx, 180×.

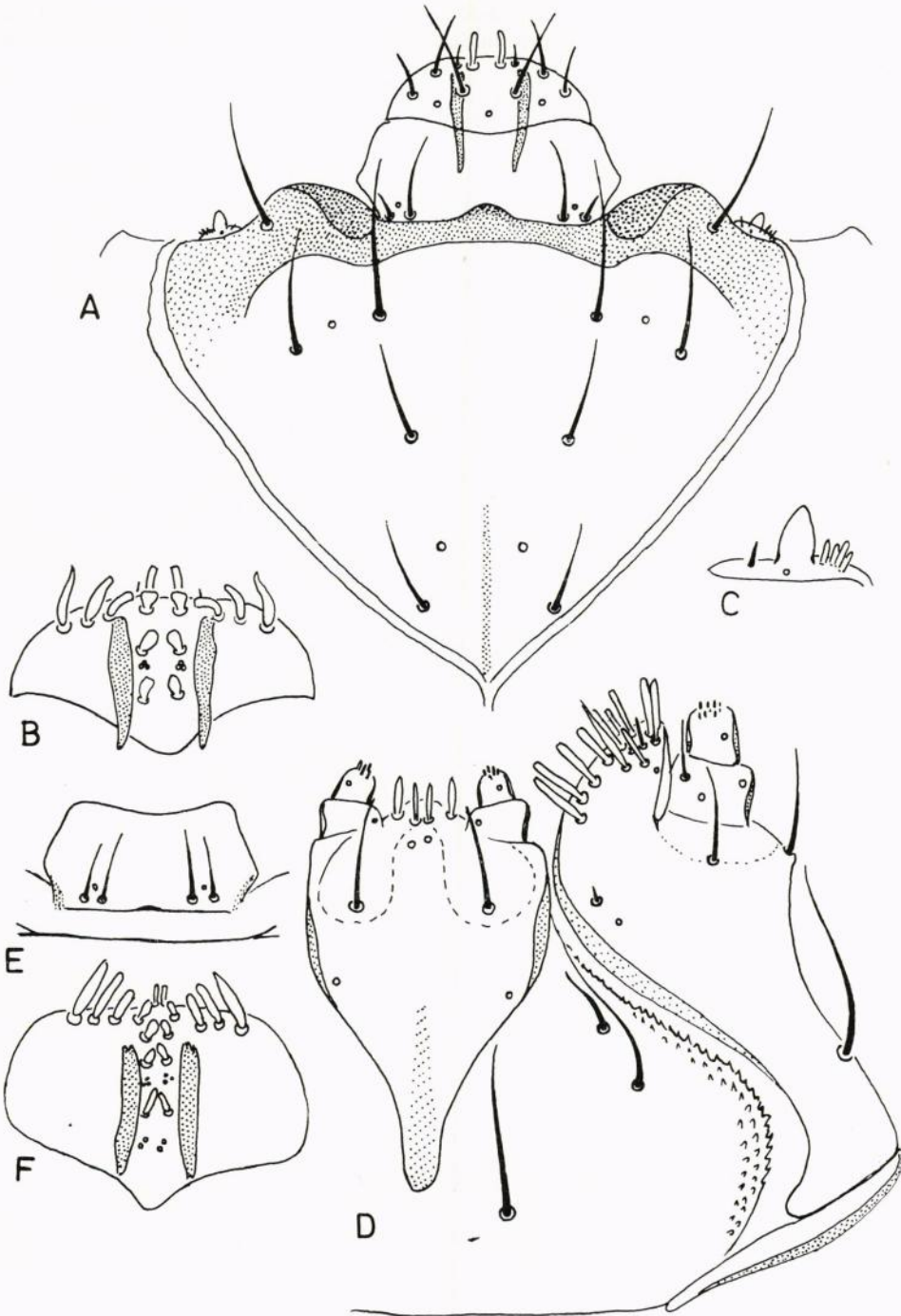


Fig. 2.

pair 2 is the longest. Epistoma posteriorly limited by a continuous, slightly curved line which laterally bends backwards. Medially, on the anterior edge a large tubercle.

Antenna, fig. 2: C, short and broad without differentiation. On the flat antennal field five setae of equal length, four of which are situated laterally of the antenna.

Clypeus, fig. 2: A, with convex sides and gently concave anterior border. The medial of the clypeal setae about three times longer than the lateral ones.

Labrum, fig. 2: A, with a rounded, flattened anterior border. The lateral pair of the antero-medial setae poorly developed, bristle-like, the medial one vigorous of equal breadth.

On the epipharynx, fig. 2: B, the antero-lateral setae parallel to the anterior border of epipharynx. Medial epipharyngeal setae of equal size, in three pairs. Between the second and third pairs two groups of sensillae, each with three organs. Posterior sensillae lacking. Tormae short, broad, parallel or slightly convergent caudally.

Mentum, fig. 2: D, with broadly attached arms and faintly indicated axis. Palpus with two distinct articles. On labium, the four setae of the same length and of equal breadth. Setae in the posterior pair on the ligula much closer to each other than the setae in the anterior pair. Submentum with spines along the lateral border. The three setae situated in a triangle with the medial one exterior to the others.

The larva described is a typical *Blastophagus* larva, but it differs in some important details from both *piniperda* and *minor* larvae. It is easily distinguished from the latter by the large medial tubercle on the epipharynx, which tubercle is missing in the *minor* larva. In the *piniperda* larva, the tubercle is only vestigial, see fig. 2: E, or missing. Further, it differs from the *piniperda* larva in the number of medial epipharyngeal setae, invariably three pairs in *destruens*, and four in *piniperda* (compare fig. 2: B and F). The relative lengths of the clypeal setae is different too, with little difference in *piniperda* and large in *destruens*. There are other differences too but those mentioned here are the most important.

#### Key to the *Blastophagus* larvae

- |   |                  |
|---|------------------|
| 1. Four pairs of medial epipharyngeal setae ..... | <i>piniperda</i> |
| - Three pairs of medial epipharyngeal setae ..... | 2                |
| 2. Epipharynx with big medial tubercle .....      | <i>destruens</i> |
| - Epipharynx without medial tubercle .....        | <i>minor</i>     |

#### Difference between the imagines

WOLLASTON in 1865, in his appendix on page 45, gives the following differences between the two species — "It (*destruens*) differs from the *piniperda* in being on the average a little larger and thicker and its elytra (which are more coarsely rugulose) being always, and often indeed its entire body, more or less ferruginous. Its antennae are totally pale, with their club somewhat longer and more acute; its tibiae are rather broader and more spinulose; and its feet are a trifle longer." I have not much to add to this de-

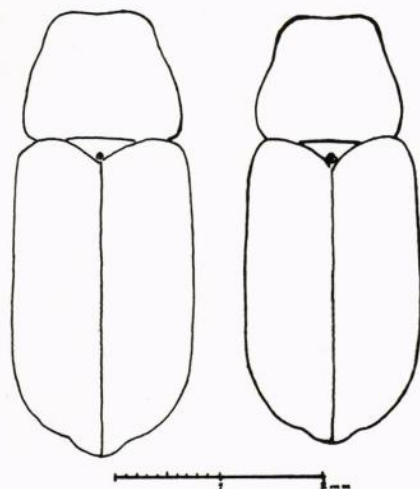


Fig. 3. Left: *Blastophagus destruens* Woll.  
Right: *Blastophagus piniperda* L.

scription. The size and proportions of the two species may be seen in figure 3, which has been based on the mean data from 44 *destruens* from South France and a similar number of *piniperda* from Central Sweden. From the figure it is also obvious that the forms of pronotum are a little different, more pear-like in the *piniperda* than in *destruens* in which species it is broadest at the base, tapering gradually forwards, and therefore barely pear-shaped.

#### Key to the species

1. Caudal part of second stria on elytra without depression ..... *minor*
- . Caudal part of second stria on elytra depressed ..... 2
2. Antennal club pale ..... *destruens*
- . Antennal club dark ..... *piniperda*

#### Galleries

I cannot provide a reliable description of the gallery system since I have had so little material at my disposal. Forester S. Ringselle has kindly provided me with a piece of bark attacked by *destruens* from Mallorca and, to judge from this piece, there do not seem to be any essential differences between the galleries of this species and *piniperda*.

#### Acknowledgement

I would like to express here my sincere thanks to those who have been kind enough to collect material in the Mediterranean Region and who have placed it at my disposal, viz., Dr P. Carle, Avignon, Dr J. Halperin, Israel, Mr T.-E. Leiler, Stockholm, Prof. L. Masutti, Padova, Dr T. Palm, Uppsala, Forester S. Ringselle, Umeå, and Prof. M. de Viedma, Madrid. I would also like to express my gratitude to the staff of the British Museum, London, who allowed me to study material from Wollaston's collection, and to Museum Zoologicum Universitatis, Helsinki, and to Mr D. Bevan, Alice Holt, who has corrected my English manuscript.

## Litterature

- EGGERS, H., 1929: Zur Synonymie der Borkenkäfer (*Ipidae*, Col.) — Wiener Ent. Z. Bd 46: 2, p. 41—55.
- HAGEDORN, M., 1910: *Ipidae* — W. Junk: Coleopterorum Catalogus, Pars 4, Berlin.
- JANSSON, A., 1940: Die Arthropodenfauna von Madeira nach den Ergebnissen der Reise von Prof. Dr. O. Lundblad Juli—August 1935. XXIX Coleoptera etc. — Ark. f. Z. Bd 32 A, No 24, p. 1—64.
- LEKANDER, B., 1968: Scandinavian Bark Beetle Larvae, Descriptions and Classification. — Dep. For. Zool. Roy. Coll. For. Stockholm, Nr 4, p. 1—186.
- LUNDBLAD, O., 1958: Die Arthropodenfauna von Madeira nach den Ergebnissen der Reise von Prof. Dr. O. Lundblad Juli—August 1935 XXXV. Die Käferfauna der Insel Madeira. — Ark. f. Z., Bd 11, Nr 30, p. 461—524.
- MASUTTI, L., 1969: Pinete dei litorali e *Blastophagus* — Monti e Boschi, XX: 3, p. 15—27.
- SCHEDL, K. E., 1946: Bestimmungstabellen der palaearktischen Borkenkäfer II, Die Gattung *Blastophagus* Eichh. — Zentralblatt f. Gesamtgebiet der Ent. Jahrg. 1: 2, p. 50—58.
- WINKLER, A., 1932: Catalogus Coleopterorum regionis palaearticae. — Wien.
- WOLLASTON, T. V., 1865: Coleoptera Atlantidum, being an enumeration of the coleopterous insects of the Madeiras, Salvages, and Canaries. — London.