Williams et al.: Genitalic Characters


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MALE GENITALIA FOR STELIDOTA
(COLEOPTERA: NITIDULIDAE) IDENTIFICATION IN AMERICA NORTH OF MEXICO

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ABSTRACT

Male genitalia of the three species of the genus Stelidota in America North of Mexico are figured and described: Stelidota ferruginea Reitter; S. geminata (Say); and S. octomaculata (Say). The following male genitalic characters are constant and may be used for identification: the relative size; the shape; and the number, size and location of setae.

RESUMEN

Se describen y figuran los genitales del macho de las tres especies del género Stelidota en América, al norte de México: Stelidota ferruginea Reitter; S. geminata (Say); y S. octomaculata (Say). Los siguientes caracteres genitales del macho son constantes y pueden ser usados para identificación: el tamaño relativo; la forma; y el número, tamaño y localidad de las setas.

The genus Stelidota Erichson (Coleoptera: Nitidulidae) is composed of about 50 species worldwide. They are present in all faunal regions with the exception of the Australo-Papuan (Weiss & Williams 1980). Of the Nearctic species only three are present North of Mexico; Stelidota octomaculata (Say), S. ferruginea Reitter [= S. striposa Horn (1979) & Parsons (1943) according to Connell (1984)], and S. geminata (Say).
These species are rather similar and according to some of the literature reviewed we feel that in the past there may have been confusion in their identification. Dobson (1952, 1954a, b, 1972), and Connell (1956) have shown that male genitalia offer characters to differentiate the species of Carpophilus Steph. Similarly, Jelínčík (1982) utilized genitalia, male and female, to distinguish species of Meligethes Stephens. To date no one has separated species of Stelidota utilizing genitalia. A single paper was found that depicts male genitalia of S. geminata (Parsons 1943); however, the figure is small, characteristics are not easy to distinguish, and there is no description of the genitalia or comparison with related species.

MATERIALS AND METHODS

Specimens used in these studies were obtained from laboratory cultures maintained at the Ohio Agricultural Research and Development Center, Wooster, Ohio. S. geminata were initially collected in a strawberry planting near Wooster, while S. octonaculata were reared from northern red oak (Quercus rubra L.) acorns collected in the Wayne National Forest in southern Ohio. S. ferruginea were reared from acorns of laurel oak (Q. laurifolia Michx.) collected near Sarasota, Florida.

Adults were cleared in a 5% potassium hydroxide solution at 100°C for about 30 minutes. Genitalia were removed and mounted on slides with Diaphane®. Male genitalia were sketched with the aid of a stereoscopic microscope and an ocular micrometer. All descriptions are based on the slide-mounted specimens made during this study, which are deposited in the Department of Entomology, Ohio Agricultural Research and Development Center.

RESULTS AND DISCUSSION

Female genitalic characteristics were similar among the species examined and no constant characters were found to separate the species. However, male genitalia for the three species are quite different and can be used to distinguish species. The following descriptions and figures make it possible to separate the different species.

**Stelidota ferruginea:** The tegmen has two different formats (Fig. 1-B and C) according to the slide specimens we examined.

Variations differ according to the manner in which the tegmen is folded. The tegmen shown in Fig. 1-B is folded along the sides and at the apex in such a way that small dorsal setae can be seen ventrally. But other long lateral setae are in the same position as in Fig. 1-C. The following descriptions of tegmina are based on Fig. 1-C. Sides of tegmen in the basal two thirds is parallel, and the apex is broadly rounded. There are three groups of long setae apically: one group with four setae at the very apex, the other two groups of two setae each are located on each side of the apex. One exception was found where a male had five setae at the apex with a sub-apical group of three setae. Additional small setae are also present at the apical portion. In the tegmen mid-zone, there are two long setae close together. The median lobe (Fig. 1-F) is parallel-sided, about twice as long as wide. The apex is obtusely angulate. Material examined: 16 specimens.

**Stelidota geminata:** The tegmen (Fig. 1-D) in the apical third is narrowed towards the apex; in the basal two thirds it is parallel. Three groups of setae occur at the apical portion, one group with three or four setae at the apex, the other two groups having five or six setae are located on each side of the apex. In the middle, there are three
Fig. 1. Male genitalia of Stelidota spp. A. tegmen, S. octomaculata; B. tegmen, S. ferruginea (folded specimen); C. tegmen, S. ferruginea (open specimen); D. tegmen, S. geminata; E. median lobe, S. geminata; F. median lobe, S. ferruginea; G. median lobe, S. octomaculata.

setae close together on each margin. Additional small setae are present on the apical third. The median lobe (Fig. 1-E) is rounded at the apex, narrowed from the apex to the base.

Material examined: 17 specimens.
Stelidota octomaculata: The tegmen (Fig. 1-A) in the apical third is distinctly narrowed, then parallel; the apex broadly rounded, with two or three setae at the apex. From the middle to the apical third there are usually seven long, stout setae along the inner side. However, we did find two exceptions: one had six and one had eight such setae. Other shorter setae are distributed in the apical half. The median lobe (Fig. 1-G) is rather narrow and slender, about four times as long as wide. The apex is angulate.

Material examined: 16 specimens.

SUMMARY

Male genitalic characters, given above, provide further distinguishing characters allowing precise separation of the three species of Stelidota. The character states we report are constant and may be used for identification: the relative size of the male genitalia, the shape of the male genitalia, and the number, size and location of the setae on the genitalia.

ACKNOWLEDGEMENTS

We wish to thank Dan S. Fickle for technical assistance and contributions at various stages of the studies. Salaries and research support were provided by State and Federal Funds appropriated to the Ohio Agricultural Research and Development Center, The Ohio State University. OARDC manuscript number 288-88.

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