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A New Record Billbug, *Sphenophorus abbreviatus* (F.) (Coleoptera: Curculionoidea: Dryophthoridae) from Turkey

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ABSTRACT

Sphenophorus abbreviatus (F.) (Coleoptera: Curculionoidea: Dryophthoridae) is recorded for the first time from Turkey. Descriptive note, diagnostic characters, distribution data and color images are presented.

Key words: Curculionoidea, Dryophthoridae, new record, Turkey.

INTRODUCTION

The billbugs *Sphenophorus* Schoenherr, 1838 are weevils that belong to the family Dryophthoridae (Coleoptera: Curculionoidea) (Lyal, 2011) that commonly infest turfgrasses species (Shetlar and Andon, 2012). The genus *Sphenophorus* is distributed in all zoogeographical regions which are cosmopolitans (Alonso-Zarazaga and Lyal, 1999), and representing with nine species in the Palaearctic Region (Lyal, 2011). Seven species of billbugs are known to be pests of turfgrasses in Nearctic (Johnson-Cicalese *et al.,* 1990), however information on the host plants of billbugs is limited. Recently, Johnson-Cicalese and Funk (1990) reviewed that host plants of billbugs are *Poa pratensis, Cynodon dactylon, Lolium perene, Dactylus glomeratus, Stenotaphrum secundatum*, *Eremochloa ophiuroides* and *Paspalum notatum*.

Sphenophorus abbreviatus (Fabricius, 1787) is principally distributed Europe, Caucasus and central Asia in the Palaearctic (Lyal, 2011). A recent assemblage of some few specimens in my collection for identification and an individual myself which I have collected in front of our faculty building on turfgrass orientated to me make this paper to inform new country record and descriptive note.

MATERIAL AND METHODS

Measurements were taken using ocular micrometer under stereomicroscope Leica MZ7.5; body length was measured from anterior margin of eye to posterior margin of elytra. Dry adult samples were placed in lukewarm clean water overnight, genitalia dissected, muscle covering parts were stayed 10% KOH overnight, cleaned

with distilled water and %70 ethanol. Taking pictures were made in glycerine under stereomicroscope for genitalic structures. All genitalia and mentioned part preparations were kept in dry on glued paper under pinned specimen which they were dissected. Photographs were taken with Leica DFC 420 digital camera joining microscope using LeicaLAS software for montage. The digital images were then imported into Adobe Photoshop 8.0 and CorelDRAWX4 for labelling and plate composition.

RESULTS

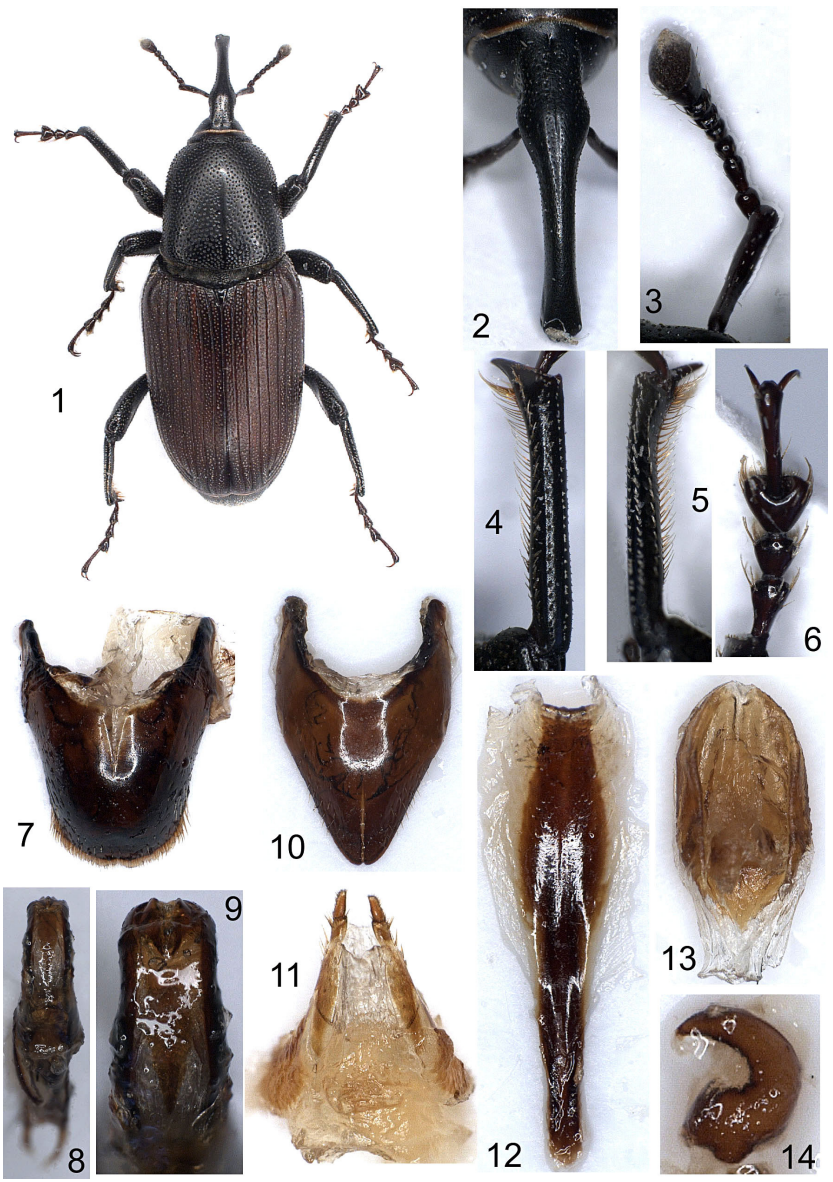
Descriptive Notes: Length: 13.2-14.5 mm. Vestiture. Integument black to ferruginous (elytra on fresh individual), shiny or dull, slightly pubescent with very short, stick form, grayish pubescence; ventral surface of coxa, trochanter and femur bear short, erect, stick form setae; similar, shorter and sub-erect setae constitute regular rows on tibiae; inner margin of tibiae bear a row long erect hair-like setae (Figs. 4-5). Similar hair-like setae present on tarsi and funicle. Anterior margin of prothorax bears completely dense and short bristles.

Body elongate-oval (Fig. 1), head spherical, frons convex, frontal fovea deep, eyes semicircular. Rostrum robust, curved in lateral view, depressed laterally; base of rostrum thick, parallel sided until antennal insertion, widened in this part and strongly narrowed after that and slightly widened again at apex (Fig. 2). Scape strong, weakly curved, gradually widened from base to apex, slightly longer than funicle (Fig. 3). Funicle segment II longer than I, segments III and IV sub-equal length, segments V and VI transverse. Club strongly developed. Prothorax subrectungular to subtrapeziodal, longer than wide, anteriorly narrowed. Surface of pronotum densely punctuated with small, round and superficial punctures. Scutellum visible. Elytra distinctly wider than prothorax, longer than wide, gradually narrowed from base to apex, not closed to abdomen, pygidium visible dorsally. Humeral calli well developed, preapical prominences undeveloped. Intervals flat, surface with micropunctation constituting irregular one or two rows. Striae shallow and narrow. Legs strong, femora robust, tibiae long, external margin straight, internal margin emarginate, unci well developed (Figs. 4-5). Tarsi long, tarsal segment I asymmetrical triangular form, longer than segment II, segment II trapezoidal, segment III triangular form. Claw segment long, gradually and slightly widened from base to apex. Claws divergent (Fig. 6).

Male genitalia. Tergite VIII trapezoidal and bears dense bristles at posterior margin (Fig. 7). Penis stout, gradually narrowed from base to apex, constricted laterally in apical one third in dorsal view (Figs. 8-9), median struts sub-equal length with penis. Penis strongly curved in lateral view.

Female genitalia. Tergite VIII triangular, chapped longitudinally at posterior one third (Fig. 10). Sternite VIII elongated spoon shape (Fig. 12) with a developed pad (Fig. 13). Gonocoxite triangularly narrowed to apex, constituting a cylindrical base for stylus, hemisternites bear long, sub-erect setae on external surface and stylus base. Stylus triangularly narrowed to apex, apical and ventral margins bear a range

of short setae (Fig. 11). Spermatheca C-shaped, ramus and collum less developed, apex of cornu sharp (Fig. 14).



Figs. 1-14. *Sphenophorus abbreviatus* (Fabricius, 1787), (1-9 male; 10-14 female). 1) adult; 2) rostrum; 3) antenna; 4) protibia; 5) metatibia; 6) protarsus; 7) male tergite VIII; 8) aedeagus; 9) penis; 10) female tergite VIII; 11) coxite; 12) sternite VIII; 13) pad of sternite VIII; 14) spermatheca.

Sexual dimorphism. Female rostrum is sub-equal length with prothorax length, in contrast shorter in male. Apex of rostrum in female is wider than male. Metasternum and first abdominal ventrite are widely depressed in male; in contrast flat in female.

Materials Examined: Turkey: Isparta Prov., Eğirdir, Ağıl, 28.VIII.1991, 1♂, leg. M. Dikmen; Adana Prov., 7.XII.2011 1♂, 1♀, leg. F. Efil; Erzurum Prov., Atatürk University campus, N 39º 54.266', E 41º 12.962', 1850 m, 28VI.2011, 1♂, leg. L. Gültekin, collected on turfgrass recently brought and established in the campus for landscape arrangement. This is a new record of Turkey.

Distribution: Albania, Austria, Bulgaria, Croatia, Cyprus, Czech Republic, France, Georgia, Greece, Hungary, Italy, Kazakhstan, Malta, Montenegro, Portugal, Romania, Russia, Serbia, Spain, Switzerland, Turkmenistan, Ukraine (Lyal, 2011).

Remarks: According to new catalog by Lyal (2011), four species of Dryophthoridae are known from Turkey: *Sitophilus linearis* (Herbst, 1795), *Sitophilus oryzae* (Linneaus, 1763), *Sitophilus zeamais* Motschulsky, 1855, *Rhynchophorus ferrugineus* (Olivier, 1791) and *Sphenophorus piceus* (Pallas, 1771). However, cosmopolitan species *Sitophilus granarius* (Linneaus, 1758) was also recorded from Turkey by Lodos *et al*. (1978). With this current finding, number of dryophthorid weevils from Turkey raised to six species.

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