SHORT COMUNICATION

First Record of the Long-Horned Beetle, *Xylotrechus stebbingi* Gahan 1906 (Cerambycidae: Coleoptera) Infesting Golden Shower Tree, *Cassia fistula* in Egypt

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Received: *26//11/2021*

Abstract: The long-horned beetle, *Xylotrechus stebbingi*, Cerambycidae; Coleoptera was recorded for the first time on the golden shower tree, *Cassia fistula* at Shebin Elkom, Menoufia Governorate, Egypt during June 2019.Hole of about half-centimeter diameter was noticed in a branch of *Cassia fistula* tree and expected as insect injury. After observation, two insect individuals were observed and classified as male on 28th of April 2020: and a female on the 1stof May 2020. Morphological characters (front, antenna, elytra, and legs) were described under a dissecting stereoscopic microscope with a 10x lens. Photographic pictures were also taken with a mobile camera without zoom. The individuals were identified as the long- horned beetle, *Xylotrechus stebbingi*with the aid of the key created by (Gahan, 1906). *Xylotrechus stebbingi* length average as 2.2 cm in male and 1.9 cm in female. Corresponding figures for width is 0.6-0.5cm. Head of hypognathous position front covered with minute hairs with a V-shaped red-brown protrusion, compound eyes look like commas or curved water droplet, antenna filiform of 10 segments. Pronotum has three black spots in an inverted triangle, looks like a rabbit face, pronotal base part has 2 white spots distributed above the scutellum. The elytra have three transverse white lines; the base and the tip have more fuzz. Pro-femurs reach the first transverse elytra line, pro-leg of the same length as meta-femur, the last one passes the body and elytra, meta-leg is as tall as the body approximately, meso-femurs reach the third transverse line.

Keywords: Purging cassia trees, Golden shower, Indian laburnum, pudding-pipe tree, Cerambycidae

INTRODUCTION

Golden shower tree, *Cassia fistula* L. is as tunning deciduous long tree has yellow flowers. *Cassia fistula* tree has medicinal importance which can be used to treat diarrhea, stomach pain, and hematemesis, by chewing and swallowing a small piece of its park for 2-3 days, also it used to treat nasal infection. Fruits and leaves of cassia are used as antifungal and antibacterial agents. In addition to its pharmacological uses, cassia extracts are used for pest and plant disease control (Kasuko and Nagayo, 1951; Patel *et al*., 1965; Biswas and Ghosh, 1973; Kirtikar and Basu, 1975; Jaipal *et al*., 1983; Satyavati and Sharma, 1989; Perumal Samy *et al*., 1998; Sharma and Basandrai, 1999; Raja *et al*., 2000; Rajan *et al*., 2001).

Cocquempot (2007) reported the long-horned beetle *Xylotrechus stebbingi* as an economic pest and scheduled it in the quarantine lists, it was not included in quarantine species and importation control lists. So, the lists should be preventive, not curative to do the most effective role. Larvae grow and feed on decaying wood and are transported with wood products and wooden industrial packages or stocks (Cocquempot and Lindelöw, 2010).

Gahan (1906) and, Stebbing (1914) described the body of *Xylotrechus stebbingi,* color brown, length 12-18 mm; head and prothorax are covered with grey pubescence, head with lateral oblique, curved and extending below to the lower margin of eyes level, front narrowed between eyes and furnished with two prominent convergent carinae made a V shape, antenna length less than half the length of body, third joint longer than the first. The prothorax widest between the middle and the base, narrowed in front and at the base with a median aspirate carinae, prothorax has two dorsal and two lateral small white spots. The base of elytra covered with grey pubescence, marked with transverse ashy lines, the first is near the base, the second is just before the middle of the elytra, the third is between the middle and the apex, the top border lined with grey pubescence. The meta-thoracic episterna has large posterior ashy white spot on each. Femurs strongly thickened, hind pair extending a little past the end of body and elytra. First joint length of Hind tarsus is twice to the second and the third joints together.

MATERIALS AND METHODS

Place:

At the garden of the Faculty of Agriculture, Menoufia University, there are two trees of purging cassia trees*, Cassia fistula* L. (golden shower tree) (Fig. 1).

Samples:

Pores of infested insects were discovered on the branches (Fig. 2) then some branches were cut with a saw and transported to the laboratory to be examined.

Classification and Identification:

Morphological characters (front, antenna, elytra, and legs) were identified under a dissecting stereoscopic microscope with 10x lens with the aid of the key created by Gahan, 1906.

Imaging:

Images taken under dissecting stereoscopic microscope with mobile camera, adjustments prepared by Adobe Photoshop CS6 (Alten, 2014).

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RESULTS AND DISCUSION

1- Systematic position of *Xylotrechus stebbingi*, Gahan, 1906:

Kingdom: Animalia
Phylum: Arthropoda
Subphylum: Atelocerata
Class: Insecta
Infraclass: Neoptera
Subclass: Pterygota
Order: Coleoptera
Suborder: Polyphaga
Infraorder: Cucujiformia
Superfamily: Chrysomeloidea
Family: Cerambycidae
Subfamily: Cerambycinae
Tribe: Clytini
Genus: *Xylotrechus*
Species: *stebbingi*
Xylotrechus stebbingi **Gahan, 1906**.

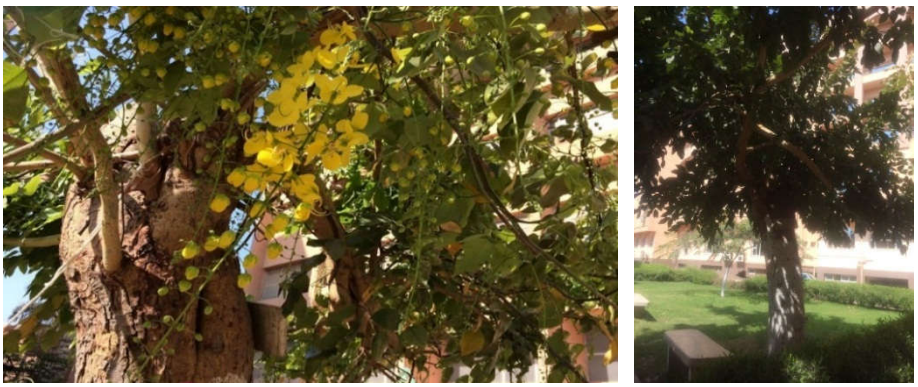

Figure (1): *Cassia fistula* tree

a **a** **b** **b**

Figure (2a, b): The pores of beetle adult male (0.7 cm diam.) and female (0.6 cm diam.)

2-Description and measures of *Xylotrechus stebbingi* adult

Table (1): Description and measures of the adult male *Xylotrechus stebbingi*

Body	Mocha-brown, cover with light grey fuzz.
Length - Width	2.2cm - 0.6 cm
Head and front	With a V shaped dark brown protrusion.
Antenna	10 segments, 0.7 cm.
Compound Eyes	Curved water droplet including the base part of the antenna.
Pronotum	Look like a rabbit face.
Pronotal markings	2 white spots.
Elytra	3 white transverse lines.
Legs and Tarsus	Fore-femurs reach the first transverse line. Middle femurs reach the third transverse line. Hind femurs are long and pass the body and elytra.Tarsus with 2 claws.

Table (2): Description and measures of the adult female Xylotrechus *stebbingi*

Body	Mocha-brown, cover with light grey fuzz.
Length - Width	1.9cm -0.5 cm
Head and front	With a V shaped dark brown protrusion.
Antenna	10 segments, 0.6 cm.
Compound Eyes	Curved water droplet including the base part of the antenna.
Pronotum	Look like a rabbit face, length 0.5 cm.
Pronotal markings	2 white spots.
Elytra	3 white transverse lines.
Legs and Tarsus	Fore-femurs reach the first transverse line. Meso-femurs reach the third transverse line. Meta-femurs are long and pass the body and elytra. Tarsus with 2 claws.

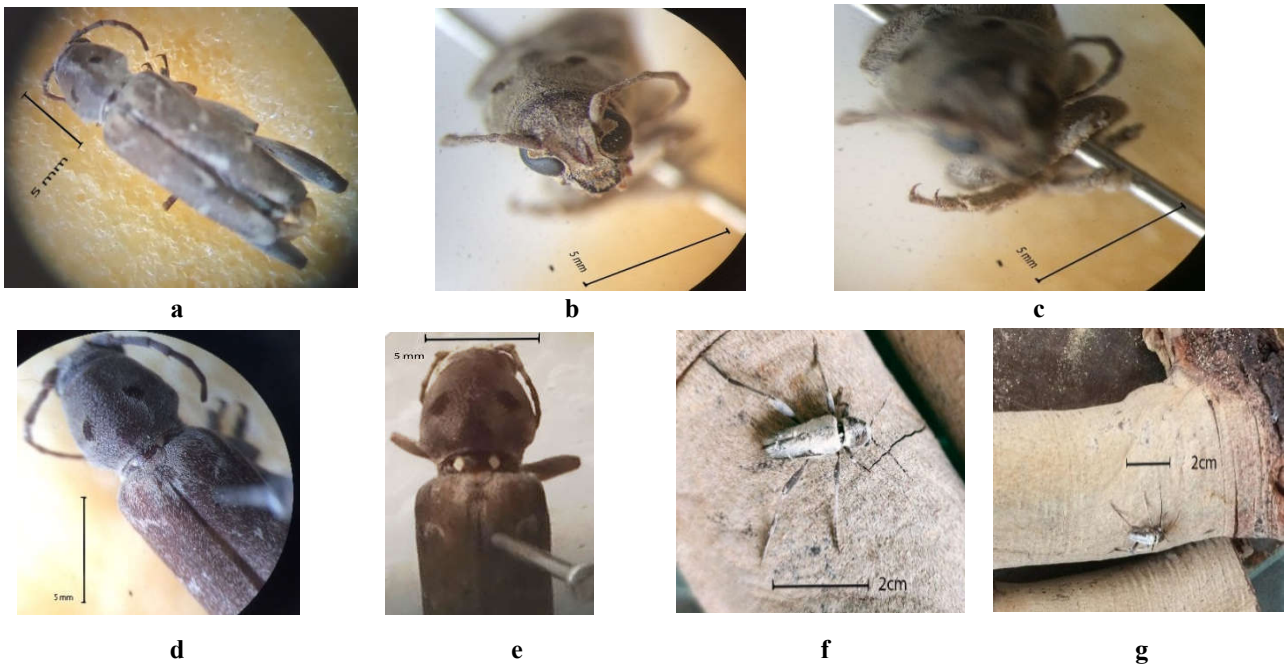

Figure (3): a) *X. stebbingi* under stereoscope, b) the front, c) tarsus and the claws, d) pronotum and antenna, e) pronotal and scutellum, f) *X. stebbingi* with 5 x camera, g) *X. stebbingi* actual size

3-Classification and Identification

Xylotrechus stebbingi, a species of long-horned beetles, is mocha-brown in color covered with light grey fuzz, its length averages 2.2 cm in male and 1.9 cm in female (Fig. 3 a, f , g). Corresponding figures for width is 0.6- 0.5cm (Tables 1 & 2). The head has a hypognathous position (makes a 90º angle with the axis of the body), the front of the head covered with minute hairs with a V-shaped red-brown protrusion (Fig. 3b), compound eyes look like commas or curved water droplet, including the 10 segmented filiform antenna. Pronotum (Fig. 3d, e) has three black spots in an inverted triangle, looks like a rabbit face, the widest part is 0.5-0.4 cm, pronotal base part has 2 white spots distributed above the scutellum. The elytra have three transverse white lines; the base and the tip have more fuzz. The tarsi have two claws (Fig. 3c). Fore-femurs reach the first transverse elytra line, the fore-leg is the same length as the meta-femur, the last one passes the body and elytra, the meta-leg is as tall as the body approximately, meso-femurs reach the third transverse line. The individuals were identified as the long-horned beetle, *Xylotrechus stebbingi* with the aid of the key created by Gahan, 1906. This record confirmed by the article conducted by Ali, 2015 in Syria.

ACKNOWLEDGMENT

It gives me great pleasure to extend my sincere thanks and appreciation to everyone who helped bring this work out, first, I would like to express my sincere thanks to Dr. M. E. Sweelam for his support in identifying the insect and for his assistance in reviewing, coordinating and publishing. I would thank staff members of Taxonomy Dept., Plant Protection Research, Eldokki, Giza, Egypt.

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تسجيل لأول مرة الحفار ذو القرون الطويلة *Xylotrechus stebbingi* الذي يصيب أشجار الكاسيا فستيولا في مصر

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تم تسجيل حشرة الحفار ذو القرون الطويلة *Xylotrechus stebbingi* (Coleoptera; Cerambycidae) لأول مرة في شهر يونيو ٢٠١٩ على أشجار الكاسيا فستيولا بمدينة شبين الكوم، محافظة المنوفية، بجمهورية مصر العربية. لوحظ وجود ثقوب قطرها حوالي نصف سم على إحدى فروع شجرة الكاسيا، وتم نقل عينات من الفروع إلى المعمل ووضعها بأقفاص زجاجية ومغطاة بطبقة من الشاش، تم رصد الحشرة حتى ظهور الذكر في ٢٨ أبريل ٢٠٢٠ وظهرت الأنثى في الأول من مايو ٢٠٢٠. تم دراسة الصفات المورفولوجية للحفار تحت الدراسة بواسطة باينوكلر تشريح باستخدام عدسة شيئية x١٠. وتم التقاط الصور الفوتوغرافية بكاميرا محمولة بدون تكبير/تصغير. تم تصنيف الحشرة تحت الدراسة بمساعدة المفتاح التقسيمى الذي وضعه العالم Gahan عام ١٩٠٦. تم وصف حشرة *Xylotrechus stebbingi* بطول يتراوح بين ١.٩-٢.٢ سم وعرض من ٠.٥-٠.٦ سم، والرأس وضعها أسفل الجسم بزاوية ٩٠ درجة على محور الجسم الطولي ، والجبهة مغطاة بشعيرات دقيقة، وعليها نتوء على شكل حرف V ولونها بني أحمر، العيون المركبة تشبه الفصلة أو قطرة الماء ولكنها مقوسة، وقرن الاستشعار يتكون من ١٠ حلقات ويخرج من تجويف بين العيون المركبة، والصدر الأمامي عليه ثلاثة بقع سوداء في شكل مثلث تعطي مظهر وجه الأرنب، أسفل مشد الصدر الأمامي عليه نقطتين بيضاويتين موزعتين على جانبي الدرقة، الجناح الغمدي عليه ثلاثة خطوط عرضية بيضاء وقاعدته وقمته وبريتين، الفخذ الأمامي يصل حتى الخط العرضي الأول للجناحين وفخذ الأرجل الأمامية بنفس طول الأرجل الوسطى وفخذ الأرجل الخلفية طولها يتعدى طول الجسم، والجناح والأرجل الخلفية تساوي طول الجسم بالكامل تقريباً في الطول، والفخذ الأوسط يصل حتى الخط العرضي الثالث للجناح.

الكلمات المفتاحية: أشجار الكاسيا - الحفار - غمدية الأجنحة - الشكل الظاهري - التصنيف