

## A redescription of *Tachys* (*s. str.*) *shirazi* Jedlička (Coleoptera, Carabidae) and some additional remarks about *Tachys* (*s. str.*) in Iran

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### Abstract

*Tachys shirazi* Jedlička, 1968 is redescribed and included in the genus and subgenus *Tachys* (*s. str.*) Dejean, 1821. *Tachys* (*Tachys*) *torretassoi* Schatzmayr & Koch, 1934 is also newly recorded from Iran. The records of *T. (T.) scutellaris scutellaris* Stephens, 1828 and *T. (T.) dimedius dimedius* Motschulsky, 1849 for Iran by Azadbakhsh & Nozari (2015) are doubtful. Furthermore, *Tachyura* (*s. str.*) *shahinei* Schatzmayr & Koch, 1934 was erroneously recorded as *Tachys* by them.

**Key words:** Bembidiini, *Tachys*, redescription, new record, fauna, Iran.

## بازتوصیف *Tachys* (*s. str.*) *shirazi* Jedlička (Coleoptera, Carabidae) و

## برخی ملاحظات تکمیلی در مورد جنس *Tachys* (*s. str.*) در ایران

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### چکیده

گونه *Tachyura shirazi* Jedlička, 1968 بازتوصیف و به جنس و زیرجنس *Tachys s. str.* Dejean, 1821 منتقل می‌شود. همچنین، گونه *Tachys* (*Tachys*) *torretassoi* Schatzmanys & Koch, 1934، برای اولین بار از ایران گزارش می‌شود. گزارش *T. (T.) dimedius dimedius* Motschulsky, و *T. (T.) scutellaris scutellaris* Stephens, 1828، توسط Azadbakhsh & Nozari (2015) از ایران مورد تردید است. گونه *Tachyura* (*s. str.*) *shahinei* Schatzmayr & Koch, 1934 نیز به اشتباه توسط آن‌ها به عنوان جنس *Tachys* گزارش شده بود.

واژگان کلیدی: *Tachys*, Bembidiini، بازتوصیف، گزارش جدید، فون، ایران

دریافت: ۱۳۹۶/۱۱/۱۲، پذیرش: ۱۳۹۷/۱۲/۲۵.

## Introduction

*Tachys* Dejean, 1821 is a genus of the tribe Bembidiini with a worldwide distribution. All species are small (< 3 mm). Kopecký (2017) divided this genus in two subgenera, *Tachys (s. str.)* and *Paratachys* Casey, 1918. Specific characters of *Tachys (s. str.)* are as follows: the recurrent sutural stria exceeds the second dorsal setiferous puncture; the first three elytral marginal shoulder punctures are almost equally distant from each other; and the aedeagus is triangular, transparent, with one sclerite, located near the basal bulb in the shape of an arc. Several species resemble each other and can only be discriminated by comparing the aedeagus. Both subgenera of *Tachys* have in common a flat body, dull elytra with strong microsculpture and a mentum with two fovea.

*Tachyura* Motschulsky, 1862 is related to *Tachys* and differs from the latter genus by the absence of fovea on the mentum, the shiny elytra without strong microsculpture and more convex body. According to the original description of Jedlička (1968), *Tachyura shirazi* belongs to the 'expansicollis group sensu Andrewes'. This group is formed by several species of the Indian continent related to *Tachyura expansicollis* (Bates, 1892). Therefore, Kopecký (2017) included *Tachyura shirazi*, 1968 Jedlička in *Tachyura*.

## Material and methods

Two paratypes of *Tachyura shirazi* Jedlička, 1968 were found in Natural History Museum, Prague (NHMP). Based on the above mentioned characteristics it was clear that these specimens belonged to *Tachys s. str.* Moreover, a clear difference in the recurrent stria and in the elytra of the two specimens indicated that these paratypes belonged to two different species. Later the holotype and ten paratypes of *T. shirazi* were found in Muséum National d'Histoire Naturelle, Paris (MNHN) and provide the possibility of the species being redescribed.

### *Tachys (s. str.) shirazi* Jedlička, 1968

(Figs 1, 4)

Material examined: Holotype: Iran, Fars Province, Maharlou Lake, a salt lake in south of Shiraz, 18.III.1965 (MNHM). Paratypes: ten paratypes, the same data as holotype (MNHM); two paratypes, Iran, Gilan Province, Rasht, 7.V.1965 (NHMP).

Diagnosis: upper side dark brown, with isodiametric microsculpture, elytra elongated, hind angles of pronotum obtuse. Length 2.6 mm (Fig. 1). Macropterous.

Head rather small (less wide than pronotum), eyes convex, temples short, in an oblique line to the neck. Antennae from antennomere 2 onwards darkened, apical antennomeres slightly lighter. Apical segment of the maxillary palp darkened, mentum with two fovea. Ventral side of the head with a deep labial impression.

Pronotum transverse, lateral margin regularly curved and just visibly sinuated before oblique hind angles, anterior margin slightly curved. Middle line visible, evanescent to front margin, basal fovea restricted along posterior margin. Microsculpture clear also on disc, meshes more transverse than on head.

Elytra elongated, sides subparallel, broadly rounded. Dark brown with a slight lustre, shoulders brownish. Microsculpture obsolete. Striae 1-4 superficially indicated, only visible in the middle. Recurring stria rather straight in its basal part, exceeding the second dorsal puncture and joining laterally by a narrow loop.

Legs: femora dark, tibia and tarsi yellowish.

Male genitalia: Aedeagus large (0.44 mm), elongated, top edge straight, the greatest height just before the apical slope. An arch-shaped sclerite between basal bulb and top edge, as in Fig. 4.

#### ***Tachys (s. str.) centralis* J. R. Sahlberg, 1900**

(Figs 2, 5)

One male paratype collected at Maharlou Lake differs from the holotype as to the form of the recurring stria, colour of the antenna and elongation of the elytra, and represent another species. We could not find any difference between the aedeagus of this male specimen and the drawing of the aedeagus of *T. (s. str.) centralis* in Coulon (2011), as well as the aedeagus of specimens of this species collected along the Persian Gulf (Fig. 5). Specimens from the Persian Gulf have two yellowish spots on each elytron which are variable in shape and size (Fig. 2). The paratype and other specimens from Maharlou Lake and Bakthegan Lake are completely dark brown.

#### ***Tachys (s. str.) torretassoi* Schatzmayr & Koch, 1934**

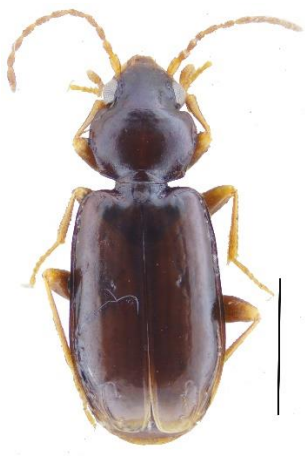
(Fig. 3)

Material examined: Iran, Hormozgan Province, Queshm Isl., Tola, W. Qeshm, 5.III.2015, Wrase & Laser.

This is the first record of this small species ( $\leq 2$  mm) for Iran. *Tachys (s. str.) torretassoi* is easily recognizable by the (pale) yellow elytra with a dark circular spot (Fig. 3). Eyes big. Pronotum with lateral margin curved, narrowed to base, hind angles slightly blunt ( $100^\circ$ ). Elytral striae I-IV visible, stria I fairly impressed, elytra strongly elongated. Aedeagus short and high (0.34 mm), sclerite big, strongly arched.

### **Discussion**

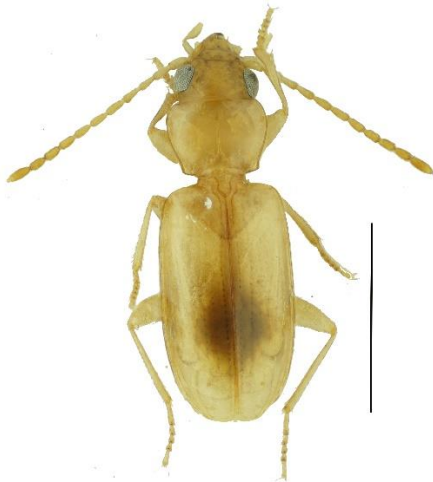
Azadbakhsh & Nozari (2015) recorded two West-Palaeartic species for Iran: *Tachys (Tachys) scutellaris scutellaris* Stephens, 1828 and *T. (T) dimedius dimedius* Motschulsky, 1849. The record of the first species was based on a paper of Mandl (1963). We tried to find this specimen but not being successful. According to Dr. Harald Schillhammer (Natural History Museum Vienna) Mandl did not store the specimens of these species in the collection of Vienna and kept them in his personal collection. The collection of Mandl was sold, and parts of the collection ended up in the collection of G. Frey, which is now housed in Basel (personal communication, Schillhammer). Unfortunately, *T. scutellaris* could not be found in Basel. Probably this specimen is a misidentification of the very similar species *T. lenkoranus* Csiki, 1928. The record of *T. (s. str.) dimedius* based on Coulon (2011) is doubtful, because Coulon wrote that record of this species from Iran was questionable.



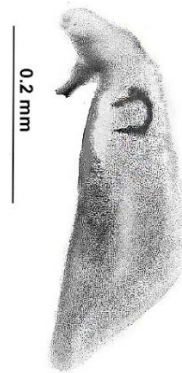
**Fig. 1.** *Tachys shirazi*: holotype, habitus. Scale: 1 mm.



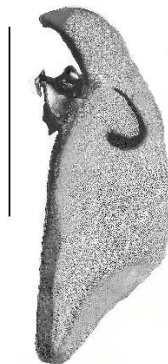
**Fig. 2.** *Tachys centralis*: Queshm Island, habitus. Scale: 1 mm.



**Fig. 3.** *Tachys torretassoi*: Queshm Island, habitus. Scale: 1 mm.



**Fig. 4.** *Tachys shirazi*: aedeagus. Scale: 0.2 mm.



**Fig. 5.** *Tachys centralis*: Maharlou Lake, aedeagus. Scale: 0.2 mm.

### Acknowledgments

Our thanks are due to Ron Felix for making the drawings and helpful comment, David Wrase for the loan of a male specimen of *T. torretassoi*, J. Coulon for helpful comment, Dr. Harald Schillhammer (Natural History Museum Vienna) and Matthias Borer (Naturhistorisches Museum Basel) for looking after material from Mandl collection, Azadeh Taghavian (Muséum National d'Histoire Naturelle, Paris) and Jiří Hájek (Natural History Museum, Prague) for loaning types.

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