FAUNISTIC NOTES ON THE GENUS SCIAPUS ZELLER (DIPTERA, DOLICHOPODIDAE) OF MOROCCO

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Abstract. During recent surveys conducted in Morocco, many species of Dolichopodidae (Diptera, Brachycera) new for the country have been collected. In this paper a review of Moroccan Sciapus Zeller, 1842 fauna is given. Sciapus heteropygus Parent, 1926 and S. holoxanthos Parent, 1926 are found in the country for the first time. An annotated checklist of Moroccan fauna is compiled, including 9 species. In addition, available information on geographical distribution for each species is included.

Keywords: Dolichopodidae, Sciapus, Morocco, new records, checklist.
INTRODUCTION

Moroccan Dolichopodidae fauna is receiving an increasing interest in the last few years, compensating for the long dated lack of knowledge. Many of the newly recorded species for the country have been published recently by Ebejer et al. 2019; Grichanov 2019; Nourtí et al. 2019a, 2019b. Nevertheless, the Moroccan dolichopodid fauna is still under-collected, including the genus Sciapus Zeller, 1842. For example, 17 species of the genus are known from Italy (Grichanov, Negrobov 2014), and the Mediterranean Sea Region as a whole is obviously a centre of Sciapus diversity in the West Palaearctic. In this paper we review the known records of the Sciapus species in Morocco, adding two species to the regional fauna.

MATERIAL AND METHODS

The material of the newly recorded species has been collected using Malaise traps placed in the Talassemtane National Park (35°8’6.11”N, 5°8’18.06”W) and the Bouhachem Natural Park (35°13’32.30”N, 5°19’24.35”W; Fig. 1), then transferred to bottles using aspirators or eclectors (Černý, von Tschirnhaus 2014) and stored in 70% alcohol. It is housed at the Laboratoire Ecologie, Systématique et Conservation de la biodiversité, Faculté des Sciences, Université Abdelmalek Essaâdi, Tétouan, Morocco and the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia. The following abbreviations are used in the list for the Moroccan natural areas: the North (Rif), Atlantic Plains (AP) and Anti Atlas (AA) (Rankou et al. 2015). The general species distribution is given after Grichanov (2017). Type localities are provided, and country lists are arranged alphabetically.

RESULTS

Sciapodinae
Sciapus Zeller, 1842

Sciapus adumbratus Becker, 1902

References: Grichanov, Negrobov 2014, AP, near Essaouira, AA, Aït Melloul pr Oued Sous, near Ouarzazate (1100 m).

Type locality: [Egypt:] “Siala”. Originally published as “Kairo, Assiut, Alexandrien, Wüste bei Siala”.

Distribution: Egypt, Iraq, Iran, Morocco, Oman, Tunisia, Turkmenistan, United Arab Emirates.

Fig. 1. Malaise trap placed in the locality of Adrou at Jbel Bouhachem (Bouhachem Natural Park)
Sciapus costae (Mik, 1890)

References: Ebejer et al. 2019, Rif, Oued Laou (30 m).

Type locality: Italy: Sicily.

Distribution: Italy, France, Morocco, Tunisia.

Notes: Sciapus costae was identified by females only (Ebejer et al. 2019). The species presence in Morocco must be confirmed, as the most part of Mediterranean species of the genus can be distinguished by only males (Grichanov, Negrobov 2014).

Sciapus euzonus (Loew, 1859)

References: Parent 1927, Rif, El-Mahadi; Séguy 1930, Rif, Tanger; Séguy 1941, AA, Taroudant.

Type locality: Italy: Sicily.

Distribution: Algeria, the Czech Republic, France, Greece, Italy, Morocco, Spain, former Yugoslavia (?)..

Sciapus glaucescens (Loew, 1856)

References: Grichanov, Negrobov 2014, AP, Oualidia.

Type locality: Egypt.

Distribution: Abkhazia, Bulgaria, Croatia, Egypt, France, Israel, Italy, Morocco, Portugal (Madeira, Azores), Spain (Canary Is.), Russia (Crimea), Turkey.

Sciapus heteropygus Parent, 1926

Material. Morocco: 1♂, Rif, Talassematane National Park, forest, Malaise trap, 35°8′6.11″N, 5°8′18.06″W, 1696 m, 7.06–17.10.2014, leg. K. Kettani.

Type locality: France: Ardennes, “Mézières”.

Distribution: The Czech Republic, Denmark, France, Germany, Greece, Hungary, Iran, Israel, Portugal, Romania, Slovakia, Spain, Switzerland, Turkey, UK. First record for Morocco.

Notes. Original pictures of the species hypopygium were shown very schematically, somewhat differing from each other (Parent 1926, Fig. 3; Parent 1938, Figs. 970–971). The Diptera.info site contains photos of Sciapus heteropygus collected in Portugal and Greece, e.g. https://diptera.info/photogallery.php?photo_id=5257.

Sciapus holoxanthos Parent, 1926

Material. Morocco: 7♂, 12♀, Rif, Jbel Bouhachem, Adrou (forest), PPNB [Projet du Parc Naturel de Bouhachem], 35°13′32.30″N, 5°19′24.35″W, 556 m, 14.07–15.08.2013, leg. K. Kettani; 1♂, 2♀, Rif, Talassematane National Park, forest, Malaise trap, 35°8′6.11″N, 5°8′18.06″W, 1696 m, 7.06–17.10.2014, leg. K. Kettani.

Type locality: France: Hyères; Apt.

Distribution: France, Portugal, Spain, Turkey. First record for Morocco.

Notes. Original pictures of the species hypopygium were shown very schematically, somewhat differing from each other (Parent 1926, Fig. 4; Parent 1938, Figs. 972–973). The Diptera.info site contains photos of Sciapus holoxanthos collected in Spain (Catalonia), e.g. https://diptera.info/forum/viewthread.php?forum_id=5&thread_id=55476

Sciapus laetus (Meigen, 1838)

References: Grichanov 2009, AA, 40 km S Larache (0–20 m); Ebejer et al. 2019, Rif, Martil (9 m).

Type locality: Germany: Kiel.

Distribution: Belgium, the Czech Republic, France, Germany, Morocco, the Netherlands, UK.

Sciapus longulus (Fallén, 1823)

References: Pârvu et al. 2006, AP, Merja Zerga.

Type locality: Sweden: Scania.

Distribution: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Kyrgyzstan, Latvia, Lithuania, Morocco, the Netherlands, Norway, Poland, Romania, Russia (Belgorod, Kabardino-Balkaria, Krasnodar, Kursk, Leningrad, Lipetsk, Moscow, Novgorod, Novosibirsk, Rostov, Ryazan, Saratov, Voronezh), Slovakia, Spain, Sweden, Switzerland, UK, Ukraine (Cherkasy, Odessa).

Notes. Sciapus longulus was identified by females only (Pârvu et al. 2006). The presence in Morocco must be confirmed, as the most part of Mediterranean species of the genus can be distinguished by males only (Grichanov, Negrobov 2014).
**Sciapus negrobovi** Naglis et Barták, 2015

**References:** Nourtì et al. 2019a, Rif, Stihat (0 m), Kitane (49 m) (as *Sciapus aff. negrobovi*).

**Type locality:** Portugal: Valhelhas.

**Distribution:** Morocco, Portugal.

**Notes:** The hypopygium morphology of Moroccan specimens (Nourtì et al. 2019a) is practically identical to Fig. 3 (Naglis, Barták 2015). We consider some fine differences relating to individual variability or inaccuracy of the description.

**CONCLUSION**

As a result of this study, *S. heteropygus* and *S. holoxanthos* are found in Morocco for the first time. An annotated checklist of Moroccan fauna of the genus *Sciapus* is compiled, including 9 species. The presence of *S. costae* and *S. longulus* in Morocco must be confirmed. In total, the genus *Sciapus* contains 78 mainly Palaearctic recognized species (about 40 from Europe) including one Holarctic, six Nearctic, two Oriental, one Afrotropical species and two species known from the Palaearctic Region and Afrotropical Arabia (Grichanov 2017). About 20 *Sciapus* species are known from the neighbouring Iberian Peninsula; it means that more new for Morocco species are anticipated.

Most Moroccan species are confined to the Mediterranean Sea basin. *Sciapus longulus* has the widest distribution, reaching Norway and Sweden in the north, Kyrgyzstan and Novosibirsk Region of Russia in the east. *Sciapus heteropygus* is spread across Europe and Middle East to Iran; it has not been known in Africa previously. *Sciapus adumbratus* has not been reported from Europe, being at present known in Palaearctic North Africa and Central Asia and Afrotropical Arabia (Oman and United Arab Emirates). Most Moroccan species inhabit the forest belt of the Atlas Mountains, and some of them are known from the Atlantic plains.

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