

NOTA / NOTE

A new contribution to the knowledge and distribution of the asilids of Portugal (Diptera: Asilidae),

Fernando Pires¹, Piluca Álvarez Fidalgo², Reinoud van den Broek³ & Jorge Mota Almeida⁴¹Rua Dorita Castelo Branco 12, 2635-461 Rio de Mouro, Lisboa, Portugal. e-mail: zarkovtradutor@gmail.com²c/ Corazón de María, 7. E-28002 Madrid, Spain. e-mail: pilucaaf@gmail.com³Mariastraat 12, 5038 SK Tilburg, The Netherlands. e-mail: reinoudvandenbroek@outlook.com.⁴Rua da Noruega, 14, lote 393, 8125-459 Vilamoura, Faro, Portugal. e-mail: jorgemotalmeida@gmail.com

Abstract: New material of the family Asilidae (Diptera) collected or photographed in Portugal is reported in this paper. The genera *Laphria* Meigen, 1803 and *Ancylorhynchus* Berthold, 1827, as well as the species *Laphria flava* (Linnaeus, 1767), *Choerades fuliginosa* (Panzer, 1798), *Dysmachus femoratellus* Loew, 1871 and *Neomochtherus schineri* (Egger, 1855) and the subspecies *Machimus chrysis nigrofemoratus* (Strobl, 1909), are recorded for the first time from Portugal. Two first records for Portuguese districts are also provided.

Key words: Diptera, Asilidae, first records, Portugal.

Resumen: Nueva contribución al conocimiento y distribución de los asílidos de Portugal (Diptera: Asilidae). En este trabajo se presenta nuevo material capturado o fotografiado en Portugal perteneciente a la familia Asilidae (Diptera). Se citan por primera vez en Portugal los géneros *Laphria* Meigen, 1803 y *Ancylorhynchus* Berthold, 1827, así como las especies *Laphria flava* (Linnaeus, 1767), *Choerades fuliginosa* (Panzer, 1798), *Dysmachus femoratellus* Loew, 1871 y *Neomochtherus schineri* (Egger, 1855) y la subespecie *Machimus chrysis nigrofemoratus* (Strobl, 1909). Se proporcionan además dos primeras citas de distritos portugueses.

Palabras clave: Diptera, Asilidae, primeras citas, Portugal.

Recibido: 6 de abril de 2022

Aceptado: 20 de abril de 2022

Publicado on-line: 27 de abril de 2022

Despite all the recent papers on the family Asilidae for the Iberian Peninsula (Carles-Tolrá, 2016, 2017, 2018, 2019; van den Broek et al., 2018; Álvarez Fidalgo et al., 2019), the Portuguese Asilid fauna has still many gaps and fractured geographical information on its species. In order to bridge some of the gaps, the authors present a new report with data on recently collected specimens.

The material presented in this note comes from two different sources: specimens collected via entomological nets and pictures taken in situ of live specimens. The specimens from the first group were studied using an Olympus X-Tr microscope. The specimen of *Laphria flava* (Linnaeus, 1767) was photographed in situ with a Sony DSC HX400V and the specimen of *Choerades fuliginosa* (Panzer, 1798) with a Sony DSC H5. Only specimens that have been checked by, at least, one of the last three authors, and have been positively identified, are included in this note.

The identifications of the studied material have been made using the works by Engel (1930), Tsacas (1968), Weinberg & Bächli (1995), Tomasovic et al. (2003), Londt (2011), van den Broek & Álvarez Fidalgo (2016), Álvarez Fidalgo et al. (2017), van den Broek & Schulten (2017) and Wolff et al. (2018).

Ten specimens have been studied. The arrangement of the species in the list below follows the recent checklist of the Asilidae of the Iberian Peninsula (Álvarez Fidalgo & van den Broek, 2019), which in turn, follows the taxonomy of Dikow (2009). Three subfamilies of Iberian Asilidae are represented: Asilinae, Laphriinae and Stenopogoninae.

Subfamilies, genera and species as well as provinces, districts and locations within them are all listed in alphabetical order. Dates are given in format dd.mm.yyyy.

Abbreviations of authors and collectors:

FP: Fernando Pires.

JMA: Jorge Mota Almeida.

PAF: Píluca Álvarez Fidalgo.

RVDB: Reinoud van den Broek.

Material examined

ASILINAE (6 specimens examined, 4 species and 1 subspecies identified)

Dysmachus femoratellus Loew, 1871

Santarém: Escaroupim, 16.05.2020, 1♂, leg. FP, det. RVDB.

An Iberian endemic species. It was described from Spain, but without indication of a locality. Engel (1930) did not include this species in his key (probably due to the fact that he was not able to study it) and did not mention any location either. Arias Encobet (1912) published the only record with any location indicated, from Cáceres. However, this record should be confirmed.

New species for Portugal.

Machimus chrysitis nigrofemoratus (Strobl, 1909)

Setúbal: Lagoa do Barbarroxa, 13.07.2020, 1♂, leg. FP, det. RVDB.

A common and widespread Iberian subspecies. Hitherto only known from Spain where only seems to be absent in the Cantabrian area, where there are no records.

New subspecies for Portugal.

Machiremisca decipiens (Wiedemann in Meigen, 1820)

Leiria: Poça do Vau, 30.05.2020 1♀, leg. FP, det. RVDB.

A West Palaearctic species found in Portugal, Spain, France, Italy and Iran (Hayat et al., 2008). The species *Machimus margaretae* Weinberg & Tsacas, 1975 was recently synonymized with this taxon (Mortelmans, 2020). In the Iberian Peninsula it seems to be mainly associated to coastal Atlantic areas. However, it also can be found in other habitats and in the Mediterranean area but usually somewhat near water. In Portugal it has been recorded in the districts of Braga, Faro, Porto and Santarém (van den Broek et al., 2018; Álvarez Fidalgo et al., 2019).

First record for the district of Leiria.

Neomochtherus schineri (Egger, 1855)

Guarda: Poço do Inferno, 27.06.2020, 1♂, leg. FP, det. RVDB.

A West Palaearctic species. It is known in Spain from Sierra de Guadarrama in the provinces of Madrid and Segovia, and, besides Spain, it is known from southern and central Europe (van den Broek et al., 2018; Tsacas, 1968). It has been now found in Serra da Estrela.

New species for Portugal.

Tolmerus cingulatus (Fabricius, 1781)

Guarda: Lagoa Comprida, 27.07.2021, 1♂, leg. FP, det. RVDB; Lagoa das Salgadeiras, 27.7.2021, 1♂, leg. FP, det. RVDB.

Palearctic species. Common and widely distributed throughout most of Europe, into the East towards Russia, Turkey and Iran (Hayat *et al.*, 2008). In the Iberian Peninsula it is common and widespread in Spain; in Portugal it has been recorded in the districts of Aveiro and Braga (van den Broek *et al.*, 2018).

First records for the district of Guarda.

LAPHRIINAE (4 specimens, 2 species identified)***Choerades fuliginosa*** (Panzer, 1798)

Guarda: Lagoa Comprida, 27.07.2021, 1♀ (Fig. 1), photographed in situ FP, det. RVDB and PAF; Nave de Sto. António, 14.07.2010, 2♂♂, leg. and det. JMA.

West Palearctic distribution. Present in most of Europe to the east to Turkey (Lehr, 1988). In the Iberian Peninsula it is known from Andorra and Spain, from the provinces of Huesca (Oldroyd, 1972), Barcelona and Gerona (Carles-Tolrá, 2016), Almería, León and Zamora (van den Broek *et al.*, 2018).

New species for Portugal.

Laphria flava (Linnaeus, 1767)

Guarda: Quinta de Leandres, 31.05.2021, 1♂ (Figs. 2, 3), photographed in situ FP, det. RVDB and PAF.

Palearctic and Oriental Region. Found throughout most of Europe to the East reaching Mongolia and northern India (Hayat *et al.*, 2008). In the Iberian Peninsula it is known from most of the mountainous ranges of Spain.

New species for Portugal.

STENOPOGONINAE (1 specimen, 1 genus identified)***Ancylorhynchus*** Berthold, 1827

Bragança: Aldeia de Montesinho, 04.08.2007, 1♂, leg. and det. JMA.

Additional work is needed to determine this specimen to the species level. At present it is very difficult to identify the species of this genus properly. The external characters are very variable and a thorough revision of the genus is much needed.

New genus for Portugal.

Acknowledgements

Our special thanks to Jonas Mortelmans and to Miguel Carles-Tolrá for their review, inputs and remarks to improve this paper.

References

Álvarez Fidalgo, P., van den Broek, R. & Batlle, R.M. 2017. First record of *Choerades rufipes* (Fallén, 1814) for the Iberian Peninsula (Diptera: Brachycera: Asilidae). *BV News Publicaciones Científicas*, 6(79): 83-89.

- Álvarez Fidalgo, P. & van den Broek, R. 2019. *Checklist de Fauna Ibérica. Familia Asilidae (Arthropoda: Insecta: Diptera) en la península ibérica e islas Baleares (edición 2019)*. En: Ramos, M.A. & Sánchez Ruiz, M. (eds.). *Documentos Fauna Ibérica*, **9**. Museo Nacional de Ciencias Naturales, CSIC. Madrid, [2]+16 pp.
- Álvarez Fidalgo, P., van den Broek, R. & Pires, F. 2019. A new contribution to the knowledge of the asilids of Spain and Portugal (Diptera: Asilidae), including a new species for the Iberian Peninsula. *Boletín de la Sociedad Entomológica Aragonesa*, **65**: 45-52.
- Arias Encobet, J. 1912. Datos para el conocimiento de la distribución geográfica de los dípteros de España. *Memorias de la Real Sociedad española de Historia Natural*, **7**: 61-246.
- Carles-Tolrà, M. 2016. Datos faunísticos nuevos sobre los asílidos de la Península Ibérica y Baleares (Diptera: Asilidae: Laphriinae, Laphystiinae y Leptogastrinae). *Heteropterus Revista de Entomología*, **16**(2): 139-144.
- Carles-Tolrà, M. 2017. Citas faunísticas nuevas de Asilidae (Diptera) con la descripción de dos especies nuevas (Península Ibérica e Islas Canarias). *Boletín de la Sociedad Entomológica Aragonesa*, **61**: 23-36.
- Carles-Tolrà, M. 2018. Novedades faunísticas de asílidos de España, Portugal y Andorra (Diptera: Asilidae). *Boletín de la Sociedad Entomológica Aragonesa*, **63**: 143-148.
- Carles-Tolrà, M. 2019. Nuevos datos faunísticos sobre los *Stenopogon* Loew ibéricos y otros géneros (Diptera: Asilidae). *Boletín de la Sociedad Entomológica Aragonesa*, **64**: 197-198.
- Dikow, T. 2009. Phylogeny of Asilidae inferred from morphological characters of imagines (Insecta: Diptera: Brachycera: Asiloidea). *Bulletin of the American Museum of Natural History*, **139**: 1-175.
- Engel, O. 1930. 24. *Asilidae*. In: Lindner, E. (ed.). *Die Fliegen der Palaearktischen Region*, **4**(2): 1-492.
- Hayat, R., Ghahari, H., Lavigne, R. & Ostovan, H. 2008. Iranian Asilidae (Insecta: Diptera). *Turkish Journal of Zoology*, **32**(2): 175-195.
- Lehr, P.A. 1988. *Family Asilidae*, pp. 197-326. In: Soós, Á. (ed.). *Catalogue of Palaearctic Diptera. Volume 5. Athericidae-Asilidae*. Akadémiai Kiadó. Budapest, 446 pp.
- Londt, J.G.H. 2011. A Review of Afrotropical *Ancylorhynchus* Berthold, 1827 (Diptera: Asilidae: Stenopogoninae). *African Invertebrates*, **52**(2): 471-556.
- Mortelmans, J. 2020. *Machimus margaretae* Weinberg & Tsacas, 1975, a new synonym for *Machiremisca decipiens* (Wiedemann in Meigen, 1820) (Diptera: Asilidae). *Boletín de la Sociedad Entomológica Aragonesa*, **66**: 247-249.
- Oldroyd, H. 1972. Asilidae (Diptera) d'Espagne (Pyrénées et Montes Universales). *Pirineos*, **103**: 33-36.
- Tomasovic, G., Dils, J. & Maldès, J.M. 2003. Notes sur les Asilidae paléarctiques (Diptera Brachycera) (20). Concordance entre systématique et répartition géographique dans un groupe d'Asilidae. Désignation du lectotype de *Machiremisca periscelis* (Macquart in Lucas, 1849) comb. n. *Bulletin de la Société royale Belge d'Entomologie*, **139**: 91-93.
- Tsacas, L. 1968. Révision des espèces du genre *Neomochtherus* Osten-Sacken. Diptères: Asilidae. 1. Région Paléarctique. *Mémoires du Museum national d'histoire naturelle. Série A, Zoologie*, **47**: 1-328.
- van den Broek, R. & Álvarez Fidalgo, P. 2016. *Laphria ephippium* (Fabricius, 1781), a new species of Asilidae for Spain and the Iberian Peninsula and new records for *Laphria bomboides* Macquart, 1849 within the territory (Diptera: Brachycera). *BV News Publicaciones Científicas*, **5**(65): 26-34.

van den Broek, R. & Schulten, A. 2017. *Field guide to the Robberflies of the Netherlands and Belgium*. Jeugdbondsuitgeverij Publishers. The Netherlands, 136 pp.

van den Broek, R., Álvarez Fidalgo, P. & Pires, F. 2018. New faunistic data on the asilids from Spain and Portugal (Diptera: Asilidae). *Boletín de la Sociedad Entomológica Aragonesa*, **63**: 95-102.

Weinberg, M. & Bächli, G. 1995. *Diptera Asilidae. Insecta Helvetica. Fauna*. Vol. 11. Herausgegeben von der Schweizerischen Entomologischen Gesellschaft. Genève, 124 pp.

Wolff, D., Gebel, M. & Geller-Grimm, F. 2018. *Die Raubfliegen Deutschlands. Entdecken-Beobachten-Bestimmen*. Quelle & Meyer Verlag. Wiebelsheim, 339 pp.



Fig. 1.- *Choerades fuliginosa* (Panzer, 1798), female, Lagoa Comprida (Guarda, Portugal), 27.07.2021. Photo taken by F. Pires.

2



3



Figs. 2-3.- *Laphria flava* (Linnaeus, 1767), male, same specimen, Quinta de Leandres (Guarda, Portugal), 31.05.2021. Photos taken by F. Pires.