

ISSN 1759-0116 (Online)

ZooNova

Occasional Papers in Zoology

Number 55, Pages 1 – 5

**FIRST INTERCEPTION IN THE UNITED KINGDOM OF
THE SHORT-PALPED CRANEFLY *RHIPIDIA*
(*RHIPIDIA*) *DOMESTICA* OSTEN SACKEN, 1860
(DIPTERA, LIMONIIDAE)**

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Published on-line at zoonova.afriherp.org

Afriherp Communications, Greenford, United Kingdom

Date of publication: 24 October 2026

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First interception in the United Kingdom of the short-palped crane fly *Rhipidia* (*Rhipidia*) *domestica* Osten Sacken, 1860 (Diptera, Limoniidae).

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ABSTRACT

The first United Kingdom interception of the short-palped crane fly *Rhipidia* (*Rhipidia*) *domestica* Osten Sacken, 1860 is reported from Rosemary (*Salvia rosmarinus* Spenn.) imported from Italy. Native to the Americas, this species has been observed recently in continental Europe where it is thought to have been introduced *via* the horticultural trade. This record provides further evidence that plant movements facilitate the spread of crane flies.

Keywords: Biosecurity; Crane fly; Horticultural trade; Interception; Limoniinae, Non-native species; *Rhipidia domestica*; United Kingdom.

INTRODUCTION

A single male specimen (Fig. 1) of *Rhipidia* (*R.*) *domestica* Osten Sacken, 1860 was intercepted in the U.K. at the Sevington Border Control Post, Folkestone, Kent, on imported plants from Italy in March 2025 and specifically from a Rosemary plant (*Salvia rosmarinus* Spenn.) that formed part of a consignment of approximately 1720 other plants. This non-native crane fly is widespread in the Neotropical and Nearctic regions.

The larvae of the genus *Rhipidia* Meigen, 1818 are thought to be saprophagous and/or saproxylic, developing in moist, decaying organic substrates and other decomposing organic matter usually in shady, damp environments. They have been found under the bark of deciduous tree trunks (oak, beech, linden, poplar and alder) infected with fungi (Podenas *et al.* 2016). They are also known from other substrates including decaying vegetable matter and manure and even from aquatic environments (Alexander 1919). Two of the three British species of *Rhipidia* i.e., *R. (R.) ctenophora* Loew, 1871 and *R. (R.) uniseriata uniseriata* Schiner, 1864, are saproxylic, being associated with sap runs, rot holes and decaying and moribund wood and logs. Similarly, *R. (R.) domestica* has been recorded in association with the fermented sap of the sour gum tree, *Nyssa sylvatica* Marshall (Alexander 1920) and from banana stems (Alexander 1970). In addition, several species of *Rhipidia* have been reared from phytotelmata i.e., small water-filled cavities in plants such as leaf and flower bracts and bromeliad tanks from various Neotropical countries (EGH, personal observation).



Figure 1 Male *Rhipidia (Rhipidia) domestica* Osten Sacken, 1860 imported from Italy. Left: habitus of the specimen Right: male hypopygium/ terminalia ©FERA

IDENTIFICATION

Rhipidia species are distinctive within the subfamily Limoniinae as males have pectinate or sub-pectinate flagellomeres and the wing membranes are often mottled. *Rhipidia (R.) domestica* is recognizable by its sub-pectinate (narrowly expanded) antennal segments with flagellomeres 12 and 13 a pale yellow (Fig. 2); this latter feature is found in both males and females. However, this feature is not unique within the Neotropical fauna and can also be seen in *R. (R.) subpectinata* Williston, 1896, and *R. (R.) schwarzi* Alexander, 1912, with the latter species having been reported from Tenerife, but not yet in mainland Europe (Gavryushin 2012).



Figure 2 Male *Rhipidia (Rhipidia) domestica* Osten Sacken, 1860 imported from Italy showing the sub-pectinate antennae with distinctive yellow flagellomeres 12 and 13 ©FERA

The antennae of *Rhipidia* (*R.*) *domestica* provide a sufficiently diagnostic character to distinguish it from the three native British species: *Rhipidia* (*R.*) *ctenophora*, *Rhipidia* (*R.*) *maculata* Meigen, 1818 and *Rhipidia* (*R.*) *uniseriata uniseriata* (Chandler 2025). The specimen could not be identified using the keys of Stubbs (2021) and Coe *et al.* (1950) so was compared with the detailed species descriptions provided by Oosterbroek (2026) and Mederos *et al.* (2024). The morphological identification was subsequently supported by sequencing of the cytochrome c oxidase subunit 1 (COI) DNA barcode (Hebert *et al.* 2003), which matched BOLD BIN BOLD:AAO3940, a verified reference sequence for this species.

DISCUSSION

Rhipidia (*R.*) *domestica* was first confirmed as present in the Western Palaearctic region in Spain from specimens collected from an urban park in Barcelona in September/October 2019 (Mederos *et al.* 2024). They also suggested (based on photographic evidence) that the species may have been present in Spain since at least 2017 and had most probably been introduced to Europe *via* the horticultural trade, either as immature stages within the soil surrounding imported ornamental plants, or by the movement of adults inside aircraft. More recently, Kolcsár (2025) presented a comprehensive review of non-native craneflies in Europe, including a record of *R. (R.) domestica* based on a damaged specimen recovered from a plant shop in Cluj-Napoca, Romania in March 2024, which was considered likely to have originated from the Netherlands, where this species has not previously been recorded. In addition, it seems Micha d'Oliveira has also identified the species in samples from the Botanic Garden of Gibraltar dating back to 2010 (Kolcsár 2025) suggesting the species has been in Europe longer and is more widespread than first realized. Indeed, the species is being widely observed with recent photographic observations on iNaturalist being independently verified by specialists Péter Kolcsár and Micha d'Oliveira from Tiercé, France (2021), Rheinland-Pfalz, Germany (2025), Emilia-Romagna, Italy (2025) and Luz, Portugal (2026). It should be noted that the identification and verification of arthropod records based solely on photographs from community science platforms like iNaturalist and iRecord can be challenging in the absence of examined voucher specimens. In addition, the potential for image manipulation or AI-generated imagery necessitates caution when interpreting such records as evidence of species presence.

Rhipidia (*R.*) *domestica* is common and widespread in the Nearctic, Caribbean and Neotropics and, with numerous possible routes for its introduction into the Palaearctic, there may not have been a single event leading to its introduction into Europe. The known occurrence of living immature stages in plant cavities such as the phytotelmata of epiphytic bromeliads offers a feasible means of movement with plants. Other North American craneflies such as *Nephrotoma* Meigen, 1803 species have been introduced with imported plants and become established (Hancock *et al.* 2015; 2016). The association with rosemary in the present case may be incidental. The immature stages were potentially present in the potting medium or originated from the same associated with other plants within the same

consignment. *Rhipidia* species are not considered to be potential plant pests and there is no evidence that the species is established in Britain

Outside Europe, a comprehensive overview of the distribution and biology of *R. (R.) domestica* is provided by Oosterbroek (2026). In addition, there are tentative country-level records not currently included in Oosterbroek (2026) from Argentina and Peru, based on sequenced material available on the BOLD DNA sequence database; however, these records require further verification.

ACKNOWLEDGEMENTS

This work was supported by the UK Government's Department of Environment, Food and Rural Affairs (Defra) under the Defra-Fera Long Term Services Agreement / Specialist Science and Contingency Services (SSCS) contract. We are grateful to both reviewers for their insightful suggestions and thoughtful revisions to the text.

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Received: 4 September 2026

Accepted for publication: 14 October 2026