



First records of *Eumerus colladoi* Ricarte & Aguado-Aranda in Aguado-Aranda *et al.*, 2022, from France (Diptera, Syrphidae)

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Abstract. – *Eumerus colladoi* Ricarte & Aguado-Aranda is reported from France for the first time. New data on its biology and habitat preferences are provided. The known distribution of the species in France is mapped.

Résumé. – **Premières citations d'*Eumerus colladoi* Ricarte & Aguado-Aranda in Aguado-Aranda *et al.*, 2022, en France (Diptera, Syrphidae).** *Eumerus colladoi* Ricarte & Aguado-Aranda est cité pour la première fois en France. De nouvelles données sur sa biologie et ses préférences en matière d'habitat sont fournies. La distribution connue de l'espèce en France est cartographiée.

Keywords. – Hoverfly, Merodontini, distribution, new records.

The Syrphidae are one of the best-known Dipteran families in continental France, with 550+ species recorded (SPEIGHT *et al.*, 2020). Regarding the genus *Eumerus* Meigen, 1822, a total of 34 species have been reported from France (mainland plus Corsica) (SPEIGHT *et al.*, 1998; SPEIGHT, 2020; CORNUEL-WILLERMOZ *et al.*, 2023). However, recent description of new *Eumerus* species from Europe are highlighting the still incomplete knowledge about this genus' diversity in the continent (e.g. GRKOVIĆ *et al.*, 2021; AGUADO-ARANDA *et al.*, 2022) and continue to add species to the French fauna. *Eumerus colladoi* Ricarte & Aguado-Aranda in Aguado-Aranda *et al.*, 2022, has now been

found among material collected in France by various workers. In this publication we report the records of this species from France and discuss their implications to the knowledge of this syrphid.

METHODS

The specimens recorded here were collected in Mediterranean/sub-Mediterranean France (fig. 2) over a wide time span (1985–2023) by hand net and Malaise trap. In total, 24 individuals (18 ♂ / 6 ♀) of *E. colladoi* were identified in the private collections of T. Lebard (TL), X. Lair (XL) and M. C. D. Speight (MS).

Eumerus colladoi can be distinguished from all other European *Eumerus* by the black pilosity on the vertex, the absence of a baso-ventral ridge in the hind tibia, male sternum IV with a pair of black spinose lobes and the shape of male genitalia (fig. 1). Until now this species has only been reported from the Iberian Peninsula (AGUADO-ARANDA *et al.*, 2022).

RESULTS

French material of *E. colladoi* was identified from the following locations.

PYRÉNÉES-ORIENTALES (66): 2 ♀, Banyuls-sur-Mer, cortal de l'Orilla, garrigue sur schiste, X: 42.4622° Y: 3.0875°, 59 m, 13.IX.2020, X. Lair leg., P. Aguado det. (XL); 1 ♂, Molitg-les-Bains, Les Moixeres, garrigue en dessus du village, X: 42.6600° Y: 2.3861°, 670 m, 9.V.2021, X. Lair leg., P. Aguado det. (XL); 1 ♂, Catllar, Limite du PNR (au panneau), garrigue sur granite, X: 42.6617° Y: 2.4283°, 710 m, 22.V.2015, X. Lair leg., P. Aguado det. (XL); 1 ♂, Catllar, cortal d'en vador, piste vers Saint-Jaume-de-Calaons, sur arène granitique, 42.651098, 2.422731, 570 m, 10.X.2014, X. Lair leg., P. Aguado det. (XL); 1 ♂, Sournia, anciennes carrières (calcaire), X: 42.7419° Y: 2.4344°, 610 m, 7.VI.2014, X. Lair leg., P. Aguado det. (XL); 2 ♂, Sournia, chemin de Roquebert, garrigue à buis et thym (calcaire), X: 42.7283° Y: 2.4775°, 456 m, 7.IV.2014, X. Lair leg., P. Aguado det.



Fig. 1. – Male genitalia (right side) of a specimen of *Eumerus colladoi* from south-eastern France. Scale bar = 0.25 mm.

(XL); 2 ♂, same locality, leg. and det. as for preceding, 3.V.2018 (XL); 2 ♀, same locality, leg. and det. as for preceding, 28.IV.2020 (XL); 1 ♂, same locality, leg. and det. as for preceding, 30.IV.2020 (XL); 1 ♂, same locality, leg. and det. as for preceding, 4.V.2021 (XL); 1 ♂, Banyuls-sur-Mer, Jardin méditerranéen, ancient organic olive orchard, X: 42.4742° Y: 3.1173°, 70 m, 13-27.VI.2011, Malaise trap, coll. J. Garrigue & M.C.D. Speight, M.C.D. Speight det. (MS); 1 ♂, Sorède, bois de Lavall, X: 42.5076° Y: 3.0050°, 240 m, 17.VI.2006, coll. C.J. Palmer, det. M.C.D. Speight (MS); 1 ♀, forêt de la Massane, beside river, mesophilous *Fagus* forest, 31T 0498 4705, 8.IX.1985, leg. & det. M.C.D. Speight (MS); 1 ♀, Port-Vendre, Torre de Madaloc, *Quercus suber* maquis, X: 42.4907° Y: 3.0747°, 656 m, 5.VI.1984, leg. & det. M.C.D. Speight (MS).

VAR (83): 1 ♂, Le Cannet-des-Maures, overmatured *Quercus suber* forest with scattered monumental *Castanea sativa*, X: 43.3203° Y: 6.4084°, 158 m, 28.III.2023, leg. & det. T. Lebard (TL); 1 ♂, Le Cannet des Maures, burnt overmatured *Quercus suber* forest, X: 43.3276° Y: 6.3944°, 132 m, 28.III.2023, leg. & det. T. Lebard (TL); 2 ♂, same locality, leg. & det. as for preceding, 27.IV.2023 (TL); 2 ♂, same locality, leg. &

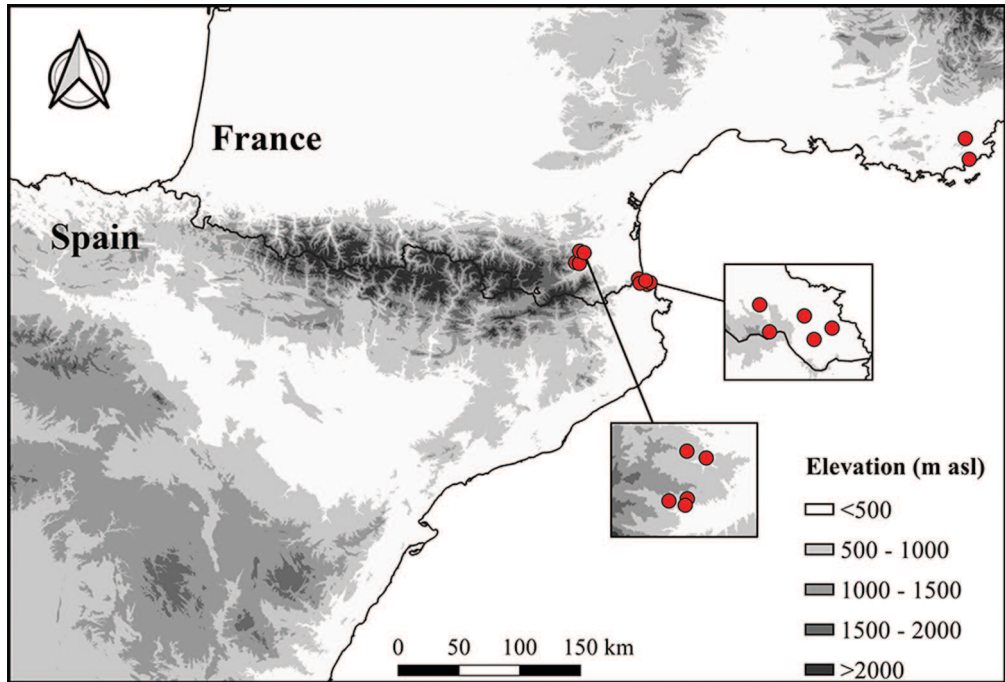


Fig. 2. - Distribution range of *Eumerus colladoi* in France.

det. as for preceding, 26.V.2023 (TL); 1 ♂, Le Lavandou, drinking on the shore of a pond in a forest of *Quercus suber* overgrown with *Acacia dealbata*, X: 43.1651° Y: 6.4237°, 80 m, 25.IV.2023; leg. & det. T. Lebard (TL).

DISCUSSION AND CONCLUSIONS

The records of *E. colladoi* provided in the present paper are the first for any part of France. Some of the specimens were collected as early as in March and April, extending the flight period of this species, previously known to start in late May. Likewise, adults were also found in different habitats than those reported in AGUADO-ARANDA *et al.* (2022), for example, woodlands of *Fagus L.*, olive groves and scrublands, and at lower altitudes (as low as 59 m asl). These data increase the information available about *E. colladoi*.

As a result of the present work, the number of *Eumerus* species recorded in France increases to 35 (SPEIGHT *et al.*, 1998; SPEIGHT, 2020; CORNUEL-WILLERMOZ *et al.*, 2023). Our results indicate that the species richness and distribution ranges of highly diverse genera such as *Eumerus* are still far from being adequately documented. The recent addition of other species, such as *Chrysogaster coerulea* Strobl in Czerny & Strobl, 1909 from the French territory (SPEIGHT & LEBARD, 2022), also demonstrates that there is still more to know about the hoverfly diversity of France, especially in southern parts of the country.

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