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Mymarommatidae, new family and superfamily of parasitoid wasps for Corsica (Hymenoptera, Mymarommatoidea)

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Abstract. – We report for the first time the presence of the family Mymarommatidae from Corsica. During the *La Planète Revisitée* expedition to Haute-Corse in July 2021, three specimens of *Mymaromma anomalum* (Blood & Kryger), within Mymarommatidae (Hymenoptera: Mymarommatoidea), were collected in Carrataghju near Porto-Vecchio. Other individuals of this species had already been captured in Corsica in 1997-1998 in the Fango Valley, as well as in Vaucluse, at the foot of Mount Ventoux (Provence-Alpes-Côte d'Azur), but remained unstudied until the present. We summarize information on the superfamily Mymarommatoidea and the family Mymarommatidae, as well as on *Mymaromma anomalum*, one of the two species known from Europe and the only one reported so far from many European countries.

Résumé. – **Mymarommatidae, nouvelles famille et superfamille d'hyménoptères parasitoïdes pour la Corse (Hymenoptera, Mymarommatoidea)**. Lors de l'expédition *La Planète Revisitée* en Haute-Corse en juillet 2021 trois spécimens de *Mymaromma anomalum* (Blood & Kryger), de la famille des Mymarommatidae (Hymenoptera : Mymarommatoidea), ont été collectés à Carrataghju près de Porto-Vecchio. D'autres individus de cette espèce avaient déjà été capturés en Corse en 1997-1998 dans la vallée du Fango ainsi que dans le Vaucluse, au pied du mont Ventoux (Provence-Alpes-Côte d'Azur). C'est la première fois ici que les Mymarommatidae sont signalés de Corse. Nous rappelons les principales connaissances acquises sur la superfamille des Mymarommatoidea et la famille des Mymarommatidae, ainsi que sur *Mymaromma anomalum*, une des deux espèces connues d'Europe et la seule recensée jusqu'ici dans de nombreux pays européens.

Keywords. – Parasitoidism, *Mymaromma anomalum*, western Mediterranean, *Our Planet Reviewed*, faunal survey, yellow pan trap, Malaise trap.

The superfamily Mymarommatoidea is comprised of tiny parasitoid wasps with representatives along all continents except Antarctica (Gibson *et al*., 2007; Honsberger *et al*., 2022). This superfamily contains 40 described species, of which 21 are known only from fossils (Cretaceous, Eocene, and Pliocene ambers), the oldest one dating back to about 125 million years ago (Rasnitsyn *et al*., 2022). Several phylogenetic analyses indicate that Mymarommatoidea are monophyletic and very likely the sister group of Chalcidoidea (Gibson *et al*., 1999; Heraty *et al*., 2013; Blaimer *et al*., 2023). The most obvious features separating the Chalcidoidea from the Mymarommatoidea are: (1) racket-shaped fore wing with a reticulated membrane bordered by a fringe of long setae, (2) rod-shaped hind wing ending with a short bifurcation whose anterior branch corresponds to a single hamulus, and (3) petiole two-segmented (Gibson, 1993; Gibson *et al*., 2007). The Cretaceous superfamily †Serphitoidea is putatively grouped together with Mymarommatoidea within the clade Bipetiolarida, based on the 2-segmented, tubular petiole (Engel, 2015). Four families are included within

Mymarommatoidea: †Alavarommatidae, †Dipterommatidae, †Gallorommatidae, all of them only represented by specimens in Cretaceous amber (Ortega-Blanco *et al*., 2011; Rasnitsyn *et al*., 2019), and Mymarommatidae, including one Cretaceous genus, one Eocene genus, and three extant genera (Gibson *et al*., 2007; Ortega-Blanco *et al*., 2011; Noyes, 2019).

Extant Mymarommatidae, commonly known as false fairy wasps, have a yellow-brown body without metallic sheen and are less than 1 mm long. Head morphology is unique among Hymenoptera consisting of convex frontal plate connected to flat occipital plate by a pleated membrane, which allows the head to contract antero-posteriorly similarly to an accordion, the occipital plate sinking under the front plate (Gibson *et al*., 2007). Other key features are antenna geniculate, inserted high on the face, with 9-11 segments in females, 12-13 in males; male flagellum mostly filiform, female flagellum with an apical, distinct club, 1- or 2-segmented; mandible exodont; propleura fused or partly fused into a carapace; mesopleuron, metapleuron, and propodeum fused below the spiracle; fore wing spatulate, with reduced venation only on the petiolate section; wing disc with reticulate membrane and long fringe setae; meso- and meta-tibiae without spur; tarsi 5-segmented; gaster with eight segments, the first two forming a long tubular petiole; ovipositor non-telescopic, short and hidden at rest under hypopygium which reaches the apical part of the female gaster (Gibson *et al*., 2007).

Mymarommatidae include three extant genera: *Mymaromma* Girault, 1920, *Mymaromella* Girault, 1931, and *Zealaromma* Gibson, Read & Huber, 2007, with a total of 19 extant species (table I). Only two species are present in Europe: *Mymaromella ella* Triapitsyn, 2012, described from Hungary, and *Mymaromma anomalum* (Blood & Kryger, 1922), described from Great Britain and reported from many European countries, Canada, Russia, Japan, China, and Philippines (Gibson *et al*., 2007; Noyes, 2019; Hovorka *et al*., 2022).

Table I. – Extant species of the family Mymarommatidae (Hymenoptera: Mymarommatoidea) and their distribution. According to Gibson *et al*. (2007), Ortega-Blanco *et al*. (2011), Noyes (2019) and Honsberger *et al*. (2022). Other species mentioned by Gibson *et al*. (2007) are yet to be described.

	Distribution
Genus ***Mymaromma*** Girault, 1920	
M. anomalum (Blood & Kryger, 1922)	Canada, Europe, China, Philippines
M. buyckxi Mathot, 1966	Congo, Gabon
M. goethei Girault, 1920	Australia
M. heptafuniculatus Manickavasagam & Ayyamperumal, 2017	India
M. ignatii Prashanth & Veenakumari, 2015	India
M. longipterus Manickavasagam & Ayyamperumal, 2017	India
M. manipurense Manickavasagam & Ayyamperumal, 2017	India
M. menehune Honsberger & Huber, 2022	Hawai‘i
M. mirissimum (Girault, 1935)	Australia
M. shivajiense Manickavasagam & Ayyamperumal, 2017	India
M. ypt (Triapitsyn & Berezovskiy, 2006)	Russian Far East
Genus ***Mymaromella*** Girault, 1931	
M. chaoi (Lin, 1994)	China, Korea
M. cyclopterus (Fidalgo & De Santis, 1982)	Argentina
M. ella Triapitsyn, 2012	Hungary
M. mira Girault, 1931	Australia
M. pala Huber & Gibson, 2008	Canada, USA
M. palella Huber & Gibson, 2008	Canada
Genus ***Zealaromma*** Gibson, Read & Huber, 2007	
Z. insulare (Valentine, 1971)	New Zealand (Auckland Islands)
Z. valentinei Gibson, Read & Huber, 2007	New Zealand

Here, we report for the first time the species *M. anomalum* from Corsica Island in the western Mediterranean, collected during 2021 near Porto-Vecchio (Corse-du-Sud) and during 1997-1998 in the Fango Valley (Haute-Corse), as well as in mainland France, in Vaucluse at the foot of Mount Ventoux. *Mymaromma anomalum* was previously reported from France by Gibson *et al*., 2007 —and by mistake by Hovorka *et al*. (2022) who referred to Vidal (2001) to report the presence of this species in France. However, France is not mentioned in the distribution list of *M. anomalum* in the Universal Chalcidoidea database (Noyes, 2019), nor in other European biodiversity databases (such as INPN, Fauna Europaea, or GBIF France). Herein we provide new information on Mymarommatidae and *M. anomalum*, contributing to biodiversity inventories.

Material and methods

During surveys carried out as part of the *La Planète Revisitée en Corse 2019-2021* project (Ichter *et al*., 2022; Touroult *et al*., 2023) in the Porto-Vecchio district (Corsica) (fig. 1), 26 yellow pan traps were placed in maquis shrublands from 23 to 26 May 2021 along the path from Foce Incesa to Carrataghju beach (Porto-Vecchio, Corse-du-Sud, Corsica, France). Maquis is a thermo-Mediterranean thicket with *Quercus ilex* Linnaeus, 1753, *Erica arborea* Linnaeus, 1753, *Cistus* spp., and *Juniperus phoenicea* Linnaeus, 1753, dotted with rock slabs with *Sedum sp*. Three adult males of *Mymaromma anomalum* were collected from one of these traps (INPN station number 1793382). Other specimens of the same species were captured between June and October in two Malaise traps placed for one year (1997-1998) in a *Q. ilex* forest, on one hand in Corsica near the Laboratoire écologique de Pirio in the MAB (Man and Biosphere) reserve in the Fango Valley (Haute-Corse, Corsica, France), and another in the Parc naturel régional du Mont Ventoux, a few kilometres from Malaucène (Vaucluse, Provence-Alpes-Côte d'Azur, France) (fig. 1). The specimens were preserved in 70% ethanol. The illustrated specimens were mounted in a drop of ethanol on a microscope slide and photographed using a Nikon D800 digital camera attached to a Nikon SMZ25 stereomicroscope, through Capture

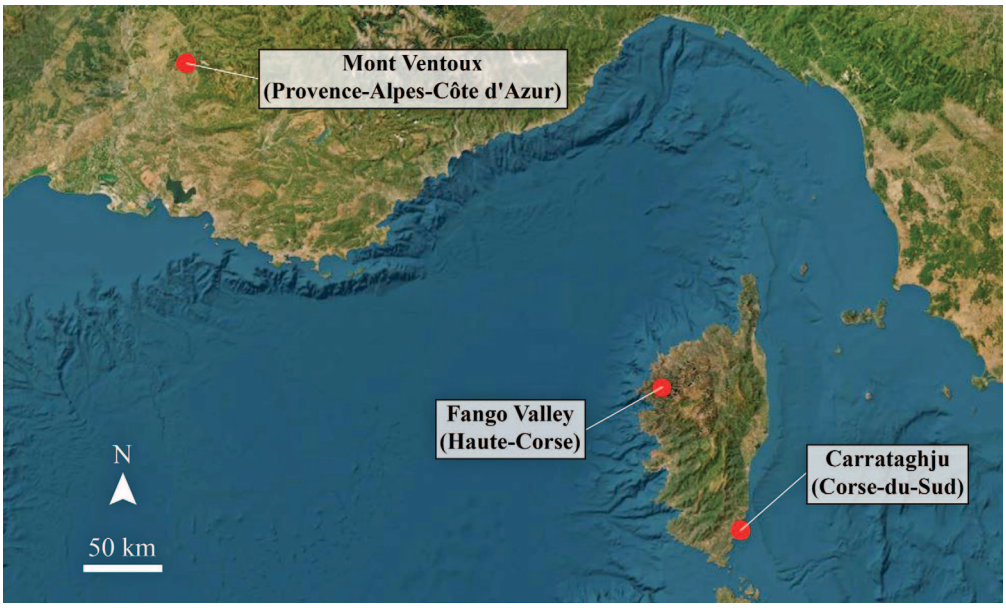

Fig. 1. – Geographic location of the three collection places for the studied specimens in southern France and Corsica.

NX-D software, version 1.5.3. Stacking and compilation were made using Helicon Focus 7.6.1 software. Figures were prepared using Photoshop CS6 software. The specimens are deposited in the Hymenoptera collection of the Muséum national d'Histoire naturelle (MNHN). An additional specimen photographed by R. Mahaut (https://www.galerie-insecte.org/galerie/ref-296459.htm) collected from Montigny-sur-Avre (Eure-et-Loire, France) after sieving of deciduous leaf litter is included here. The map for fig. 1 was obtained through QGIS Desktop 3.30.1 using the map ESRI Satellite from QuickMapServices.

Species records will be disclosed and distributed within the framework of the Inventaire national du patrimoine naturel (https://inpn.mnhn.fr/) and via the portal of the MNHN collections (https://science.mnhn.fr/institution/mnhn/item/search/form?lang=fr_FR).

Results and discussion

Order **Hymenoptera** Linnaeus, 1758

Superfamily **Mymarommatoidea** Debauche, 1948

Family **Mymarommatidae** Debauche, 1948

Genus ***Mymaromma*** Girault, 1920

Mymaromma Girault, 1920: 38. Type species: *Mymaromma goethei* Girault, 1920, by original designation. Reinstatment of the original designation: Gibson *et al.* (2007: 98).

Syn. *Palaeomymar* Meunier, 1901: 288. Type species: *Palaeomymar succini* Meunier, 1901 (fossil, Baltic amber), by monotypy. Synonymy: Doutt (1973: 225)

Syn. *Petiolaria* Blood & Kryger, 1922: 229. Type species: *Petiolaria anomala* Blood & Kryger, 1922, by monotypy. Junior synonym (Girault, 1930: 4).

Morphology. – *Mymaromma* is distinguished from *Mymaromella* and *Zealaromma* mainly by the following features: mandibles generally tridentate (bidentate in the other genera); calcar (apical spur on protibia used to clean antennae) simple and straight (curved and apically bifurcate in the other genera); propleura fused into carapace (partial fusion in other genera); propodeum posteriorly with ∩-shaped flange hiding the propodeal foramen laterally and dorsally (only laterally in other genera). Female clava is 1-segmented as in *Mymaromella*, whereas it is 2-segmented in *Zealaromma*. Male genitalia with parameres not visible externally as in *Mymaromella* but different from *Zealaromma* which have genitalia with long parameres.

Mymaromma anomalum (Blood & Kryger, 1922) (fig. 2-4)

Petiolaria anomala Blood & Kryger, 1922: 229.

Material examined. – France, Corse-du-Sud, Porto-Vecchio, Carrataghju, CAR-YPT-BFS-04, 41.574785°N, 9.34425°E, alt. 8 m, yellow pan trap, 23-26.V.2021, *Bernardo Santos leg*. (3 ♂ MNHN). – France, Haute-Corse, Manso, Pirio, between ONF forest house and Pirio ecological laboratory, Réserve MAB, Fango Valley, ~42.37765°N, ~8.74797°E, Malaise trap, 15-22.VI.1997 (4 ♀), 22-25.VI.1997 (40 ♀), 16-23.VI.1998 (6 ♀), 23–30.VI.1998 (2 ♀), 10-17.VII.1997 (1 ♂), 22-29.VII.1998 (5 ♀) ; 30.VII-5.VIII1997 (9 ♀), 5–12.VIII.1997 (1 ♀), 3-10.IX.1997 (1 ♂), 17-24.IX.1997 (1 ♂), 24.IX-1.X.1997 (4 ♀, 1 ♂), 15-22.X.1997 (3♀), *Achille Sanroma & Claire Villemant leg*. (74 ♀, 4 ♂ in total, MNHN). – France, Vaucluse, Malaucène, Parc naturel régional du mont Ventoux, site du Grenadier, ~44.19°N, ~5.14°E, Malaise trap, 30.VI-7.VII.1998 (1 ♀), 7-15.VII.1998 (1 ♀), 2-9.IX.1998 (1 ♀), *René Mazet & Claire Villemant leg*. (3 ♀ in total, MNHN). – France, Eure-et-Loir, Montigny-sur-Avre, 48.7333°N, 1.016°E, 1.VII.2021, sieving of deciduous leaf litter, after photograph of R. Mahaut (https://www.galerie-insecte.org/galerie/ref-296459.htm).

Morphology (after Blood & Kryger, 1922; Triapitsyn & Berezovskiy, 2006; Gibson *et al*., 2007). – Male antenna with 13 fusiform segments bearing long setae on thickened median part; four apical antennomeres shorter and slightly thickened, forming a loose clava

Fig. 2. – *Mymaromma anomalum* (Blood & Kryger), male, from Carrataghju near Porto-Vecchio (Corse-du-Sud, Corsica, France).

(fig. 5). Female antenna 10-segmented, covered with short, fine setae, with funicle 7-segmented and clava 1-segmented 3× as long as apical funicular segment (fig. 6); funicular segment 1 distinctly shorter than the remainder in both sexes; segment 6 the longest; fore wing with membrane reticulate, occupying ¾ of total wing length, 3.0-3.3× as long as wide and with four longitudinal folds bearing straight setae; fore wing posterior margin with a long basal seta separated from the long apical setae by several shorter setae; the longest apical seta distinctly longer than disc membrane width (fig. 7). Petiolar segment 1 longer than 2. See Vilhelmsen & Krogmann (2006) and Gibson *et al*. (2007) scanning electron microphotographs of other anatomical and morphological characters of this species.

Distribution. – North America, Europe, and eastern Asia (Gibson *et al*., 2007; Noyes, 2019; Hovorka *et al*., 2022): Canada (Nearctic realm), Spain, France, United Kingdom, Belgium,

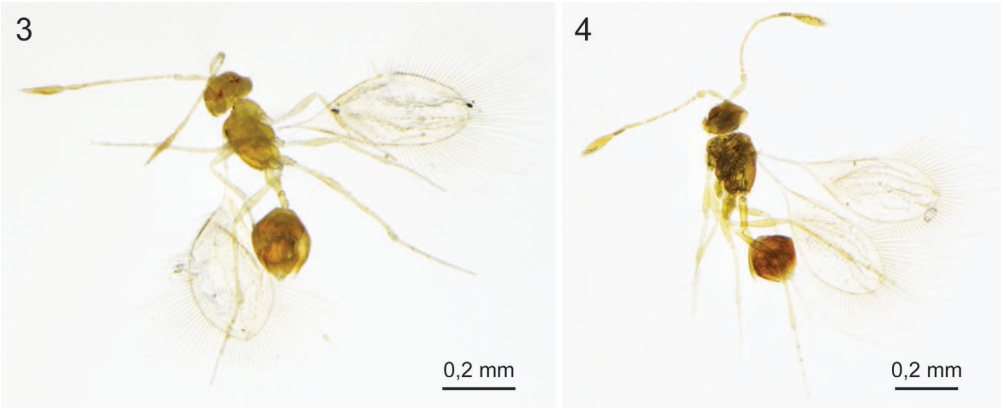

Fig. 3-4. – *Mymaromma anomalum* (Blood & Kryger), females. – **3**, From Pirio in the MAB (Man and Biosphere) reserve in the Fango Valley (Haute-Corse, Corsica, France). – **4**, From *Parc naturel régional du mont Ventoux* in Malaucène (Vaucluse, Provence-Alpes-Côte d'Azur, France).

Switzerland, Italy, Germany, Norway, Denmark, Sweden, Finland, Czech Republic, Poland, Hungary, Romania, Bulgaria, Russia, China, (Palearctic realm), and Philippines (Indomalayan realm). First record for Corsica and first georeferenced records for mainland France.

Habitats and phenology. – We still know little about the biology of Mymarommatidae. They are found in a wide variety of forest environments around the world, from the coast of Bermuda to more than 1,000 meters above sea level in Japan (Huber *et al*., 2008). Usually they are collected by trapping, such as yellow pan traps, Malaise traps on the ground or in the canopy, flight interception traps, yellow glue (sticky) traps, emergence traps, or by sieving litter or by sweeping vegetation with a net. The number of individuals in any given collecting event is highly variable. During one week in June 1997, in the Fango Valley, 40 females of *M. anomalum* were captured in one Malaise trap. However, six years of collection using different trapping methods in a *Juniperus thurifera* Linnaeus, 1753, forest near Zaragoza (Spain) only yielded one female of this species (Askew *et al*., 2001). The Swedish Malaise Trap Project collected more than 1,000 specimens of *M. anomalum* throughout Sweden, as well as a new species *Mymaromella* sp. (Karlsson *et al*., 2020). All the specimens found in Corsica and in Vaucluse come from traps placed in maquis or in holm oak forest, while the specimen photographed by R. Mahaut in Montigny-sur-Avre (Eure-et-Loir) was found from a sieving of deciduous leaf litter. Hovorka *et al*. (2022) noted that specimens of *M. anomalum* were collected in the Czech Republic in a wide variety of habitats (hop gardens treated with phytosanitary products, orchards, forests, and wetlands), both in hot and dry areas and cold and humid areas. Therefore, the distribution and microhabitats of the species seems to be much wider than currently known records suggest. Adults of *M. anomalum* were captured in the Fango Valley, as in Vaucluse, from June to October. Further north, as reported by Hovorka *et al*. (2022), the flight period of this species in the Czech Republic and Finland occurs from July to September. Thus, *M. anomalum* seems to have several generations per year.

Host species. – The host or hosts of *M. anomalum* are not yet known, but its wide distribution in a diverse variety of habitats in the Czech Republic and Sweden suggests that it is oligophagous or even polyphagous (Hovorka *et al*., 2022; Karlsson *et al*., 2020). Huber *et al*. (2008) hypothesized that Mymarommatidae were insect egg parasitoids due to their small size and short ovipositor. They also suggested that eggs of barklice (Psocodea) were the most likely hosts based on the characteristics common to both taxa: wide biogeographical

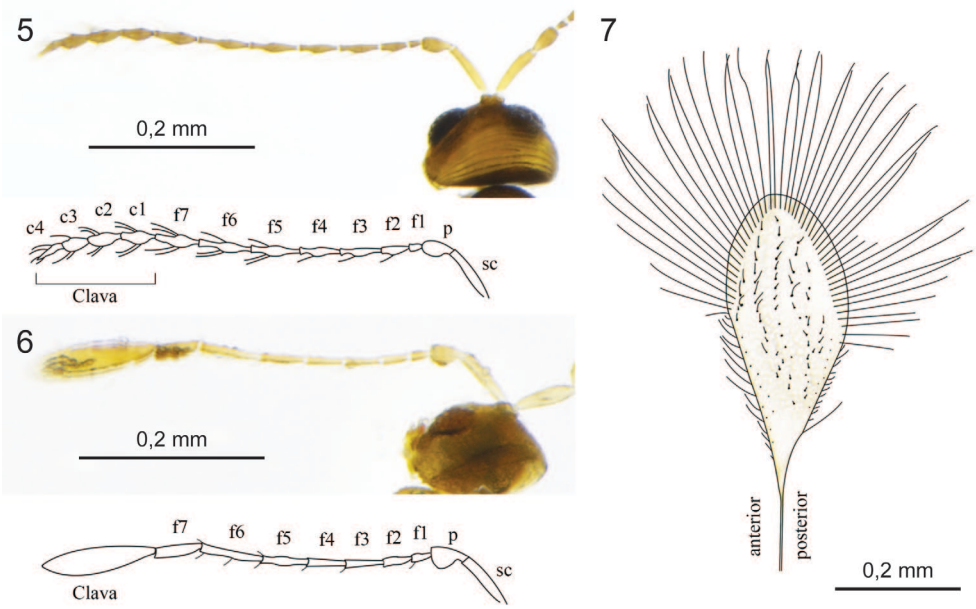

Fig. 5-7. – *Mymaromma anomalum* (Blood & Kryger). – **5**, Male antenna and interpretative drawing; specimen from Carrataghju near Porto-Vecchio (Corse-du-Sud, Corsica, France). – **6**, Female antenna and interpretative drawing; specimen from Malaucène in *Parc naturel régional du mont Ventoux* (Vaucluse, Provence-Alpes-Côte d'Azur, France). – **7**, Right fore wing together with interpretative drawing of male specimen from Carrataghju near Porto-Vecchio (Corse-du-Sud, Corsica, France). Abbreviations: sc, scape; p, pedicel; f1-7, funicular segments; c1-4, claval segments.

distribution, presence mainly in forests, local abundance, phenology, and paleontology evidence. This hypothesis has been confirmed for at least one species by Honsberger *et al*. (2022), who described a new *Mymaromma* species, the only known Mymarommatidae species from Hawaiian Islands, parasitizing eggs of *Lepidopsocus* sp. (Psocodea: Lepidopsocidae) on branches of *Ficus microcarpa* Linnaeus fil., 1782 (Moraceae). The extendable head and exodont mandibles of the parasitoid would allow the adult to emerge from the host egg by rupturing, rather than chewing, the soft chorion. Exodont mandibles would also facilitate the movement of the insect through the network of silk that many female barklice use to protect their eggs (Gibson *et al*., 2007; Honsberger *et al*., 2022).

Large-scale biodiversity inventories are increasingly carried out. This is the case of the Swedish Malaise Trap Project, which placed 73 Malaise traps between 2003 and 2006 at 55 localities in Sweden (Karlsson *et al*., 2020). Other initiatives include the operation of different trapping methods in nine humid natural reserves of the Rhone corridor in south-eastern France (Gens *et al*., 2019) or in Corsica after the *La Planète Revisitée* project (Touroult *et al*., 2023). Such inventories may help to collect a greater number of Mymarommatidae, as long as people involved in sample sorting (one of the most time-consuming part of these projects) do not overlook these very small specimens. The new information presented herein helps to raise awareness and facilitates the search for these tiny but fascinating parasitoid wasps in order to gradually obtain new data on their distribution and diversity in Europe.

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References

Askew R. R., Blasco-Zumet J. & Pujade-Villar J., 2001. – Chalcidoidea y Mymarommatoidea (Hymenoptera) de un sabinar de *Juniperus thurifera* L. en Los Monegros, Zaragoza. *Monografias de la Sociedad Entomologica Aragonesa,* **4** : 1-76.

Blaimer B. B., Santos B. F., Cruaud A., Gates M. W., Kula R. R., Mikó I., Rasplus J.-Y., Smith D. R., Talamas E. J., Brady S. G. & Buffington M. L., 2023. – Key innovations and the diversification of Hymenoptera. *Nature Communications*, **14** : 1212. https://doi.org/10.1038/s41467-023-36868-4

Blood B. N. & Kryger T. P., 1922. – A new mymarid from Brockenhurst. *Entomologist's Monthly Magazine*, **58** : 229-230. https://doi.org/10.5962/bhl.part.10332

Doutt R. L., 1973. – The fossil Mymaridae. *Pan-Pacific Entomologist,* **49** : 221-228.

Engel M. S., 2015. – A new family of primitive serphitoid wasps in Lebanese amber (Hymenoptera: Serphitoidea). *Novitates Paleoentomologicae*, **13** : 1-22. https://doi.org/10.17161/np.v0i13.5064

Gens H., Bloc A., Bazin N., François N., Garrigue J., Guicheteau D., Langlois D., Leconte R. & Maillet G., 2019. – *Hyménoptères de 9 réserves naturelles nationales : un important matériel entomologique trié à disposition des entomologistes et des chercheurs.* Rapport, 9 p. https://www.researchgate.net/publication/337981734

Gibson G. A. P., 1993. – Superfamilies Mymarommatoidea and Chalcidoidea (p. 570-655). *In* : Goulet H. & Huber J. (eds), *Hymenoptera of the world: an identification guide to families*. Ottawa : Agriculture Canada Research Branch Monograph No. 1894E, 668 p.

Gibson G. A. P., Heraty J. M. & Woolley J. B., 1999. – Phylogenetics and classification of Chalcidoidea and Mymarommatoidea — a review of current concepts (Hymenoptera, Apocrita). *Zoologica Scripta*, **28** : 87-124. https://doi.org/10.1046/j.1463-6409.1999.00016.x

Gibson G. A. P., Read J. & Huber J., 2007. – Diversity, classification and higher relationships of Mymarommatoidea (Hymenoptera). *Journal of Hymenoptera Research,* **16** : 51-146.

Girault, A. A., 1930. – *New pests from Australia, VIII*. Brisbane : Privately printed, 5 p.

Heraty J. M., Burks R. A., Cruaud A., Gibson G. A. P., Liljeblad J., Munro J., Rasplus J.-Y., Delvare G., Janšta P., Gumovsky A., Huber J., Woolley J. B., Krogmann L., Heydon S., Polaszek A., Schmidt S., Darling D. C., Gates M. W., Mottern J., Murray E., Dal Molin A., Triapitsyn S., Baur H., Pinto J. D., van Noort S., George J. & Yoder M., 2013. – A phylogenetic analysis of the megadiverse Chalcidoidea (Hymenoptera). *Cladistics*, **29** : 466-542. https://doi.org/10.1111/cla.12006

Honsberger D. N., Huber J. & Wright M. G., 2022. – A new *Mymaromma* sp. (Mymarommatoidea, Mymarommatidae) in Hawai'i and first host record for the superfamily. *Journal of Hymenoptera Research*, **89** : 73-87. https://doi.org/10.3897/jhr.89.77931

Hovorka T., Holý K. & Macek J. 2022. – Distribution of *Mymaromma anomalum* (Hymenoptera: Mymarommatidae) in the Czech Republic. *Klapalekiana*, **58** : 69-76.

Huber J., Gibson G. A. P., Bauer L. S., Liu H. & Gates M., 2008. – The genus *Mymaromella* (Hymenoptera: Mymarommatidae) in North America, with a key to described extant species. *Journal of Hymenoptera Research,* **17** (2) : 177-182.

Ichter J., Dusoulier F., Barbut J., Berquier C., Canard A., Canut M., Cailleret B., Cornuel-Willermoz A., De Braekeller A., Decaëns T., Déjean S., Fernández Marchán D., Gargominy O., Jailloux A., Jeusset A., Lebard T., Le Divelec R., Lévêque A., Martin J., Matocq A., Noblecourt T.,

Poirier, E., Pollet M., Poncet R., Rome Q., Robert S., Rougerie R., Santos B., Streito J.-C., Suberbielle N., Villemant C., Zelvelder B. & Touroult J., 2022. – *La Planète Revisitée en Corse. Bilan scientifique des expéditions terrestres 2021 : Côte orientale et Capicorsu*. Paris : Muséum national d'Histoire naturelle, 58 p.

Karlsson D., Hartop E., Forshage M., Jaschhof M. & Ronquist F., 2020. – The Swedish Malaise Trap Project: a 15 year retrospective on a countrywide insect inventory. *Biodiversity Data Journal*, **8** : e47255. https://doi.org/10.3897/BDJ.8.e47255

Noyes J., 2019. – *Universal Chalcidoidea Database*. World Wide Web electronic publication. http://www.nhm.ac.uk/chalcidoids [accessed 29.III.2023].

Ortega-Blanco J., Peñalver E., Delclòs X. & Engel M. S., 2011. – False fairy wasps in Early Cretaceous amber from Spain (Hymenoptera: Mymarommatoidea). *Palaeontology*, **54** : 511-523. https://doi.org/10.1111/j.1475-4983.2011.01049.x

Rasnitsyn A. P., Sidorchuk E. A., Zhang H. & Zhang Q., 2019. – Dipterommatidae, a new family of parasitic wasps (Hymenoptera: Mymarommatoidea) in mid-Cretaceous Burmese amber: the first case of morphological diptery in flying Hymenoptera. *Cretaceous Research*, **104** : 104193. https://doi.org/10.1016/j.cretres.2019.104193

Rasnitsyn A. P., Maalouf M., Maalouf, R & Azar D., 2022. – New Serphitidae and Gallorommatidae (Insecta: Hymenoptera: Microprocta) in the Early Cretaceous Lebanese amber. *Palaeoentomology*, **5** (2) : 120-136. https://doi.org/10.11646/palaeoentomology.5.2.4

Touroult J., Ichter J., Pollet M., Pascal O., Poirier E., Rougerie R., Decherf B., Andrei-Ruiz M.-C., Hugot L. & Dusoulier F., 2023. – *Our Planet Reviewed in Corsica 2019-2021*: a large-scale survey of neglected biodiversity on a Mediterranean island. *Bulletin de la Société entomologique de France,* **128** (4) : 353-382. https://doi.org/10.32475/bsef_2285

Triapitsyn S. V. & Berezovskiy V. V., 2006. – A new species of the genus *Palaeomymar* Meunier, 1901 (Hymenoptera: Mymarommatidae) from the Russian Far East, with notes on other Palaearctic species. *Far Eastern Entomologist*, **159** : 1-8.

Vidal S. 2001. – Entomofauna Germanica (Band 4): Verzeichnis der Hautflügler Deutschlands (Chalcidoidea). *Entomologische Nachrichten und Berichte Beiheft,* **7** : 51-69.

Vilhelmsen L. & Krogmann L., 2006. – Skeletal anatomy of the mesosoma of *Palaeomymar anomalum* (Blood & Kryger, 1922) (Hymenoptera: Mymarommatidae). *Journal of Hymenoptera Research*, **15** : 290-306.