

Z.Arb.Gem.Öst.Ent.	63	133-140	Wien, 18. 11. 2011	ISSN 0375-5223
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Annotated catalogue of the Vespidae (Hymenoptera: Vespoidea) of New Caledonia

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Abstract

In New Caledonia the family Vespidae is represented by nine species and two subspecies. *Delta esuriens esuriens* (FABRICIUS, 1787) and *Pachodynerus nasidens* (LATREILLE, 1817) are new to the fauna of New Caledonia. *Apodynerus sparsipunctatus* GUSENLEITNER, 2008 is a new synonym of *Parodynerus quodi quodi* (VACHAL, 1907). *Rhynchium tahitense* DE SAUSSURE, 1867 is transferred as subspecies from *Rhynchium haemorrhoidale* (FABRICIUS, 1775) to *Rhynchium quinquecinctum* (FABRICIUS, 1787).

Key words: Vespidae, catalogue, taxonomy, new records, new synonymy, New Caledonia.

Zusammenfassung

Zur Zeit sind von der Insel Neukaledonien neun Arten und zwei Unterarten aus der Familie Vespidae nachgewiesen. *Delta esuriens esuriens* (FABRICIUS, 1787) und *Pachodynerus nasidens* (LATREILLE, 1817) sind neu für die Fauna von Neukaledonien. *Apodynerus sparsipunctatus* GUSENLEITNER, 2008 ist ein neues Synonym von *Parodynerus quodi quodi* (VACHAL, 1907). *Rhynchium tahitense* DE SAUSSURE, 1867 wird als Unterart von *Rhynchium haemorrhoidale* (FABRICIUS, 1775) zu *Rhynchium quinquecinctum* (FABRICIUS, 1787) gestellt.

Introduction

In the last decades the French overseas territory New Caledonia has been a main focus of biodiversity research. However, the large order Hymenoptera, which is also of economic importance, is not well studied. Hitherto about 500 hymenopteran species have been recorded from New Caledonia (Madl, unpublished data). Since the first New Caledonian species of the family Vespidae has been described by LEPELETIER DE SAINT-FARGEAU (1841) until 2010, a total of only eight species and two subspecies has been recorded from New Caledonia.

Our study is based on the material of the Station de Recherches Fruitières de Pocquereux, Institut Agronomique néo-Calédonien (New Caledonia) and the Natural History Museum Vienna (Austria). The material consists of only 45 specimens and contains nine species, of which two species, *Delta esuriens esuriens* (FABRICIUS, 1787) and *Pachodynerus nasidens* (LATREILLE, 1817), are new to the fauna of New Caledonia. As *Apodynerus sparsipunctatus* GUSENLEITNER, 2008, has been synonymized with *Parodynerus quodi* (VACHAL, 1907) in this paper, only nine species and two subspecies are recognized as valid.

As the vespida fauna of New Caledonia should be more diverse than the present number, further investigations should be carried out in the near future.

Abbreviations:

biol.	biology
cat.	catalogue
descr.	description
fig. (figs.)	figure (figures)
IRD	Institut de Recherche pour le Développement, Nouméa, New Caledonia
NHMW	Naturhistorisches Museum Wien, Austria
pl.	plate
SRFP	Station de Recherches Fruitières de Pocquereux, La Foa, New Caledonia
syn.	synonym
tax.	taxonomy
typ. gen.	typus generis
typ. subgen.	typus subgeneris

Annotated catalogue

We have used the French names of the localities instead of the English ones, which are often used in the scientific literature. The main island is also called Grande Terre. This term is used to avoid confusion with the name of the entire overseas territory.

Subfamily Eumeninae

***Anterhynchium alecto alecto* (LEPELETIER DE SAINT-FARGEAU, 1841)**

Odynerus alecto n. sp.: LEPELETIER DE SAINT-FARGEAU 1841: 647 (descr. ♂, Australia).

Rhygchium alecto (LEPELETIER DE SAINT-FARGEAU, 1841): SAUSSURE 1852: 102 (key), 114 (tax., Australia).

Rhynchium alecto (LEPELETIER DE SAINT-FARGEAU, 1841): SMITH 1857: 49 (cat.); DALLA TORRE 1894: 43 (cat.); DALLA TORRE 1904: 33 (cat.); SCHULTHESS 1915: 50 (Grande Terre).

Rhynchium haemorrhoidale var. *alecto* (LEPELETIER DE SAINT-FARGEAU, 1841): WILLIAMS 1945: 421 (cat.), 424 (tax., Grande Terre).

Pseudepipona (Epidynerus) alecto (LEPELETIER DE SAINT-FARGEAU, 1841): GIORDANI SOIKA 1957: 184 (tax., fig. 1: tax.), 186 (fig. 2: tax. as *Pleudepipona* (!) *alecto*), 207 (typ. subgen., tax.).

Pseudepipona (Epidynerus) alecto alecto (LEPELETIER DE SAINT-FARGEAU, 1841): GIORDANI SOIKA 1957: 209 (tax., descr. ♀ ♂, Grande Terre), 212 (pl. 3: figs. upper left).

Epidynerus alecto ssp. *alecto* (LEPELETIER DE SAINT-FARGEAU, 1841): GIORDANI SOIKA 1971: 78 (tax., Grande Terre).

Epidynerus alecto (LEPELETIER DE SAINT-FARGEAU, 1841): VECHT & CARPENTER 1990: 20 (cat., typ. gen.).

Odynerus (Leionotus) caledonicus n. sp.: SAUSSURE 1853: 155 (key as *caledonus*), 205 (descr. ♀, Grande Terre).

Odynerus caledonicus DE SAUSSURE, 1853: SMITH 1857: 63 (cat.); VACHAL 1907: 115 (tax., descr. ♂, Grande Terre); SCHULTHESS 1915: 51; TURNER 1919: 239 (Grande Terre); GUIGLIA 1948: 177 (New Caledonia, cat.); GIORDANI SOIKA 1957: 209 (syn.).

Odynerus (Leionotus) caledonicus DE SAUSSURE, 1853: DALLA TORRE 1894: 58 (cat.); DALLA TORRE 1904: 41 (cat.).

“*Odynerus*” *caledonicus* DE SAUSSURE, 1852: WILLIAMS 1945: 421 (cat.), 424 (tax., Grande Terre).

Material examined: Grande Terre: Province Sud: Mont Koghi, Auberge du Mont Koghi, 5.12.2009, leg. M. Madl, 1 ♂ (NHMW).

Known distribution: Endemic! Grande Terre: Province Nord: Canala; Oubatche. – Province Sud: Bourail; Koindé; Nama (Forêt de Thi); Nouméa; Pointe Ngéa.

***Anterhynchium alecto chozali* (CHEESMAN, 1954)**

Odynerus (Rhygchium) chozali sp. nov.: CHEESMAN 1954: 389 (descr. ♂ ♀, Îles Loyauté).

Pseudepipona (Epiodynerus) alecto ssp. *chozali* (CHEESMAN, 1954): GIORDANI SOIKA 1957: 210 (tax., Îles Loyauté).

Rhynchium alecto (LEPELETIER DE SAINT-FARGEAU, 1841): SCHULTHESS 1915: 50 (Îles Loyauté).

Known distribution: Endemic! Îles Loyauté: Lifou; Maré.

***Delta esuriens esuriens* (FABRICIUS, 1787)**

Material examined: Grande Terre: Province Sud: La Foa, Nili, 34 m, 14.5.2005, leg. C. Mille, 1 ♂ (SRFP); Pocquereux, Station de Recherches Fruitières de Pocquereux, 6.8.2007, leg. J.-C. Kasman, 2 ♀ ♀ (SRFP).

Known distribution: New to the fauna of New Caledonia! This species is a native of the Oriental region, but has been introduced into the Australian region and Malagasy sub-region by human activities.

***Delta xanthurum xanthurum* (DE SAUSSURE, 1852)**

Rhygchium xanthura n. sp.: SAUSSURE 1852: 46 (descr. ♂, ? Les Indes Orientales), pl. 10 (fig. 4).

Rhynchium xanthurum (DE SAUSSURE, 1852): SMITH 1857: 46 (South Africa, cat.); DALLA TORRE 1894: 48 (cat.); DALLA TORRE 1904: 35 (cat.).

Rhynchium marginellum xanthurum (DE SAUSSURE, 1852): SCHULTHESS RECHBERG 1922: 34 (tax.).

Eumenes (Delta) xanthurus DE SAUSSURE, 1852: GIORDANI SOIKA 1957: 184 (tax., fig. 1: tax.), 186 (fig. 2: tax.), 190 (figs. 3.1, 3.2), 193 (fig. 5.1), 196 (fig. 6: map), 200 (tax.).

Eumenes (Delta) xanthurus xanthurus DE SAUSSURE, 1852: GIORDANI SOIKA 1957: 184 (tax., fig. 1: tax.), 186 (fig. 2: tax.), 190 (figs. 3.1, 3.2), 193 (fig. 5.1), 196 (fig. 6: map), 201 (tax., Grande Terre).

Delta xanthurus (DE SAUSSURE, 1852): GIORDANI SOIKA 1961: 243 (tax.); JOURDAN & MILLE 2006: 209 (tab.: cat., New Caledonia).

Eumenes germaini LUCAS in litt.: LUCAS 1875: 77 (descr. nest, Grande Terre).

Eumenes germaini n. sp.: LUCAS 1876: 296 (descr. ♀ ♂, pupa, nest, Grande Terre), pl. 4 (figs. 1-8).

Eumenes germaini LUCAS, 1876: LUCAS 1879: 65 (descr. larva, pupa, Grande Terre); MAINDRON 1882: 76 (biol., Grande Terre); DALLA TORRE 1894: 25 (cat., partim); DALLA TORRE 1904: 23 (cat.); VACHAL 1907: 115 (Grande Terre); SCHULTHESS 1915: 49 (tax., Grande Terre, Îles Loyauté); BEQUAERT 1926: 567 (tax., Grande Terre, Îles Loyauté); WILLIAMS 1945: 420 (cat.), 421 (tax., fig. 7, biol., Grande Terre); GIORDANI SOIKA 1957: 201 (syn.).

Eumenes germaini LUCAS, 1875: TURNER 1919: 239 (Grande Terre).

Eumenes germainei (!) LUCAS, 1876: ANONYMOUS 1971: 25 (biol., Grande Terre).

Material examined: Grande Terre: Province Nord: Kouaoua, 3.2007, leg. F. Luneau, 1 ♀ (SRFP). – Province Sud: Farino, Refuge de Farino-Petite Cascade, 29.11.2009, leg.

M. Madl, 1 ♂ (NHMW); La Foa, Nili, 34 m, 15.9.2006, leg. C. Mille, 1 ♀ (SRFP); Sarraméa, Col d'Amieu, 489 m, 27.9.-18.10.2006, leg. S. Cazères, 1 ♂ (SRFP); La Cuve, 30.11.2009, leg. M. Madl, 1 ♂ (NHMW).

Known distribution: Endemic! Grande Terre: Province Nord: Canala ("Camala"); Ciu; Tao. – Province Sud: Bourail; La Madeleine; Méray; Nouméa; Île aux Pins. – Îles Loyauté: Lifou; Maré; Ouvéa.

Parasitoids: *Melittobia hawaiiensis* PERKINS, 1907 (Hymenoptera: Eulophidae); ? *Argyromoeba distigma* WIEDEMANN, 1828 (Diptera: Bombyliidae).

***Pachodynerus nasidens* (LATREILLE, 1817)**

Material examined: Grande Terre: Province Sud: La Foa, Nili, 34 m, 17.4.2005, leg. C. Mille, 1 ♀ (SRFP), 16.3.2006, leg. C. Mille, 1 ♀ (SRFP), at light, 13.3.2007, leg. C. Mille, 1 ♂, 13.4.2007, leg. C. Mille, 6 ♀♀ (SRFP); Nouméa, IRD, 12.2.2009, leg. C. Mille, 1 ♀ (SRFP); Pocquereux, Station de Recherches Fruitières de Pocquereux, 11.2.2006, leg. R.-M. M'Bouéri, 1 ♂ (SRFP), 4.1.2008, leg. C. Mille, 1 ♂ (SRFP).

Known distribution: New to the fauna of New Caledonia! Originating in the Neotropical region, this species has been introduced into the southern Nearctic and Australian regions accidentally. YAMANE, GUSENLEITNER & MENKE (1996) reviewed the distribution in the Australian region.

***Parodynerus quodi quodi* (VACHAL, 1907)**

Odynerus quodi n. sp.: VACHAL 1907: 115 (descr. ♂, Grande Terre).

Odynerus quodi VACHAL, 1907: TURNER 1919: 239 (Grande Terre).

Pachymenes quodi (VACHAL, 1907): WILLIAMS 1945: 421 (cat.), 422 (tax., biol., Grande Terre), 423 (pl. 20: fig. C).

Parodynerus quodi (VACHAL, 1908): GIORDANI SOIKA 1957: 184 (tax., fig. 1: tax.), 215 (tax.).

Parodynerus quodi quodi (VACHAL, 1908): GIORDANI SOIKA 1957: 216 (tax., Grande Terre); GIORDANI SOIKA 1971: 79 (Grande Terre).

Odynerus (Lionotus) sarasini n. sp.: SCHULTHESS 1915: 50 (descr. ♂, fig. 2, Grande Terre).

Odynerus (Lionotus) sarasini VON SCHULTHESS, 1915: WILLIAMS 1945: 422 (syn.); GIORDANI SOIKA 1957: 216 (syn.).

Odynerus bicinctus (FABRICIUS, 1781) var.: SAUSSURE 1855: 224 (tax., Îles de l'Océan Pacifique).

Odynerus bizonatus BOISDUVAL, 1833 var.: SAUSSURE 1853: 157 (Îles de l'Océan Pacifique).

Apodynerus sparsipunctatus nov. sp.: GUSENLEITNER 2008: 1501 (descr. ♀ ♂, Grande Terre), **new synonym**

Apodynerus sparsipunctatus GUSENLEITNER 2008: GUSENLEITNER 2010: 1037 (cat.).

Material examined: Grande Terre: Province Sud: Farino, Refuge de Farino-Petite Cascade, 29.11.2009, leg. M. Madl, 1 ♂ (NHMW); Mont Koghi, Auberge du Mont Koghi, 5.12.2009, leg. M. Madl, 3 ♀♀ 2 ♂♂ (NHMW); Païta, Pointe Ma, forêt sèche, 22.1.2009, leg. T. Salesne, 1 ♂ (SRFP); Pocquereux, Rivière Pocquereux near Station de Recherches Fruitières de Pocquereux, 30.11.2009, leg. M. Madl, 1 ♂ (NHMW); Sarraméa, Col d'Amieu, 2.11.2005, leg. C. Mille & J.-P. Kataoui, 1 ♂ (SRFP), 2.-30.11.2005, leg. S. Cazères, C. Mille & J.-P. Kataoui, 1 ♂ (SRFP), 609 m, leg. Anonymous, 1 ♂ (SRFP), 465 m, 22.6.2006, leg. S. Cazères & J.-P. Kataoui, 1 ♂ (SRFP), Reserve, 19.12.2005, leg. J. Brinon & R.-M. M'Bouéri, 1 ♂ (SRFP).

Known distribution: Endemic! Grande Terre: Province Nord: Canala; Ciu; Oubatche. – Province Sud: Bourail; 10 km SE Camp Netcha (“Nefcha”); Nouméa (Anse Vata); 15 km NE Nouméa; Plateau de Dogny (“Plato dop Dogny”).

Notes: The synonymy of *Apodynerus sparsipunctatus* is based on the comparison of the type with the specimens mentioned above.

***Parodynerus quodi lifuensis* GIORDANI SOIKA, 1957**

Parodynerus quodi lifuensis n. sp.: GIORDANI SOIKA 1957: 216 (descr. ♂, Îles Loyauté).

Known distribution: Endemic! Îles Loyauté: Lifou.

***Rhynchium quinquecinctum tahitense* DE SAUSSURE, 1867**

Rhynchium haemorrhoidale ssp. *tahitense* (DE SAUSSURE, 1867): GIORDANI SOIKA 1957: 206 (New Caledonia), 208 (pl. 2: figs above left).

Material examined: Grande Terre: Province Sud: La Foa, Nili, 30.9.2007, leg. C. Mille, 1 ♀ (SRFP), 5.3.2009, leg. C. Mille, 1 ♂ (SRFP).

Known distribution: Australian region.

Notes: *Rhynchium tahitense* is transferred as subspecies from *Rhynchium haemorrhoidale* (FABRICIUS, 1775) to *Rhynchium quinquecinctum* (FABRICIUS, 1787) based on morphological characters.

Subfamily Polistinae

***Ropalidia clavata* (DE SAUSSURE, 1853)**

Icaria clavata n. sp.: SAUSSURE 1853: 40 (descr. ♂, South Africa).

Icaria clavata DE SAUSSURE, 1853: SMITH 1857: 97 (cat.); DALLA TORRE 1894: 118 (cat.); DALLA TORRE 1904: 73 (cat.); BEQUAERT 1918: 340 (cat., partim).

Ropalidia clavata (DE SAUSSURE, 1853): CARPENTER 1999: 34 (tax., South Africa); KOJIMA 2001: 5 (tax., Grande Terre, cat.).

Icaria duchaussouyi n. sp.: GRIBODO 1896: 13 (descr. ♂, Grande Terre).

Icaria duchaussouyi GRIBODO, 1896: DALLA TORRE 1904: 73 (cat.); TURNER 1919: 239 (Grande Terre); KOJIMA 2001: 5 (syn.).

Icaria marginata var. *duchaussouyi* GRIBODO, 1896: SCHULTHESS 1915: 48 (tax., Grande Terre).

Ropalidia marginata ssp. *duchaussouyi* (GRIBODO, 1896): VECHT 1941: 104 (cat.), 119 (figs. 16, 17), 124 (tax., descr. ♂, Grande Terre).

Ropalidia duchaussouyi (GRIBODO, 1896): WILLIAMS 1945: 421 (cat.), 424 (tax., biol., Grande Terre); KOJIMA & CARPENTER 1997: 20 (cat.); CARPENTER 1999: 35 (tax., Grande Terre).

Ropalidia (Icariola) duchaussouyi (GRIBODO, 1896): RICHARDS 1978: 58 (tax.).

Material examined: Grande Terre: Province Sud: Mont Koghi, Auberge du Mont Koghi, 5.XII.2009, leg. M. Madl, 1 ♂ (NHMW).

Known distribution: Endemic! Grande Terre: Province Nord: Hienghène, Koné, Vallée de Népoui. – Province Sud: La Foa, Nouméa (Baie Ouemo).

***Polistes olivaceus* (DEGEER, 1773)**

Polistes olivaceus (DEGEER, 1773): WILLIAMS 1945: 421 (cat.), 424 (tax., Grande Terre); RAGEAU 1958: 876 (biol., Grande Terre); JOURDAN & MILLE 2006: 209 (tab.: cat., New Caledonia); MILLE in press: 114 (biol., Grande Terre).

Polistes (Gyrostoma) olivaceus (DEGEER, 1773): CARPENTER 1996: 5 (cat.).

Polistes hebraeus (FABRICIUS, 1787): SCHULTHESS 1915: 48 (Grande Terre).

Polistes macaensis (FABRICIUS, 1793): TURNER 1919: 239 (Grande Terre); JOURDAN & MILLE 2006: 209 (tab.: cat., New Caledonia).

Material examined: Grande Terre: Province Nord: Vallée de Nepoui, 4.12.2009, leg. M. Madl, 1 ♂ (NHMW). – Province Sud: Farino, Refuge de Farino-Petite Cascade, 29.11.2009, leg. M. Madl, 1 ♂ (NHMW); Pocquereux, Rivière Pocquereux near Station de Recherches Fruitières de Pocquereux, 30.11.2009, leg. M. Madl, 2 ♂♂ (NHMW).

Known distribution: Grande Terre: Province Sud: Baie Ngo; Nouméa. Known from the Australian, Ethiopian, Oriental and Palaearctic Region.

***Polistes stigma townsvillensis* GIORDANI SOIKA, 1975**

Polistes stigma townsvillensis GIORDANI SOIKA, 1975: JOURDAN & MILLE 2006: 209 (tab.: cat., New Caledonia); MILLE in press: 115 (biol., Grande Terre).

Material examined: Grande Terre: Province Nord: Vallée de Nepoui, 4.12.2009, leg. M. Madl, 3 ♂♂ (NHMW). – Province Sud: Farino, Refuge de Farino-Petite Cascade, 29.11.2009, leg. M. Madl, 1 ♀ 1 ♂ (NHMW).

Acknowledgements

The authors warmly thank Christian Mille (Station de Recherches Fruitières de Pocquereux, New Caledonia) who kindly offered his material for this study, checked the names of the localities and searched for papers in New Caledonia. We thank James M. Carpenter (American Museum of Natural History New York, U.S.A.) for identifying specimens of *Polistes*. We are greatly indebted to Manuela Vizek (Naturhistorisches Museum Wien, Austria) for her assistance in preparing the manuscript. It is a great pleasure for Michael Madl to thank Christine Pöllabauer (Nouméa, New Caledonia) and Christian Mille for their hospitality during a field trip in November and December 2009 carried out together with the coleopterists Manfred A. Jäch and Rudolf Schuh (both Natural History Museum Vienna, Austria).

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