

Description of a new chrysidid genus from New Caledonia (Hymenoptera, Chrysididae, Amiseginae)

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Abstract

Generic placement of the amisegine species *Atoposega decorata* Kimsey, 1995, is reexamined and is moved to the new genus, *Noumeasega*. In addition, three new species, *N. bicolorata*, *N. kaoriensis* and *N. neo-caledonica*, also from New Caledonia are described and placed in *Noumeasega*. Traits that distinguish *Noumeasega* from *Atoposega* Krombein, 1957 and *Mahinda* Krombein, 1983, are described, and a key to the species is provided along with distribution map and images. In addition, unlike *Atoposega*, males are associated with females in *Noumeasega*.

Keywords

Atoposega, *Mahinda*

Introduction

The genus *Atoposega* Krombein, 1957, is recorded from south Asia and New Caledonia. However, the New Caledonian species, *Atoposega decorata* Kimsey, 1995 is an extreme geographic outlier and lacks many of the characteristics diagnostic for the other species of *Atoposega*. Further collecting has revealed that all of the New Caledonian Amiseginae are congeneric and are distinct from *Atoposega*. In addition, both males and females are present making sex associations possible, unlike the situation in *Atoposega*.

Among the New Caledonian species, *decorata* differs from *Atoposega* species in a number of critical modifications of the mesopleuron, propodeum and hindcoxa. Because of these differences it is clear that the New Caledonian species are not congeneric with *Atoposega*. The only other genus that has females with elongate, spine-like propodeal angles is *Mahinda* Krombein, 1983, but *decorata* also differs in these characteristics from species of *Mahinda*. As a result a new genus, *Noumeasega*, is proposed for the New Caledonian species.

The biology of *Noumeasega* species is unknown.

Materials and methods

Specimens were borrowed from the following institutions and/or these are the type repositories: BME – Bohart Museum of Entomology, University of California, Davis, USA; BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii, USA; INHS – Illinois Natural History Survey, Urbana, USA; MCZ – Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA; and QM – Queensland Museum, South Brisbane, Queensland, Australia.

Terminology follows that of Kimsey and Bohart (1991).

Key to distinguish the genera *Atoposega*, *Mahinda* and *Noumeasega*

- 1 Metasoma with 5 visible segments; males.....2
- Metasoma with 4 visible segments, ovipositor tube usually visible; females....3
- 2 Omaulus absent or consisting of simple carina along edge of punctation separating lateral from ventral mesopleural margins (Fig. 4); mesopleuron with parallel-sided posteromedial groove, without carinate edge (Fig. 7).....
..... ***Noumeasega* Kimsey, gen. n.**
- Omaulus well-developed, ridge-like, with ladder-like lateral septa (as in Fig. 2); mesopleuron with posteromedial U-shaped carina-margined fossa (as in Fig. 5) ***Mahinda* Krombein***
- 3 Omaulus absent or consisting of simple carina along edge of punctation separating lateral from ventral mesopleural margins (Fig. 3); mesopleuron with parallel-sided posteromedial groove, without carinate edge (Fig. 6); forewing stigma short, broad, without indication of R1 vein, 3× as long as broad beyond juncture of Rs vein ***Noumeasega* Kimsey, gen. n.**
- Omaulus well-developed, ridge-like, with ladder-like lateral septa (Fig. 2); mesopleuron with posteromedial U-shaped carina-margined fossa (Fig. 5); forewing stigma apically narrowed into slender, vein-like R1, 5× or more as long as broad or strongly brachypterous.....4
- 4 Fully winged; hindcoxa with two dorsal longitudinal carinae (Fig. 2); propodeum without angles at top of posterior declivity.....***Atoposega* Krombein**

- Brachypterous; hindcoxa with one dorsal longitudinal carinae (as in Fig. 3); propodeum with sharp submedial angles or teeth at top of posterior declivity ..
.....*Mahinda Krombein*

* Characteristics of the mesopleuron, propodeum and hindcoxa suggest that male *Mahinda* as described by Krombein are not congeneric with the females and may actually be male *Atoposega*.

Systematics

Noumeasega Kimsey, gen. n.

<http://zoobank.org/DCBD952D-87FC-47F8-A371-8BAD3033AF96>

<http://species-id.net/wiki/Noumeasega>

Diagnosis. Females of *Noumeasega* species most closely resemble those of *Atoposega* and less so *Mahinda* based on the acute or spine-like propodeal angles and forewing with an arcuate Rs vein (Figs 2, 3). Male *Noumeasega* resemble male *Mahinda*, but differ in having the posterior propodeal declivity with an ovoid enclosure, which is absent in *Mahinda*. Both sexes differ from those of *Atoposega* in having the hindcoxa with a single longitudinal carina (two in *Atoposega*), the mesopleuron lacking an omaulus or the omaulus represented by a simple carina or line along the edge of punctuation separating the lateral from the ventral mesopleural surfaces (Figs 4, 5) versus a well-developed and ladder-like omaulus in *Atoposega* (Fig. 2); mesopleuron with parallel-sided posteromedial groove (Figs 6, 7), which is dorsally carinate and U-shaped in *Atoposega* (Fig. 5). *Noumeasega* can be distinguished from other amisegine genera by these characters and by the dentate tarsal claws, malar space with a vertical sulcus, female propodeum with acute or spine-like lateral angle, frons without transverse carina, vertex without longitudinal welt, pronotum with medial longitudinal pit and short sulcus and pit adjacent to lateral posterior lobe, mesopleuron without scrobal sulcus, metanotal dorsal enclosure usually V-shaped, and propodeum with two dorsomedial decumbent teeth, and propodeal declivity smooth and impunctate, with longitudinal medial carina.

Description. *Body length.* 3–7 mm.

Head. Occipital carina present only dorsally; eyes with tiny sparse setulae; eye not encircled by carina; scapal basin flattened, narrow and cross-ridged; malar space with vertical groove; female flagellum short, fusiform and flattened on one surface, intermediate flagellomeres broader than long; male flagellomeres cylindrical, more than 3× as long as broad.

Mesosoma. Pronotum with posteromedial groove and deep pit before lateral lobe; scutum with notauli present, sometimes obscured by sculpturing, without parapsides; mesopleuron evenly punctate; omaulus faint, indicated by simple carina or forming edge separating lateral from ventral surfaces; scrobal sulcus absent; metanotum elongate, subequal in length to scutellum, with triangular medial enclosure (except in *neo-*

caledonica); propodeum dorsal surface bending abruptly to posterior declivity, lateral angles long and spike-like; hindcoxa with single dorsobasal carina; tarsal claw with large medial tooth; female fully winged; forewing medial vein arising at or more often before cu-a, Rs extended at abrupt angle by dark streak in females; wings densely setose and often banded.

Metasoma. Terga highly polished with tiny widely scattered punctures (females) or denser, evenly dispersed punctures (males); sternum I produced into large basal keel.

Type species. *Noumeasega kaoriensis* Kimsey, sp. n.

Etymology. *Noumea* – the capital city of New Caledonia; *sega* – the name ending of most amisegine genera.

Distribution. *Noumeasega* species are only known from New Caledonia (Fig. 1).

Remarks. Sex associations are not easy to make in the subfamily Amiseginae. Females are often wingless and ant-like, with fully winged males. Even in winged forms males and females are generally structurally quite different, with different wing venation, punctation, antennal dimensions, thoracic and leg modifications, and coloration. In the New Caledonian *Noumeasega* sex associations are possible for two reasons. First, there is only one generic entity on the island. Thus the males and females are congeneric. Second it is possible to associate males and females in some of the species based on peculiarities of coloration, size and/or geography.

Key to the species of *Noumeasega*

- 1 Four external metasomal terga; antennal segments II-IX less than twice as long as broad; mandible apically simple, with acute apex; females.....**2**
- Five external metasomal terga; antennal segments II-IX more than twice as long as broad; mandible apically bidentate; males**5**
- 2 Forewing with light and dark bands; propodeal angle elongate, spine-like ..**3**
- Forewing evenly brown tinted or untinted; propodeal angle forming short acute angle or tooth**4**
- 3 Head, mesosoma and metasoma bright metallic blue, metasomal tergum II with large white sublateral spot; flagellum concolorous, pale orange to yellow; femora medially blue (Fig. 13) ***decorata* (Kimsey)**
- Head, mesosoma and metasoma black, often with coppery or metallic green highlights; metasomal tergum II without white spot; flagellum bicolored with medial articles dark brown, apical and basal segments whitish; femora medially red (Fig. 14) ***bicolorata* Kimsey, sp. n.**
- 4 Flagellomere I 3× as long as broad; malar space more than 3.5 midocellus diameters long; hindocellus separated from eye margin by 0.3-0.5 hindocellar diameter (Fig. 32) ***kaoriensis* Kimsey, sp. n.**
- Flagellomere I less than 3× as long as broad; malar space less than 3 midocellus diameters long; hindocellus nearly touching eye margin, by less than 0.3 hindocellar diameter (Fig. 30)..... ***neocaledonica* Kimsey, sp. n.**

- 5 Antenna as long or longer than body; flagellomere I more than $4\times$ as long as broad; flagellomere II more than $3\times$ as long as broad **6**
- Antenna shorter than body; flagellomere I less than $3.5\times$ as long as broad; flagellomere II less than $2.5\times$ as long as broad **7**
- 6 Head and thoracic dorsum black with metallic blue highlights (Fig. 12); malar space less than 2.5 midocellus diameters; flagellomere IX less than $5.5\times$ as long as broad (Fig. 20) ***kaoriensis* Kimsey, sp. n.**
- Head and mesosoma metallic blue (Fig. 10); malar space more than 2.5 midocellus diameters long; flagellomere IX $6-7\times$ as long as broad (Fig. 19) ***decorata* Kimsey**
- 7 Clypeus and flagellum dark brown to black; body length 2.5-3.0 mm; least interocular distance more than $0.5\times$ facial length in front view (Fig. 17) ***bicolorata* Kimsey, sp. n.**
- Clypeus and flagellum red; body length 4-5 mm; least interocular distance less than $0.5\times$ facial length in front view (Fig. 21) ***neocaledonica* Kimsey, sp. n.**

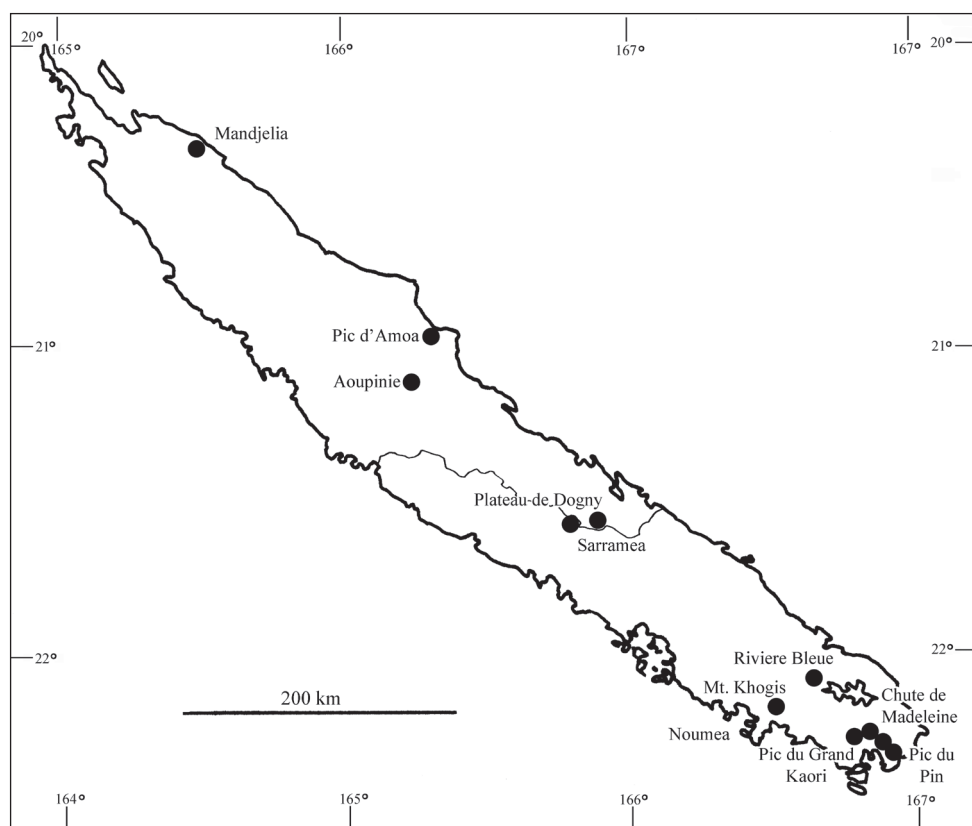


Figure 1. Distribution map of *Noumeasega* species.

***Noumeasega bicolorata* Kimsey, sp. n.**

<http://zoobank.org/2F108127-5738-47D2-8C68-6ED6B9A05832>

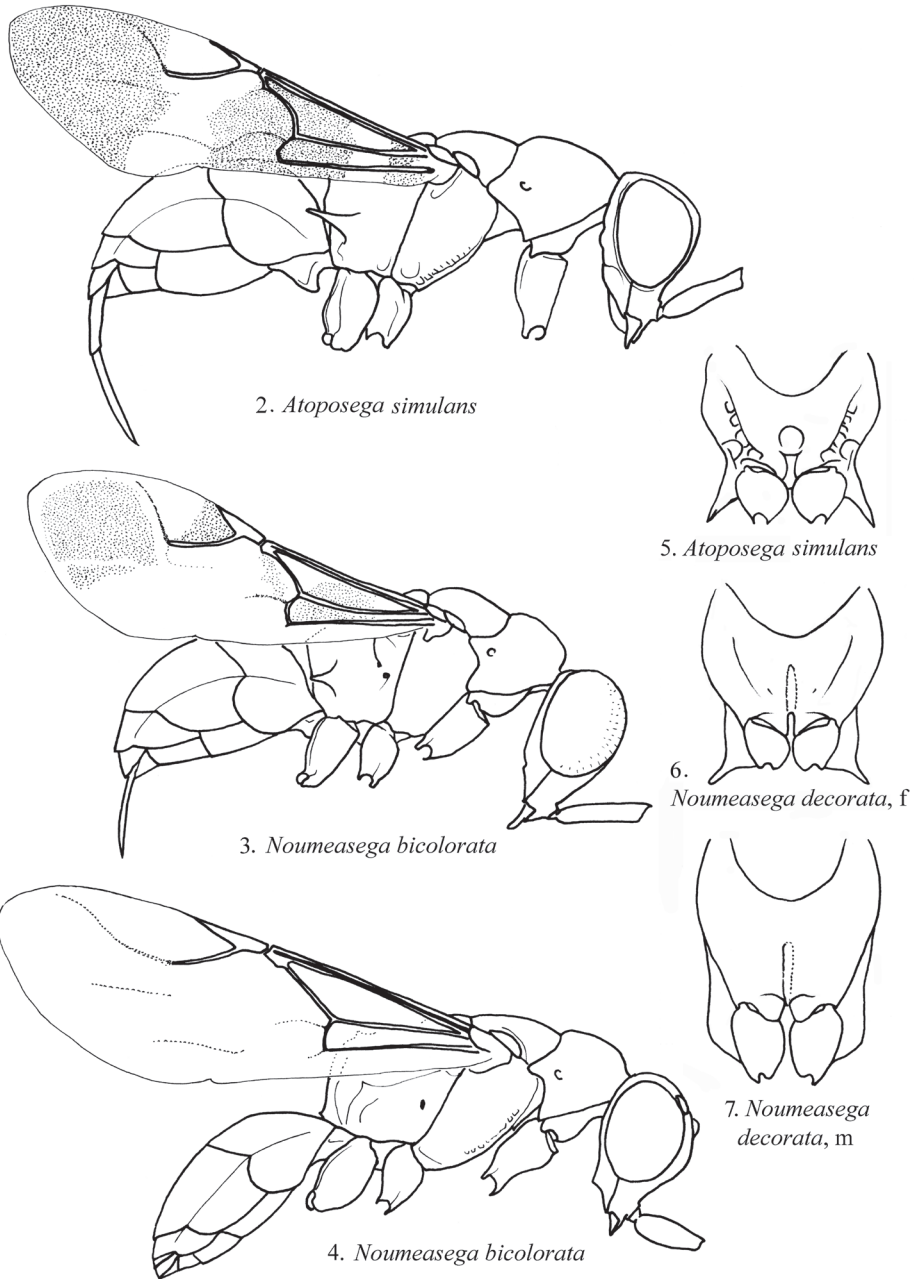
http://species-id.net/wiki/Noumeasega_bicolorata

Figures 3, 4, 9, 14, 17, 22, 25, 26

Type material. Holotype male: Pic du Pin, 22°14'S 166°50'E, 280m, 23/xii/2004–12/i/2005, Malaise trap, Burwell & Wright, #12047 (QM). Paratypes: 1 male: same data as holotype; 2 males: 25/xi–23/xii/2004, Malaise trap, Burwell & Wright, #1864; 2 males: 22°15'S, 166°49'E, 280m, 23/xii/2003–12/i/2005, Malaise trap, Burwell & Wright, #12038; 2 males: 25/xi–23/xii/2004, Malaise trap, Burwell & Wright, #11858; 1 male: 25–26/xi/2004, Malaise trap, Burwell & Wright, #11779; 2 females: Pic du Grand Kaori, 22°17'S 166°54'E, 250m, 22–23/xi/2004, Burwell & Wright, YPT, #11760; 1 female: Pic du Grand Kaori, 22°15'S, 166°49'E, 280m, 25/xi/2004–12/i/2005, Grimbacher & Monteith, RF, #1859; 2 females: Riv. Bleue Panoramic track, 160m, 22°15'S, 166°49'E, 25/xi/2004–12/i/2005, Burwell & Skevington, FIT, #9960; 1 male: Foret Nord, 22°19'S, 166°55'E, 480m, 22/xii/2004–9/i/2005, Malaise trap, Burwell & Wright, #12074; 1 male: 1–22/xii/2004, Malaise trap, Burwell & Wright, #11882 (BME, QM).

Diagnosis. Females share the banded wings and long spine-like propodeal angles with *decorata*. They can be separated by having a black body, with coppery or green highlights, not bright blue as in *decorata* and the flagellum is bicolored, not yellow as in *decorata*. Males have yellow legs and flagellomere I less than 4× as long as broad, which are shared with *neocaledonica*. Males also have a dark spot on the forewing below the stigma, a feature shared with *decorata*. They can be distinguished from *neocaledonica* by the dark brown to black flagellum and clypeus (red in *neocaledonica*).

Female description. Body (Fig. 14): length 2.5–3.0 mm. Head: face (Fig. 22); scapal basin zone of cross-ridging occupying one-third of distance between ocular margins, three-fourths basin height; frons with punctures large, contiguous; vertex (Fig. 26): lateral postocular extension not extending behind eye, midocellus 2 midocellar diameters from ocular margin; hindocellus 0.4 hindocellar diameter from ocular margin; malar space 2.4–2.5 midocellar diameters long; subantennal distance 0.7 midocellar diameter long; scape 4× as long as broad; flagellomere I 2.6–2.8× as long as broad; flagellomere II 0.6× as long as broad; flagellomere IX 1.3–1.5× as long as broad. Mesosoma: pronotum strongly convex in lateral view, with medial sulcus; pronotal and scutal punctures, large, contiguous, not obscuring notauli; scutellum with large, deep, contiguous and slightly striatiform punctures; mesopleural punctures large, contiguous; metanotum with medial ridge or welt; metapleuron and propodeal side polished, impunctate; propodeal posterior enclosure with medial ridge, with a few irregular cross-ridges. Metasoma: Shiny, impunctate. Color: Head and mesosoma black, propleura and upper mesopleuron brown; scape brown; pedicel and flagellomeres I–III and IX–XI pale yellow to pale brown; flagellomeres IV–VIII dark brown; clypeus reddish; coxae whitish to pale brown; femora orange with whitish apices; tibiae and tarsi orange; tegula whitish; wing dark



Figures 2–7. 2–4 Lateral view of body 5–7 Ventral view of mesopleuron and midcoxae.

brown, with untinted band across wing at apex of Rs vein, medial vein and wing base, apical margin untinted, with dark stain adjacent to stigma; metasoma reddish brown; pubescence pale.

Male description. Body (Fig. 9): length 2.5–3.0 mm. Head: face (Fig. 17) with scapal basin densely cross-ridged medially, occupying one-third of distance between eyes and basin height; frons with large, contiguous punctures; vertex (Fig. 25) with broad lateral postocular extension, 1 midocellus diameter wide or wider, midocellus 2 midocellar diameters from eye margin, hindocellus 0.7–0.8 hindocellar diameter from eye margin; clypeal apex broadly rounded; malar space 2.3 midocellar diameters long; subantennal distance 0.8 midocellar diameter long; scape 2.3× as long as broad; flagellomere I 3.2× as long as broad; flagellomere II 2.2× as long as broad; flagellomere IX 2.8× as long as broad; antenna as long as head + mesosoma. Mesosoma: pronotum with medial sulcus, strongly convex in lateral view; pronotal and scutal punctation contiguous, large, not obscuring notauli; scutellar punctures 0.5 puncture diameters apart; mesopleural punctures large, contiguous; metanotum without medial longitudinal ridge or welt; metapleuron and propodeal side polished, impunctate; propodeal posterior enclosure irregularly cross-ridged, with medial longitudinal ridge. Metasoma: terga evenly punctate, punctures 1–2 puncture diameters apart. Color: head, including clypeus, and mesosoma black with metallic blue highlights dorsally; metasoma black, anterior face of tergum I brown; scape yellowish brown basally, rest of antenna dark brown; wings evenly light brown tinted; legs yellow, becoming dark brown on tarsi; pubescence pale.

Remarks. This is the second most colorful species, after *N. decorata*. Both sexes are brightly colored, with metallic blue highlights on the mesosoma. This species appears to be confined to the southeastern end of the island.

Etymology. The name refers to the bright blue and whitish coloration, *f.*

***Noumeasega decorata* (Kimsey), comb. n.**

http://species-id.net/wiki/Noumeasega_decorata

Figures 6, 7, 10, 13, 19, 24, 27, 38

Atoposega decorata Kimsey 1995:590. Holotype female; New Caledonia: Ciu, near Mt. Canala (MCZ).

Material studied. New Caledonia: 1 female: Sud Prov., 9.1 km nw, Sarraméa; (MCZ); 1 female: Sud Prov., Mt. Khogis, 17 km nne Nouméa, 22°10'34S, 166°30'17E, 28/i/1996, MT, 425m, Irwin, Webb & Schlinger (INHS); 2 females: Sud Prov., 9.1 km nw, Sarraméa; 22°35'07S, 165°47'24E, 14–15/i/1996, MT, 425m, Irwin, Webb & Schlinger (BME); 1 male: Mandjelia summit, 750m, 20°24'S 164°32'E, 29/x/2003–31/i/2004, G. Monteith, FIT, #11486 (QM); 1 male: Chute Madeleine, 230m, macquis, 22°14'S, 166°52'E, 18/ix–12/xi/2000, Malaise trap, Skevington & Burwell, #9970 (QM); 1 male: Aoupinie, 850m, 21°11'S, 165°18'E, 23/xi/2001–1/i/2002, Burwell & Monteith, Malaise trap, #8926 (QM); 1 male: Plateau de Dogny, 20/xi/1958, C.R. Joyce (BPBM).

Diagnosis. This is the most brightly colored species of *Noumeasega*. The bright blues and purples, with the white metasomal spot in the female will readily distinguish



Figures 8–11. Lateral view of male *Noumeasega*.

decorata from other *Noumeasega* species. Males can be distinguished by the yellow legs and antennae, metallic blue head and thorax and antenna as long or longer than the body. *Noumeasega decorata* shares the strongly convex pronotum and extensive metallic coloration with *bicolorata*. Other shared characters include the banded wings, spine-like propodeal angle in the females. Males share the unusually long antenna, brown spot adjacent to forewing stigma, and correspondingly long flagellomeres with *kaoriensis*.

Female description. Body (Fig. 13): length 5–6 mm. Head: face (Fig. 24); scapal basin coarsely cross-ridged medially, zone of cross-ridging occupying one-third of distance between eyes, one half of height of scapal basin; frons with punctures contiguous; malar space 2.8 midocellar diameters long; head $0.9\times$ as long as wide; vertex in

dorsal view (Fig. 28), with narrow lateral postocular extension, less than 0.2 midocellar diameter wide, midocellus 1.5–1.6 midocellar diameters from ocular margin; hindocellus separated from ocular margin by 0.5 hindocellar diameter; clypeus evenly curved apically; malar space 2.8 midocellar diameters long; subantennal distance 0.4 midocellar diameter long; scape length 4.3–4.5× breadth; flagellomere I length 3.0–3.3× breadth; flagellomere II 0.7–0.8× as long as broad; flagellomere IX 1.9–2.0× as long as broad; antenna as long as body. Mesosoma: pronotal and scutal punctures coarse, contiguous, longitudinally ridged, striatiform punctures becoming most pronounced on scutum; scutum with notauli obscured anteriorly by coarse ridging; mesopleuron with contiguous, horizontally striatiform punctures; scutellum with large, contiguous but not striatiform punctures; metapleuron and side of propodeum polished and impunctate; metanotum 1.4× as long as scutellum, medial enclosure with large contiguous punctures, without medial ridge; propodeal dorsal surface coarsely areolate, posterior surface without medial enclosure, medially polished and impunctate, laterally rugose; metapleuron and propodeal side smooth, impunctate. Metasoma: terga and sterna polished and impunctate. Color: head, including clypeus, and mesosoma dark metallic blue, except scutum, metanotum and propodeal sides purple; metasoma black, with blue tints, tergum II with whitish lateral spot; scape and pedicel dark blue; flagellomere I whitish, remainder of flagellum red; coxae blue; femora blue with base and apex whitish; fore and midtibiae whitish, with dark brown apex; hindtibia dark blue; tarsi brown to black; forewing largely dark brown, with untinted band across wing as base of stigma and apex of Rs and wing tip untinted.

Male description. Body (Fig. 10): length 4.5–5.0 mm. Head: face (Fig. 19); scapal basin finely cross-ridged medially, zone of cross-ridging occupying one third of distance between eyes, one half of height of scapal basin; frons with punctures contiguous; malar space 2.9 midocellar diameters long; scape length 2.3× as long as broad; vertex with complete lateral postocular extension; flagellomere I 5× as long as broad; flagellomere II 3.4× as long as broad; flagellomere IX 6.8–7.0 as long as broad; antenna as long as entire body; vertex in dorsal view (Fig. 27), with narrow lateral postocular extension, separated by 0.2–0.3 midocellar diameter, midocellus 2.2–2.3 midocellar diameters from eye margin; hindocellus 0.7–0.8 hindocellar diameters from eye margin; ocular setulae minute; clypeal margin broadly truncate apically; malar space 2.9–3.0 midocellar diameters long; subantennal distance one midocellar diameter long; scape 2.3× as long as broad; flagellomere I 5× as long as broad; flagellomere II 2.4× as long as broad; flagellomere IX 6.8–7.0× as long as broad. Mesosoma: pronotum strongly convex in lateral view; pronotal and scutal punctuation coarse, contiguous; notauli obscured by punctuation; scutellum with coarse, contiguous punctuation; metanotum without longitudinal ridge or welt; mesopleuron with dense, large, contiguous punctures; metapleuron and propodeal side polished, impunctate, posterior enclosure polished and impunctate, with weak medial longitudinal ridge. Metasoma: punctuation even, punctures 1–2 puncture diameters apart. Color: head, including clypeus, and mesosoma dark metallic blue becoming purplish on propodeal side; antenna dark brown to black, except scape yellowish basally, api-

12. *decorata*13. *bicolorata*14. *kaoriensis*15. *neocaledonica***Figures 12–15.** Lateral view of female *Noumeasega*.

cally with metallic blue highlights; metasoma black with metallic blue highlights, tergum I anterior brown; legs yellow, becoming darker brown on tarsi; hindfemur and tibial brown with metallic blue tints; forewing untinted except for brown spot between stigma and R1 and Rs.

Remarks. Unlike the other species of *Noumeasega*, *decorata* males and females have the mesosoma metallic blue, not black with metallic blue highlights. Additionally, females have the metasoma metallic blue and the males have metallic blue highlights on the metasoma. This is also the largest bodied *Noumeasega* species in both sexes. This is the most widespread species on the island, found in nearly all sites collected

***Noumeasega kaoriensis* Kimsey, sp. n.**

<http://zoobank.org/65C90FEF-65F6-4B4F-9509-9F38DA71296F>

http://species-id.net/wiki/Noumeasega_kaoriensis

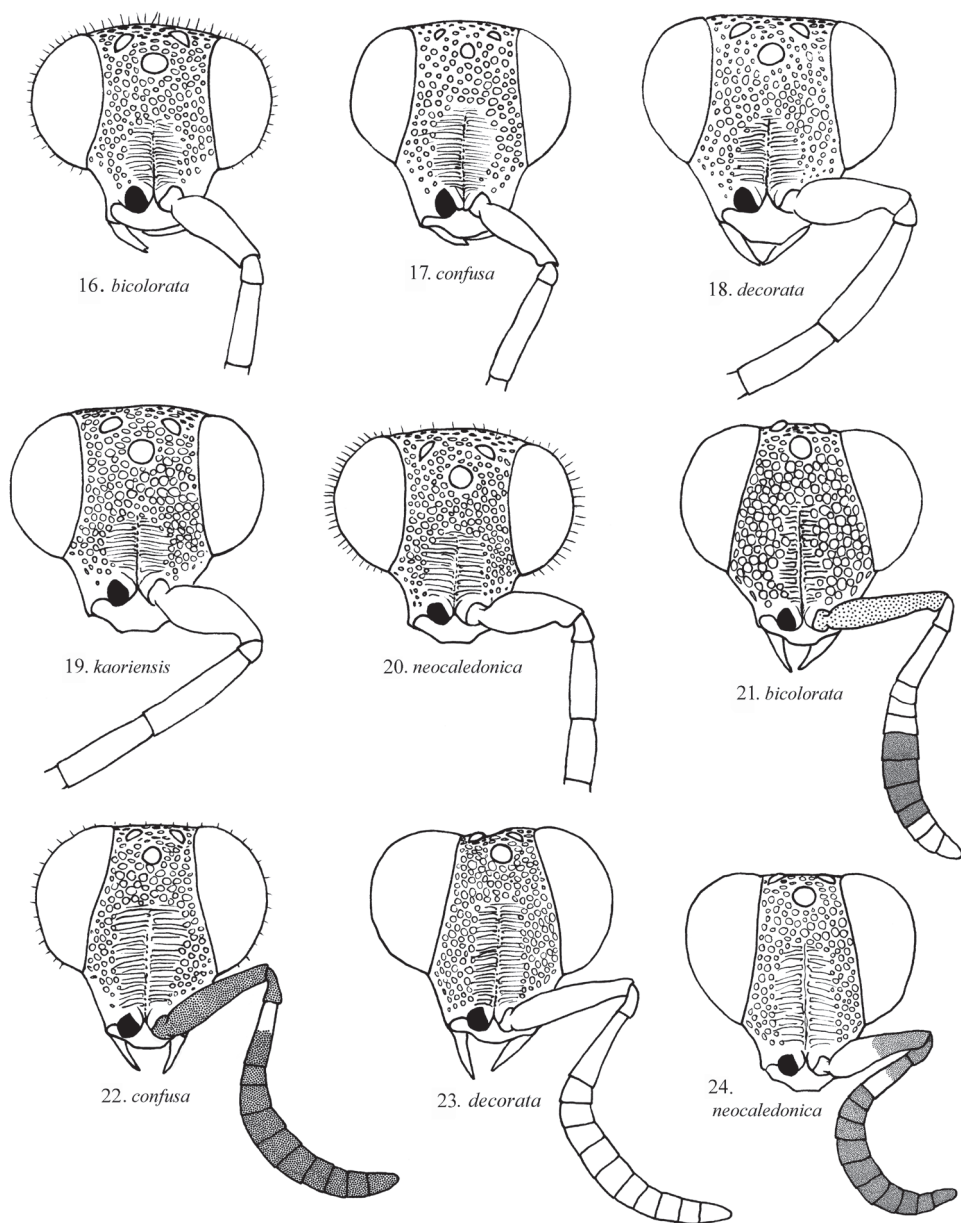
Figures 12, 20, 31, 32

Type material. Holotype male; Pic du Grand Kaori, 22°17'S, 166°54'E, 250m, 21/xi/2001–29/i/2002, G. Monteith, malaise trap, #8920 (QM). Paratypes: 6 males: same data as holotype; 1 male: 22/xi–22/xii/2004, Burwell & Wright, malaise trap, #11846; 1 male: 22/xii/2004–12/i/2005, Burwell & Wright, malaise trap, #12020; 1 female: G. Monteith, malaise trap, #12020; 2 males: 21/xii/2004–12/i/2005, Burwell & Wright, malaise trap, #12030; 1 female: 21/xi/2001–29/i/2002, G. Monteith, malaise trap, #8920; 1 female: 22/xi/2004–12/i/2005, G. Monteith, FIT, #11847; 1 male: Chute Madeleine, 230m, 22°14'E, 166°52'S, 18/ix–12/xi/2000, Skevington & Burwell, #9970; 1 male, 1 female: Foret Nord, 22°19'S, 166°55'E, 480m, 1–22/xii/2004, Malaise trap, Burwell & Wright, #11882; 2 females: 480m, 22/xii/2004–9/i/2005, Malaise trap, Burwell & Wright, #12074 (BME, QM).

Diagnosis. Male *kaoriensis* share the relatively bright coloration, long flagellomere I and banded wings of *decorata*. However, *N. kaoriensis* can be distinguished from *decorata* by the smaller body size, 3–4 mm long versus 5–6 mm, the black dorsum with metallic blue highlights, clypeus red versus blue, and flagellomere IX less than 5.5× as long as broad. In *kaoriensis* females the forewing is not banded and the propodeal angle is short and acute or tooth-like, not spine-like. Closest to *neocaledonica*, female *kaoriensis* can be distinguished from females of that species by flagellomere I 3× as long as broad, longer malar space and brown legs (yellow in *neocaledonica*).

Female description. Body (Fig. 15): length 3 mm. Head: face (Fig. 23); scapal basin cross-ridging half distance between ocular margins, 0.7× basin height; vertex in dorsal view (Fig. 32), with complete lateral postocular extension, 0.4 midocellar diameter wide, midocellus 1.4 midocellar diameters from ocular margin; hindocellus 0.5 hindocellar diameter from ocular margin; ocular setulae minute; clypeal apex truncate, truncation 1.5 midocellar diameters wide; malar space 3.7–3.8 midocellar diameters long; subantennal distance 2 midocellar diameters long; scape 3.3× as long as broad; flagellomere I 2.6× as long as broad; flagellomere II twice as long as broad; flagellomere IX 4× as long as broad. Mesosoma: pronotum with medial sulcus; pronotal and scutal punctation, coarse contiguous, not obscuring notauli; scutellum with large, contiguous punctures; mesopleural punctures contiguous to 0.5 puncture diameters apart; metanotum without medial ridge or welt; metapleuron and propodeal side smooth impunctate; propodeal posterior enclosure smooth, impunctate, with medial, longitudinal ridge. Metasoma: highly polished and impunctate. Color: head, including clypeus and mesosoma black, with coppery highlights, particularly dorsally and on face; scape, pedicel dark brown, except flagellomere I basally whitish; legs brown, including coxae; wings brown-tinted; metasoma dark brown.

Male description. Body (Fig. 12): length 3.0–4.0 mm. Head: face (Fig. 20); scapal basin zone of cross-ridging half facial height, half as wide as interocular distance; least



Figures 16–24. *Noumeasega*. Front view of face. **16–20** Males, with flagellomeres II-IX or III-IX removed **21–24** Females.

interocular distance $0.8 \times$ facial length, $0.7 \times$ greatest interocular distance; malar space 1.7 midocellat diameters long; subantennal distance 1 midocellar diameter long; vertex in dorsal view (Fig. 31), with broad, lateral postocular extension, 1.4 – 1.5 midocellar diameters wide, midocellus 1.4 midocellar diameters from eye margin, hindocellus 0.6

hindocellar diameter from ocular margin; scape 2.5× as long as broad; flagellomere I 4.5× as long as broad; flagellomere II 4× as long as broad; flagellomere IX 4.8× as long as broad; antenna as long as head + mesosoma. Mesosoma: pronotal and scutal punctation dense, contiguous, not obscuring notauli; scutellum with dense, nearly contiguous punctures; mesopleuron with punctures 0.5–1.0 puncture diameters apart; metanotum without medial ridge or welt; metapleuron and propodeal side polished and impunctate; propodeum posterior enclosure smooth, impunctate, with medial longitudinal ridge. Metasoma: terga with deep even punctation, 1–2 puncture diameters apart. Color: head and mesosoma black, with greenish blue highlights dorsally, clypeus red; scape, pedicel chestnut brown; flagellum black; wings evenly light brown tinted; legs including coxae yellow; metasoma black, with faint bluish tints dorsally, anterior face of tergum I chestnut brown to yellowish brown; pubescence pale; ocular setulae present but minute.

Remarks. This is the smallest of the *Noumeasega* species. The sexes are associated based on the darker legs in both, blue to purplish mesosomal highlights, distribution and collecting times.

Etymology. The name refers to the collection site, Pic du Grand Kaori of the holotype.

***Noumeasega neocaledonica* Kimsey, sp. n.**

<http://zoobank.org/9B7833E8-5F47-44EC-AEF2-286AD825AE87>

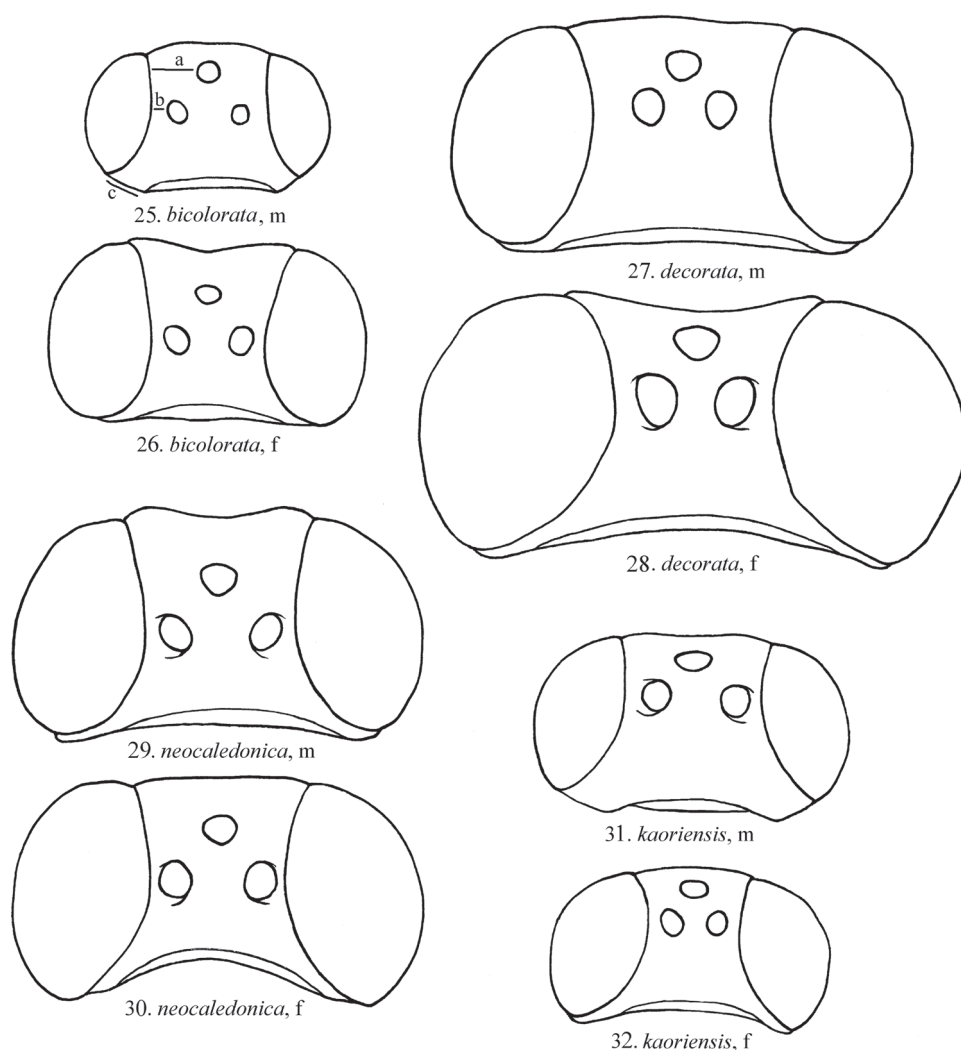
http://species-id.net/wiki/Noumeasega_neocaledonica

Figures 11, 16, 21, 25, 29, 30

Type material. Holotype male: Pic du Grand Kaori, 22°17'S. 166°54'E, 250m, 21/xi/2001–29/i/2002, G. Monteith, Malaise trap, #8920 (QM). Paratypes: 4 females: 2 males: same data as holotype; 1 female: 22/xii/2004–12/i/2005, Burwell & Monteith, Malaise trap, #12020; 1 male: 22/xi/2004–12/xii/2004, Wright & Burwell, Malaise trap, #11852; 1 female: Pic d'Amoa, north slope, 20°58'S. 165°17'E, 480m, 15–16/xii/2004, G. Monteith, YPT, #11972; 1 female: Forêt Nord, 22°19'S. 166°55'E, 22/xii/2004–9/i/2005, 480m, Burwell & Wright, Malaise trap, #12074 (QM, BME).

Diagnosis. *Noumeasega neocaledonica* females share a number of features with female *kaoriensis* including the unbanded wings and short tooth-like propodeal angles. They can be distinguished from female *kaoriensis* by the shorter flagellomere I and shorter malar space. Males more closely resemble those of *bicolorata*, with the relatively short antenna and flagellomere I less than 3.5× as long as broad. They can be distinguished from *bicolorata* males by the red clypeus and flagellum, larger body size and forewing without dark stain adjacent to stigma.

Female description. Body (Fig. 16): length 4–5 mm. Head: face (Fig. 25) flattened; scapal basin with medial zone of coarse transverse ridges, occupying one-third of distance between eye margins, two-thirds height of basin; frons with large, contiguous punctures; vertex in dorsal view (Fig. 30), without complete, lateral postocu-



Figures 25–32. *Noumeasega*, dorsal view of head **a** = midocellar eye distance **b** = hindocellar eye distance **c** = postocular distance **m** = males **f** = females.

lar extension, midocellus 1.4 midocellar diameters from eye margin, hindocellus 0.2 hindocellar diameter from eye margin; clypeus narrowly truncate apically, truncation about 1 midocellar diameter wide; malar space 2 midocellar diameters long; subantennal distance 0.7 midocellar diameter long; scape 3.4× as long as wide; flagellomere I 2.4× as long as broad; flagellomere II 0.8× as long as broad; flagellomere IX twice as long as broad; least interocular distance 0.3× facial length; least interocular distance 0.6–0.7× greatest interocular distance. Mesosoma: pronotal and scutal punctures dense, contiguous, somewhat striatiform; notauli not obscured by punctures; scutellar punctures dense, contiguous; mesopleuron with large, nearly contiguous punctures;

metanotum with medial longitudinal ridge or welt; metapleuron and propodeal side polished and impunctate; propodeal enclosure largely impunctate and polished, with medial longitudinal carina or welt. Metasoma: terga impunctate and polished. Color: head and mesosoma black, with coppery highlights dorsally and on face, becoming greener laterally and on metanotum; clypeus dark reddish brown; metasoma black, with faint bluish tints dorsally; tergum I anterior face brown; scape and flagellomere I yellow basally, dark brown apically; pedicel and flagellum dark brown to black; wings evenly brown tinted; legs yellow including coxae; pubescence pale.

Male description. Body (Fig. 11): length 4–5 mm. Head: face (Fig. 21); face with medial zone of dense transverse cross-ridging, occupying half of area between eye margins, half height of basin; vertex in dorsal view (Fig. 29), with narrow lateral postocular extension, 0.2–0.3 midocellar diameter wide, midocellus 1.7 midocellar diameters from eye margin, hindocellus separated from ocular margin by 0.4 hindocellar diameter or less; least interocular distance $0.4\times$ facial length; least interocular distance $0.8\times$ greatest interocular distance; clypeal apex broadly, shallowly curved apically; malar space 2.2 midocellar diameters long; subantennal distance 0.8 midocellar diameter long; scape $2.4\times$ as long as broad; flagellomere I $2.6\times$ as long as broad; flagellomere II twice as long as broad; flagellomere IX $2.2\times$ as long as broad; antenna as long as head + mesosoma. Mesosoma: pronotal and scutal punctation coarse, contiguous, obscuring notauli; metanotum with longitudinal, medial ridge or welt; metapleuron and propodeal side polished and impunctate; propodeal enclosure mostly polished, impunctate, with narrow longitudinal sulcus or line. Metasoma: terga and sterna with small punctures 1–2 puncture diameters apart. Color: head, meso- and metasoma black; clypeus red; metasomal tergum I anterior face brown; scape, pedicel and flagellum orange to light brown; legs and coxae pale brown to yellow; wing membrane untinted; pubescence pale.

Remarks. The sexes are associated based on the weak metallic coloration and the lack of a postocular extension in the female and very narrow one in males, an uncommon feature in the genus.

Etymology. The species name refers to the country of origin.

Acknowledgements

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References

- Kimsey LS (1995) New amisegine wasps from Southeast Asia (Hymenoptera: Chrysididae). *Proceedings of the Entomological Society of Washington* 97(3): 590–595.

- Kimsey LS, Bohart RM (1991 (1990)) The Chrysidid Wasps of the World. Oxford University Press, ix + 652.
- Krombein KV (1957) A generic review of the Amiseginae, a group of phasmatid egg parasites, and notes on the Adelphinae. Transactions of the American Entomological Society 82: 147–215.
- Krombein KV (1983) Biosystematic studies, XI: A monograph of the Amiseginae and Loboscelidiinae. Smithsonian Contributions to Zoology (376): 1–79. doi: 10.5479/si.00810282.376