

## A check list of the ant genus *Crematogaster* in Asia (Hymenoptera: Formicidae)

Shingo HOSOISHI<sup>1)</sup> and Kazuo OGATA<sup>1)</sup>

### Abstract

A check list of the Asian species of the ant genus *Crematogaster* is presented. The list covers the species-group names of the genus in Asia including the biogeographical areas of the eastern part of the Palearctic Region, the Oriental Region, and the western part of the Indo-Australian Region. A total of 206 names, comprising 145 species and 61 subspecies, is recognized. The list also provides information on the distribution.

### Introduction

The ant genus *Crematogaster* was established by Lund in 1831, with the type-species, *Formica scutellaris*, which was subsequently designated by Bingham in 1903. The genus is one of mega-taxa of ants including 989 described names of species and subspecies from the world, in which there are 780 valid, 85 junior and 124 unavailable names according to the latest check list (Bolton *et al.*, 2006).

The genus is unique in having a characteristic connection of the postpetiol to the dorsal surface of the gaster, and easy to distinguish from other genera of the subfamily Myrmicinae. In spite of the distinctness of the genus, the species level taxonomy is quite incomplete, and thus the exact figure of the taxa is still not clear.

In Asia, biogeographical information of taxa is increasingly needed for studies of biodiversity, in particular, the species inventory of a local area. The term Asia is not biogeographical unit but a composite of the eastern part of the Palearctic Region, the Oriental Region, and the western part of the Indo-Australian Region. A check list of a taxon is becoming important because it gives a frame of diversity.

In their list of Asian ants, Chapman and Capco (1951) nominated 197 forms of the genus including 109 species and 88 infraspecies names. But their list was less reliable because of numerous miscitations and inaccurate treatments. The world catalogue compiled by Bolton in 1995 is the most comprehensive and reliable reference. The work showed the progress of taxonomy of ants since 1950s, but gives no information on the distribution except for the type localities. This is almost true for the latest CD-version of the Bolton's catalogue (Bolton *et al.*, 2006).

The present list is primarily an extraction from the catalogues by Bolton (1995) and Bolton *et al.*

1) Institute of Tropical Agriculture, Kyushu University, 6-10-1 Hakozaki, Higashi-ku, Fukuoka, 812-8581 Japan  
E-mail: hosoishi@agr.kyushu-u.ac.jp

(2006). The format, terminology and the abbreviations in the list follow those works. Additionally we provide the distributional information based on the following regional records: Japanese Ant Database Group (1998) for Japan, Wu and Wang (1995) for China, Radchenko (2005) for North Korea, Kim and Park (2003) for Korea, Eguchi *et al.* (2004) for Vietnam, Jaitrong and Nabhitabhata (2005) for Thailand, Malsch *et al.* (2003) for West Malaya, Ito *et al.* (2001) for Indonesia, Hannan (2003) for Bangladesh, Tiwari (1999) for South India, Dias (2002) for Sri Lanka.

This checklist makes available to entomologists, ecologists and zoogeographers a comprehensive compilation of the region's known ant fauna. The list can serve as a basic resource for the myrmecologists studying *Crematogaster* ants in Asia.

### **Check list of *Crematogaster* ants in Asia (September 2009)**

We have nominated 206 names, comprising 145 species and 61 subspecies, belonging to 11 subgenera, as of September 2009. The present system of subgenus classification is far from satisfaction. The monophyly is not confirmed and some of the assignment of species are questionable. But it might be a way to arrange the species into traditional classification in this huge group. Presently the genus in Asia is represented by the following 11 out of 16 subgenera: *Atopogyne*, *Colobocrema*, *Crematogaster*, *Decacrema*, *Mesocrema*, *Orthocrema*, *Oxygyne*, *Paracrema*, *Physocrema*, *Rhachiocrema*, and *Xiphocrema*.

The arrangement of species under a subgenus is in alphabetical order. We have listed subspecies rank taxa, but they should be reviewed. Indeed, some might be synonyms with others, or some might be a wrong assignment, and others should be changed the status as species. The abbreviations in parenthesis are as follows: k, karyotype; l, larva; m, male; q, queen; w, worker. The distribution records in which the species has been reported are grouped by countries with the reference in square brackets and new ones are marked by asterisk. However, readers of this list should be cautioned that not all species records can be firmly supported. Some of the collection records in the literature are questionable.

#### **Subgenus *Atopogyne***

##### ***Crematogaster (Atopogyne) vitalisi***

*Crematogaster (Atopogyne) vitalisi* Menozzi, 1925: 448, (q). PHILIPPINES: Iligan, Lanao, Mindanao.  
Dist: Philippines.

Note: Subgeneric assignment is originally questionable.

#### **Subgenus *Colobocrema***

##### ***Crematogaster (Colobocrema) cylindriceps***

*Crematogaster (Colobocrema) cylindriceps* W. M. Wheeler, 1927c: 31, fig. 39, (q). PHILIPPINES.  
Dist: Philippines.

### **Subgenus *Crematogaster***

#### ***Crematogaster (Crematogaster) abdominalis***

*Crematogaster abdominalis* Motschoulsky, 1863:20, (w). INDIA.  
*Crematogaster (Acrocoelia) abdominalis*: Emery, 1922: 149.  
*Crematogaster (Crematogaster) abdominalis*: Bolton, 1995: 166.  
 Dist: India.

#### ***Crematogaster (Crematogaster) abrupta***

*Crematogaster abrupta* Mann, 1919: 320, (w). SOLOMON ISLANDS: Malapaina, Three Sisters.  
*Crematogaster (Crematogaster) abrupta*: Bolton, 1995: 166.  
 Dist: Solomon Islands.

#### ***Crematogaster (Crematogaster) agniae***

*Crematogaster (Acrocoelia) agniae* Karavaiew, 1935: 90, fig. 16, (w). VIETNAM: Lien Chieu,  
 Tourane, Nuage, Zentralannam.  
*Crematogaster (Crematogaster) agniae*: Bolton, 1995: 166.  
 Dist: Vietnam.

#### ***Crematogaster (Crematogaster) anthracina***

*Crematogaster anthracinus* F. Smith, 1857: 75, (w). SINGAPORE.  
*Crematogaster (Acrocoelia) anthracinus*: Donisthorpe, 1932b: 450.  
*Crematogaster (Crematogaster) anthracina*: Bolton, 1995: 166.  
 Dist: Myanmar (Tenasserim), Sri Lanka [Bingham, 1903; Dias, 2002]; Singapore.

#### ***Crematogaster (Crematogaster) apicalis***

*Crematogaster apicalis* Motschoulsky, 1863: 20, (w). SRI LANKA: Nura-Ellia Mountains.  
*Crematogaster (Acrocoelia) apicalis*: Emery, 1922: 149.  
*Crematogaster (Crematogaster) apicalis*: Bolton, 1995: 166.  
 Dist: Sri Lanka [Dias, 2002].

#### ***Crematogaster (Crematogaster) aroensis***

*Crematogaster (Acrocoelia) aroensis* Menozzi, 1935: 114, (w). New Guinea: Wammkar, Aroe Island.  
*Crematogaster (Crematogaster) aroensis*: Bolton, 1995: 166.  
 Dist: New Guinea.

#### ***Crematogaster (Crematogaster) betapicalis***

*Crematogaster apicalis* F. Smith, 1878: 12, (q). INDIA: Jhilam Valley, Punjab Hills. [Junior primary  
 homonym of *Crematogaster apicalis* Motschoulsky, 1863]  
*Crematogaster (Acrocoelia) apicalis*: Emery, 1922: 144.  
*Crematogaster (Crematogaster) betapicalis*: Bolton, 1995: 147. [Replacement name]

Dist: India (Punjab).

Note: Emery (1922) suggested a possible synonym of *subdentata*.

#### ***Crematogaster (Crematogaster) bicolor***

*Crematogaster bicolor* F. Smith, 1860b: 109, (w). INDONESIA: Bachian, Sulawesi; Mayr, 1867: 104 (q, m).

*Crematogaster (Orthocrema) bicolor*: Emery, 1922: 131.

*Crematogaster (Acrocoelia) bicolor*: Donisthorpe, 1932b: 463.

*Crematogaster (Crematogaster) bicolor*: Bolton, 1995: 166.

Dist: Indonesia (Sulawesi).

#### ***Crematogaster (Crematogaster) bicolor imbellis***

*Crematogaster bicolor* subsp. *imbellis* Emery, 1893b: 266, (w, q). PHILIPPINES: Manila.

*Crematogaster (Orthocrema) imbellis*: Emery, 1922: 131.

*Crematogaster (Crematogaster) imbellis*: Bolton, 1995: 166.

Dist: Philippines.

#### ***Crematogaster (Crematogaster) bison***

*Crematogaster bison* Forel, 1913c: 195, (w). TAIWAN.

*Crematogaster (Acrocoelia) bison*: Emery, 1922: 149.

*Crematogaster (Crematogaster) bison*: Bolton, 1995: 166.

Dist: Taiwan.

#### ***Crematogaster (Crematogaster) brunnea***

*Crematogaster brunneus* F. Smith, 1857: 75, (w). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Acrocoelia) brunnea*: Emery, 1922: 149.

*Crematogaster (Crematogaster) brunnea*: Bolton, 1995: 166.

Dist: Malaysia (Borneo); Sri Lanka [Dias, 2002].

#### ***Crematogaster (Crematogaster) brunnea contemta***

*Crematogaster contemta* Mayr, 1879: 685, (w). INDIA: Calcutta; Bingham, 1903: 130 (q).

*Crematogaster subnuda* r. *contemta*: Forel, 1902a: 208; Forel, 1907b: 17.

*Crematogaster laboriosa* st. *contemta*: Santschi, 1928a: 33.

*Crematogaster (Acrocoelia) brunnea* subsp. *contemta*: Emery, 1922: 150; W. M. Wheeler, 1929: 5; W. M. Wheeler, 1930b: 64.

*Crematogaster (Crematogaster) brunnea contemta*: Bolton, 1995: 166.

Dist: China (Yunnan) [Wu & Wang, 1995] (Thingthon) [W. M. Wheeler, 1930b]; India (Bengal); Sri Lanka [Bingham, 1903]; Bangladesh [Hannan, 2003].

***Crematogaster (Crematogaster) brunnea latipetiolata***

*Crematogaster (Acrocoelia) brunnea* subsp. *latipetiolata* Karavaiew, 1935: 91, fig. 17, (w). VIET-NAM: Cauda, Cochinchine.

*Crematogaster (Crematogaster) brunnea latipetiolata*: Bolton, 1995: 166.

Dist: Vietnam.

***Crematogaster (Crematogaster) brunnea nicevillei***

*Crematogaster subnuda* r. *rubula* var. *nicevillei* Forel, 1902a: 208. [Unavailable name]

*Crematogaster (Acrocoelia) brunnea* var. *nicevillei* Emery, 1922: 149, (w). INDIA: Calcutta. [First available name]

*Crematogaster brunnea* var. *nicevillei*: W. M. Wheeler, 1927a: 4; Santschi, 1928a: 33.

*Crematogaster (Crematogaster) brunnea nicevillei*: Bolton, 1995: 166.

Dist: China (Foochow) [W. M. Wheeler, 1930b]; India (West Bengal).

***Crematogaster (Crematogaster) brunnea nilgirica***

*Crematogaster subnuda* r. *rubula* var. *nilgirica* Forel, 1902a: 208. [Unavailable name]

*Crematogaster (Acrocoelia) brunnea* var. *nilgirica* Emery, 1922: 149, (w). INDIA: Utakamand Nilgiris; Coonoor. [First available name]

*Crematogaster (Crematogaster) brunnea nilgirica*: Bolton, 1995: 166.

Dist: India (Tamil Nadu) [Tiwari, 1999].

***Crematogaster (Crematogaster) brunnea rabula***

*Crematogaster subnuda* r. *rabula* Forel, 1902a: 207, (w). INDIA: Poona; Imai *et al.*, 1984: 6 (k).

*Crematogaster (Acrocoelia) brunnea* var. *rabula*: Emery, 1922: 150; W. M. Wheeler, 1927b: 1; Santschi, 1928a: 33.

*Crematogaster (Crematogaster) brunnea rabula*: Bolton, 1995: 166.

Dist: India (Maharashtra).

***Crematogaster (Crematogaster) brunnea ruginota***

*Crematogaster subnuda* r. *politula* var. *ruginota* Forel, 1902a: 207. [Unavailable name]

*Crematogaster laboriosa* st. *ruginota* Santschi, 1928a: 33, (w). INDIA: Pachmarhi; Barrakpore; MYANMAR: Moulmain. [First available name]

*Crematogaster (Acrocoelia) brunnea* subsp. *ruginota* W. M. Wheeler, 1929: 5.

*Crematogaster (Crematogaster) brunnea ruginota*: Bolton, 1995: 166.

Dist: India; Myanmar; China (Kusang) [W. M. Wheeler, 1930b].

***Crematogaster (Crematogaster) brunnea sundaica***

*Crematogaster subnuda* var. *sundaica* Forel, 1909: 225, (w). INDONESIA: Java.

*Crematogaster brunnea* var. *sundaica*: Santschi, 1928a: 33.

*Crematogaster (Crematogaster) brunnea sundaica*: Bolton, 1995: 166.

Dist: Indonesia (Java).

***Crematogaster (Crematogaster) brunnescens***

*Crematogaster brunnescens* Motschoulsky, 1863: 20, (w). SRI LANKA: Colombo.

*Crematogaster (Acrocoelia) brunnescens*: Emery, 1922: 150.

*Crematogaster (Crematogaster) brunnescens*: Bolton, 1995: 166.

Dist: Sri Lanka [Dias, 2002].

***Crematogaster (Crematogaster) buddhae***

*Crematogaster buddhae* Forel, 1902a: 206, (w). INDIA: Himalaya, 4000'; Calcutta.

*Crematogaster (Acrocoelia) buddhae*: Emery, 1922: 150.

*Crematogaster (Crematogaster) buddhae*: Bolton, 1995: 166.

Dist: India (Himalayas, Sikkim, West Bengal) [Bingham, 1903].

***Crematogaster (Crematogaster) chungi***

*Crematogaster (Acrocoelia) brunnea* subsp. *ruginota* var. *chungi* W. M. Wheeler, 1929: 6. [Unavailable name]

*Crematogaster (Acrocoelia) chungi* Brown, 1949: 38, (w). CHINA: Foochow. [First available name]

*Crematogaster (Crematogaster) chungi*: Bolton, 1995: 166.

Dist: China (Foochow).

***Crematogaster (Crematogaster) cornuta***

*Crematogaster (Acrocoelia) cornuta* Crawley, 1924: 395, (w, q, m). INDONESIA: Pantjuran Gading, Sumatra.

*Crematogaster (Crematogaster) cornuta*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

***Crematogaster (Crematogaster) corporaali***

*Crematogaster (Acrocoelia) corporaali* Santschi, 1928b: 126, (w, q). INDONESIA: Soengei Rampah, Sumatra.

*Crematogaster (Crematogaster) corporaali*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

***Crematogaster (Crematogaster) desecta***

*Crematogaster desecta* Forel, 1911a: 27, (w, q). SRI LANKA: Namunakuli.

*Crematogaster (Acrocoelia) desecta*: Emery, 1922: 150.

*Crematogaster (Crematogaster) desecta*: Bolton, 1995: 166.

Dist: Sri Lanka [Dias, 2002].

***Crematogaster (Crematogaster) diffusa***

*Myrmica diffusa* Jerdon, 1851: 113, (w, q, m). INDIA.

*Crematogaster diffusa*: Roger, 1863: 37.

*Crematogaster (Acrocoelia) diffusa*: Emery, 1922: 150.

*Crematogaster (Crematogaster) diffusa*: Bolton, 1995: 166.

Dist: India (Kerala) [Tiwari, 1999].

Note: Bingham (1903) suggested a senior synonym of *aberrans*.

#### ***Crematogaster (Crematogaster) dohrni***

*Crematogaster dohrni* Mayr, 1879, 682, (w). SRI LANKA.

*Crematogaster (Acrocoelia) dohrni*: Emery, 1922: 150.

*Crematogaster (Crematogaster) dohrni*: Bolton, 1995: 166.

Dist: Myanmar (Pegu Yoma); India (Tamil Nadu) [Tiwari, 1999]; Sri Lanka [Dias, 2002].

#### ***Crematogaster (Crematogaster) dohrni artifex***

*Crematogaster artifex* Mayr, 1879: 684, (w, m). THAILAND: Bangkok; W. M. Wheeler, 1927a: 4 (q).

*Crematogaster artifex*: Forel, 1902a: 203; Bingham, 1903: 139.

*Crematogaster (Acrocoelia) dohrni* subsp. *artifex*: Emery, 1922: 150; W. M. Wheeler, 1924: 246; W. M. Wheeler, 1928a: 16; W. M. Wheeler, 1930b: 65.

*Crematogaster (Crematogaster) dohrni artifex*: Bolton, 1995: 166.

Dist: China (Guangxi, Yunnan, Guangdong, Hainan) [Zhou, 2001]; Vietnam [Santschi, 1924; W. M. Wheeler, 1927d]; Thailand; Myanmar (Tenasserim) [Bingham, 1903]; Indonesia (Krakatau) [W. M. Wheeler, 1924].

#### ***Crematogaster (Crematogaster) dohrni fabricans***

*Crematogaster rogenhoferi* var. *fabricans* Forel, 1911b: 201, (w). INDONESIA: Java; W. M. Wheeler, 1924: 246 (q, m).

*Crematogaster rogenhoferi* r. *fabricans*: Forel, 1913c: 194.

*Crematogaster (Acrocoelia) dohrni* subsp. *fabricans*: Emery, 1922: 150; W. M. Wheeler, 1927a: 4; W. M. Wheeler, 1930b: 66.

*Crematogaster (Crematogaster) dohrni fabricans*: Bolton, 1995: 166.

Dist: China (Back Liang, Tsimei) [W. M. Wheeler, 1930b]; Indonesia (Krakatau) [W. M. Wheeler, 1924].

#### ***Crematogaster (Crematogaster) dohrni gigas***

*Crematogaster dohrni* var. *gigas* Forel, 1913d: 74, (w). SRI LANKA: Maha Iluppalam, Tiefland.

*Crematogaster (Acrocoelia) dohrni* var. *gigas*: Emery, 1922: 150.

*Crematogaster (Crematogaster) dohrni gigas*: Bolton, 1995: 166.

Dist: Sri Lanka.

#### ***Crematogaster (Crematogaster) dohrni kerri***

*Crematogaster rogenhoferi* subsp. *kerri* Forel, 1911e: 284, (w). THAILAND: Chiang Mai.

*Crematogaster (Acrocoelia) dohrni kerri*: Emery, 1922: 150.

*Crematogaster (Crematogaster) dohrni kerri*: Bolton, 1995: 166.

Dist: Thailand.

***Crematogaster (Crematogaster) dohrni kiangsiensis***

*Crematogaster dohrni* r. *kiangsiensis* Forel, 1903b: 254, (w). CHINA: Chinoise, Kiang Si.  
*Crematogaster (Crematogaster) dohrni kiangsiensis*: Bolton, 1995: 166.  
 Dist: China (Kiang Si).

***Crematogaster (Crematogaster) egidyi***

*Crematogaster egidyi* Forel, 1903b: 254, (w). CHINA: Hong Kong.  
*Crematogaster (Acrocoelia) egidyi*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) egidyi*: Bolton, 1995: 166.  
 Dist: China (Hong Kong).

***Crematogaster (Crematogaster) egidyi ingvei***

*Crematogaster egidyi* var. *ingvei* Forel, 1911e: 284, (w). INDONESIA: Java.  
*Crematogaster (Acrocoelia) egidyi* var. *ingvei*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) egidyi ingvei*: Bolton, 1995: 166.  
 Dist: Indonesia (Java).

***Crematogaster (Crematogaster) egidyi spinozai***

*Crematogaster egidyi* subsp. *spinozai* Forel, 1911a: 25, (q, w). MALAYSIA: Sarawak, Borneo.  
*Crematogaster (Acrocoelia) egidyi spinozai*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) egidyi spinozai*: Bolton, 1995: 166.  
 Dist: Malaysia (Borneo).

***Crematogaster (Crematogaster) egidyi szaboi***

*Crematogaster egidyi* var. *szaboi* Forel, 1913a: 437, (w). SINGAPORE.  
*Crematogaster (Acrocoelia) egidyi* var. *szaboi*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) egidyi szaboi*: Bolton, 1995: 166.  
 Dist: Singapore.

***Crematogaster (Crematogaster) elysii***

*Crematogaster elysii* Mann, 1919: 319, fig. 22, (m). SOLOMON ISLANDS: Malapaina, Three Sisters.  
*Crematogaster (Crematogaster) elysii*: Bolton, 1995: 166.  
 Dist: Solomon islands.

***Crematogaster (Crematogaster) ferrarii***

*Crematogaster ferrarii* Emery, 1888: 533, (w). INDONESIA: Siboga, Sumatra.  
*Crematogaster (Acrocoelia) ferrarii*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) ferrarii*: Bolton, 1995: 166.  
 Dist: China (Yunnan, Guangdong, Guangxi, Hunan) [Wu & Wang, 1995]; Vietnam [W. M. Wheeler, 1927d]; Myanmer (Tenasserim) [Bingham, 1903]; Malaysia (Borneo) [W. M. Wheeler, 1919]; Indonesia (Krakatau, Java) [W. M. Wheeler, 1924; Menozzi, 1935].

***Crematogaster (Crematogaster) ferrarii lumpurensis***

*Crematogaster ferrarii* subsp. *lumpurensis* Forel, 1907a: 24, (w). MALAYSIA: Kuala Lumpur, West Malaysia.

*Crematogaster (Acrocoelia) ferrarii lumpurensis*: Emery, 1922: 151.

*Crematogaster (Crematogaster) ferrarii lumpurensis*: Bolton, 1995: 166.

Dist: Malaysia (Peninsula).

***Crematogaster (Crematogaster) flava***

*Crematogaster flava* Forel, 1886: 248, (w). INDIA: Sibsagar; Tiwari, 1999: 44 (q).

*Crematogaster rogenhoferi* var. *flava*: Forel, 1903a: 682.

*Crematogaster flava*: Tiwari, 1999: 44. [Revived status as species.]

*Crematogaster (Crematogaster) flava*: Bolton, 1995: 166.

Dist: India (Assam, Sikkim, West Bengal, Orissa, Tamil Nadu, Kerala) [Bingham, 1903; Tiwari, 1999]; Bangladesh [Hannan, 2003].

***Crematogaster (Crematogaster) foxi***

*Crematogaster foxi* Mann, 1919: 321, fig. 23, (w, q). SOLOMON ISLANDS: Pamua, Wainoni Bay, San Cristoval.

*Crematogaster (Crematogaster) foxi*: Bolton, 1995: 166.

Dist: Solomon Islands.

***Crematogaster (Crematogaster) fraxatrix***

*Crematogaster fraxatrix* Forel, 1911a: 28, (w). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Acrocoelia) fraxatrix*: Emery, 1922: 151.

*Crematogaster (Crematogaster) fraxatrix*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919].

***Crematogaster (Crematogaster) fruhstorferi***

*Crematogaster fruhstorferi* Emery, 1901: 577, fig. C, (w). INDONESIA: Bua Kraeng, 1500m, Sulawesi.

*Crematogaster (Acrocoelia) fruhstorferi*: Emery, 1922: 151.

*Crematogaster (Crematogaster) fruhstorferi*: Bolton, 1995: 166.

Dist: Indonesia (Sulawesi).

***Crematogaster (Crematogaster) himalayana***

*Crematogaster himalayanus* Forel, 1902a: 202, (w). INDIA: Dharmasala; Himalaya, 7000'; Mussories.

*Crematogaster (Acrocoelia) himalayanus*: Emery, 1922: 151.

*Crematogaster (Crematogaster) himalayanus*: Bolton, 1995: 166.

Dist: India (NW Himalaya) [Bingham, 1903].

***Crematogaster (Crematogaster) hodgsoni***

*Crematogaster hodgsoni* Forel, 1902a: 204, (w). MYANMAR: Moulmain.

*Crematogaster (Acrocoelia) hodgsoni*: Emery, 1922: 151.

*Crematogaster (Crematogaster) hodgsoni*: Bolton, 1995: 166.

Dist: Myanmar (Upper Burma: Ruby Mine district; Lower Burma: Pegu Yona, Tenasserim) [Bingham, 1903].

#### ***Crematogaster (Crematogaster) innocens***

*Crematogaster innocens* Forel, 1911a: 30, (w, q). MALAYSIA: Hayvep, Borneo.

*Crematogaster (Acrocoelia) innocens*: Emery, 1922: 151.

*Crematogaster (Crematogaster) innocens*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919].

#### ***Crematogaster (Crematogaster) kirbii***

*Myrmica kirbii* Sykes, 1835: 99, pl. 13, figs. 1-4, (w, q, m). INDIA: Poona.

*Crematogaster kirbii*: F. Smith, 1858: 136.

*Crematogaster (Acrocoelia) kirbii*: Emery, 1922: 151.

*Crematogaster (Crematogaster) kirbii*: Bolton, 1995: 166.

Dist: India (Maharashtra).

#### ***Crematogaster (Crematogaster) laevissima***

*Crematogaster laevissimus* F. Smith, 1860a: 74, (q). INDONESIA: Makassar, Sulawesi.

*Crematogaster (Acrocoelia) laevissimus*: Donisthorpe, 1932b: 458.

*Crematogaster (Crematogaster) laevissimus*: Bolton, 1995: 166.

Dist: Indonesia (Sulawesi).

#### ***Crematogaster (Crematogaster) ledouxi***

*Crematogaster (Acrocoelia) ledouxi* Soulié in Fromantin and Soulié, 1961: 102, figs 5, 6, 8, (w).

CAMBODIA: Kompong-Cham province.

*Crematogaster (Crematogaster) ledouxi*: Bolton, 1995: 166.

Dist: Cambodia.

#### ***Crematogaster (Crematogaster) longiclava***

*Crematogaster longiclava* Emery, 1893b: 264, pl. 6, figs. 2, 3, (w). PHILIPPINES: Antipolo.

*Crematogaster (Acrocoelia) longiclava*: Emery, 1922: 151.

*Crematogaster (Crematogaster) longiclava*: Bolton, 1995: 166.

Dist: Philippines.

#### ***Crematogaster (Crematogaster) longiclava placens***

*Crematogaster longiclava* var. *placens* Forel, 1911c: 384, (w). MALAYSIA: Berhentian Tingi and Choneng, Nigri Sembilan; Pahang (jungle), Malacca.

*Crematogaster (Acrocoelia) longiclava* var. *placens*: Emery, 1922: 151.

*Crematogaster (Crematogaster) longiclava placens*: Bolton, 1995: 166.

Dist: Malaysia (Peninsula).

***Crematogaster (Crematogaster) macaoensis***

*Crematogaster (Acrocoelia) dohrni* subsp. *artifex* var. *macaoensis* W. M. Wheeler, 1928a: 16, (w).

CHINA: Macao. [Unavailable name]

*Crematogaster macaoensis*: Wu & Wang, 1995: 66. [First available name] [Raised to species.]

Dist: China (Macao).

Note: Subgeneric assignment is provisional here.

***Crematogaster (Crematogaster) matsumurai***

*Crematogaster laboriosa* var. *matsumurai* Forel, 1901b: 372, (w). JAPAN; W. M. Wheeler, 1906: 312 (q).

*Crematogaster (Acrocoelia)* var. *matsumurai*: Emery, 1922: 143.

*Crematogaster (Acrocoelia) matsumurai*: W. M. Wheeler, 1928b: 110; Santschi, 1937b: 371; Collingwood, 1976: 303. [Raised to species.]

*Crematogaster (Acrocoelia) brunnea* subsp. *matsumurai*: W. M. Wheeler, 1929: 5; W. M. Wheeler, 1930b: 65.

*Crematogaster (Acrocoelia) brunnea* st. *matsumurai* var. *iwatensis* Santschi, 1930: 264. [Unavailable name]

*Crematogaster (Acrocoelia) matsumurai* var. *iwatensis* Santschi, 1937b: 371, (w). JAPAN: Iwate-Ken, Moriota. [First available name] [Junior synonym: Onoyama, 1998: 229.]

*Crematogaster (Crematogaster) matsumurai*: Bolton, 1995: 166.

Dist: Japan; China (Hubei, Hunan, Shandong, Hebei, Shaanxi, Anhui, Yunnan), Taiwan [Wu & Wang, 1995]; North Korea [Radchenko, 2005]; Korea [Kim and Park, 2003].

***Crematogaster (Crematogaster) meijerei***

*Crematogaster meijerei* Emery, 1911a: 534, fig. 2, (w). New Guinea: Tami.

*Crematogaster (Acrocoelia) meijerei*: Emery, 1922: 152.

*Crematogaster (Crematogaster) meijerei*: Bolton, 1995: 166.

Dist: New Guinea.

***Crematogaster (Crematogaster) nawai***

*Crematogaster laboriosa* F. Smith, 1874: 407, (w). JAPAN. [Junior primary homonym of *Crematogaster laboriosus* F. Smith, 1860 (= *Solenopsis geminata rufa* (Jerdon))]

*Crematogaster auberti* var. *nawai* Ito, 1914: 41, (w). JAPAN.

*Crematogaster (Acrocoelia) nawai*: Emery, 1922: 143 [Raised to species.]

*Crematogaster (Acrocoelia) laboriosa* subsp. *nawai*: Santschi, 1930: 263.

*Crematogaster (Crematogaster) laboriosa* *nawai*: Bolton, 1995: 166.

*Crematogaster (Crematogaster) nawai*: Onoyama, 1998:230. [Revived status as species.]

Dist: Japan; China (Shanghai, Jiangsu); Taiwan [Wu & Wang, 1995].

***Crematogaster (Crematogaster) nawai zoceensis***

*Crematogaster (Acrocoelia) laboriosa* var. *zoceensis* Santschi, 1925: 85, (w, q, m). CHINA: Zo-cé.  
*Crematogaster (Crematogaster) laboriosa zoceensis*: Bolton, 1995: 166.  
 Dist: China (Zo-cé).

***Crematogaster (Crematogaster) nesiotis***

*Crematogaster nesiotis* Mann, 1919: 322, fig. 24, (w). SOLOMON ISLANDS: West Bay, Russell.  
*Crematogaster (Crematogaster) nesiotis*: Bolton, 1995: 166.  
 Dist: Solomon Islands.

***Crematogaster (Crematogaster) obnigra***

*Crematogaster obnigra* Mann, 1919: 323, (w). SOLOMON ISLANDS: West Bay, Russell.  
*Crematogaster (Crematogaster) obnigra*: Bolton, 1995: 166.  
 Dist: Solomon Islands.

***Crematogaster (Crematogaster) obscura***

*Crematogaster obscurus* F. Smith, 1857: 76, (w). MALAYSIA: Sarawak, Borneo.  
*Crematogaster (Acrocoelia) obscura*: Emery, 1922: 151; Donisthorpe, 1932b: 450.  
*Crematogaster (Crematogaster) obscura*: Bolton, 1995: 166.  
 Dist: Malaysia (Borneo) [W. M. Wheeler, 1919].

***Crematogaster (Crematogaster) ochracea***

*Crematogaster ochracea* Mayr, 1862: 766, (w). PHILIPPINES: Manila.  
*Crematogaster (Acrocoelia) ochracea*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) ochracea*: Bolton, 1995: 166.  
 Dist: Philippines.

***Crematogaster (Crematogaster) pellens***

*Crematogaster pellens* Walker, 1859: 374, (q). SRI LANKA.  
*Crematogaster (Acrocoelia) pellens*: Donisthorpe, 1932a: 576.  
*Crematogaster (Crematogaster) pellens*: Bolton, 1995: 166.  
 Dist: Sri Lanka [Dias, 2002].

***Crematogaster (Crematogaster) perelegans***

*Crematogaster perlegans* Forel, 1902a: 202, (w, q). INDIA: Poona; Bingham, 1903: 143 (m).  
*Crematogaster perelegans*: Forel, 1903a: 683. [Justified emendation of spelling to *perelegans*.]  
*Crematogaster (Acrocoelia) perelegans*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) perelegans*: Bolton, 1995: 166.  
 Dist: India (Punjab, NW Himalayas, Maharashtra); Myanmer (Tenasserim, Atran Vally) [Bingham, 1903].

***Crematogaster (Crematogaster) pia***

*Crematogaster tumidula* subsp. *pia* Forel, 1911c: 384, (w). MALAYSIA: Berhentian Tingi, Nigri Sembilan, Malacca.

*Crematogaster (Acrocoelia) pia*: Emery, 1922: 151. [Raised to species.]

*Crematogaster (Crematogaster) pia*: Bolton, 1995: 166.

Dist: Malaysia (Peninsula).

***Crematogaster (Crematogaster) pia soengeiensis***

*Crematogaster tumidula* var. *soengeiensis* Forel, 1913d: 77, (w). INDONESIA: Soengei Bamban, Tiefland, Sumatra.

*Crematogaster (Acrocoelia) pia* var. *soengeiensis*: Emery, 1922: 151.

*Crematogaster (Crematogaster) pia soengeiensis*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

***Crematogaster (Crematogaster) pia taivanae***

*Crematogaster tumidula* var. *taivanae* Forel, 1913c: 194, (w, q). TAIWAN: Taihorin.

*Crematogaster (Acrocoelia) pia* var. *taivanae*: Emery, 1922: 151.

*Crematogaster (Crematogaster) pia taivanae*: Bolton, 1995: 166.

Dist: Taiwan.

***Crematogaster (Crematogaster) politula***

*Crematogaster subnuda* r. *politula* Forel, 1902a: 207, (w). INDIA: Assam.

*Crematogaster politula*: Bingham, 1903: 131; Mukerjee, 1930: 153. [Raised to species.]

*Crematogaster (Acrocoelia) brunnea* subsp. *politula*: Emery, 1922: 150; W. M. Wheeler, 1930b: 65.

*Crematogaster laboriosa* st. *politula*: Santschi, 1928a: 33.

*Crematogaster (Crematogaster) politula*: Bolton, 1995: 166.

Dist: China (Guizhou) [Tang *et al.*, 1995]; Vietnam [W. M. Wheeler, 1927d]; India (Assam); Myanmar (Upper Burma, Myitkyina, Bhamo) [Bingham, 1903]; Bangladesh [Hannan, 2003].

***Crematogaster (Crematogaster) popohana***

*Crematograster popohana* Forel, 1912a: 69, (w). TAIWAN: Akau, Kosempo; Forel, 1913c: 193 (q, m).

*Crematogaster (Acrocoelia) popohana*: Emery, 1922: 151.

*Crematogaster (Crematogaster) popohana*: Bolton, 1995: 166.

Dist: Taiwan.

***Crematogaster (Crematogaster) popohana amia***

*Crematogaster popohana* r. *amia* Forel, 1913c: 194, (q, m). TAIWAN: Taihorin.

*Crematogaster (Acrocoelia) popohana* subsp. *amia*: Emery, 1922: 151.

*Crematogaster (Crematogaster) popohana amia*: Bolton, 1995: 166.

Dist: Taiwan.

***Crematogaster (Crematogaster) pradipi***

*Crematogaster pradipi* Tiwari, 1999: 49, figs 8, 9, (w, q). INDIA: Tamil Nadu.  
Dist: India (Tamil Nadu).

***Crematogaster (Crematogaster) ransonneti***

*Crematogaster ransonneti* Mayr, 1868: 287, (w). SRI LANKA.  
*Crematogaster (Acrocoelia) ransonneti*: Emery, 1922: 151.  
*Crematogaster (Crematogaster) ransonneti*: Bolton, 1995: 166.  
Dist: India (Sikkim, West Bengal, Kanara, Karnataka) [Tiwari, 1999; Ghosh and Sheela, 2008]; Sri Lanka [Bingham, 1903; Dias, 2002].

***Crematogaster (Crematogaster) rogenhoferi***

*Crematogaster rogenhoferi* Mayr, 1879: 683, (w). MYANMAR: Molmein; Forel, 1913c: 194 (q, m).  
*Crematogaster (Acrocoelia) dohrni* subsp. *rogenhoferi*: Emery, 1922: 150; Crawley, 1924: 395; W. M. Wheeler, 1924: 246.  
*Crematogaster (Acrocoelia) rogenhoferi*: W. M. Wheeler, 1930b: 66. [Revived status as species.]  
*Crematogaster (Crematogaster) rogenhoferi*: Bolton, 1995: 166.  
Dist: China (Yunnan, Hainan, Guangxi, Guangdong, Jiangxi, Anhui, Jiangsu, Sichuan, Hunan, Fujian, Zhejiang) [Wu & Wang, 1995]; Vietnam [Eguchi *et al.*, 2004]; Thailand [Jaitrong and Nabhitabhata, 2005]; India (Assam, Sikkim, West Bengal, Kerala, Maharashtra, Tamil Nadu); Sri Lanka; Myanmar (Tenasserim) [Bingham, 1903; Tiwari, 1999]; Bangladesh [Hannan, 2003]; Indonesia (Sumatra) [Menozzi, 1935]; Brunei [Eguchi and Yamane, 2003].

***Crematogaster (Crematogaster) rogenhoferi costulata***

*Crematogaster rogenhoferi* var. *costulata* Emery, 1895b: 467, (w). MYANMAR.  
*Crematogaster (Crematogaster) rogenhoferi costulata*: Bolton, 1995: 166.  
Dist: Myanmar.

***Crematogaster (Crematogaster) rogenhoferi fictrix***

*Crematogaster rogenhoferi* var. *fictrix* Forel, 1911a: 27, (w). MALAYSIA: Sarawak, Borneo.  
*Crematogaster (Crematogaster) rogenhoferi fictrix*: Bolton, 1995: 166.  
Dist: Malaysia (Borneo) [W. M. Wheeler, 1919].

***Crematogaster (Crematogaster) rogenhoferi lutea***

*Crematogaster rogenhoferi* var. *lutea* Emery, 1893a, 193, (w). INDONESIA: Deli, Sumatra.  
*Crematogaster rogenhoferi* subsp. *lutea*: Emery, 1900a: 688.  
*Crematogaster artifex* subsp. *lutea*: Forel, 1907a: 23.  
*Crematogaster (Crematogaster) rogenhoferi lutea*: Bolton, 1995: 166.  
Dist: Sri Lanka (Rambode) [Menozzi, 1935]; Indonesia.

***Crematogaster (Crematogaster) rogeri***

*Crematogaster (Acrocoelia) rogeri* Emery, 1922: 151, (w). SRI LANKA.

*Crematogaster (Crematogaster) rogeri*: Bolton, 1995: 166.

Dist: Sri Lanka.

***Crematogaster (Crematogaster) ronganensis***

*Crematogaster ronganensis* Zhou, 2001: 77, 231-232, figs. 114-116, (w). CHINA: Rongan, Guangxi.

Dist: China (Rongan, Guangxi).

***Crematogaster (Crematogaster) rothneyi***

*Crematogaster rothneyi* F. Smith, 1873: viii [Nomen nudum]

*Crematogaster rothneyi* Mayr, 1879: 685, (w). INDIA: Calcutta; Imai *et al.*, 1984: 6 (k).

*Crematogaster (Acrocoelia) rothneyi*: Emery, 1922: 151.

*Crematogaster (Crematogaster) rothneyi*: Bolton, 1995: 166.

Dist: India (West Bengal, Gujarat, Maharashtra, Tamil Nadu) [Tiwari, 1999]; Sri Lanka [Dias, 2002].

***Crematogaster (Crematogaster) rothneyi civa***

*Crematogaster rothneyi* var. *civa* Forel, 1902a: 203, (w). INDIA: Poona.

*Crematogaster (Acrocoelia) rothneyi*: Emery, 1922: 151.

*Crematogaster (Crematogaster) rothneyi*: Bolton, 1995: 166.

Dist: India (Maharashtra).

***Crematogaster (Crematogaster) rothneyi haputaleensis***

*Crematogaster rothneyi* var. *haputaleensis* Forel, 1913d: 75, (q). SRI LANKA: Haputale, 5000 ft.

*Crematogaster (Acrocoelia) rothneyi haputaleensis*: Emery, 1922: 152.

*Crematogaster (Crematogaster) rothneyi haputaleensis*: Bolton, 1995: 166.

Dist: Sri Lanka.

***Crematogaster (Crematogaster) rufa***

*Myrmica rufa* Jerdon, 1851: 114, (w). INDIA.

*Crematogaster rufa*: Roger, 1863: 37.

*Crematogaster (Acrocoelia) rufa*: Emery, 1922: 152.

*Crematogaster (Crematogaster) rufa*: Bolton, 1995: 166.

Dist: India (Kerala) [Tiwari, 1999].

***Crematogaster (Crematogaster) sagei***

*Crematogaster sagei* Forel, 1902a: 204, (w, q). INDIA: Dharamsala; Himalaya; N. W.; Himalaya; Dehra Dum.

*Crematogaster (Acrocoelia) sagei*: Emery, 1922: 152.

*Crematogaster (Crematogaster) sagei*: Bolton, 1995: 166.

Dist: China (Guangdong, Shandong, Sichuan) [Tang *et al.*, 1995]; India (Himalayas from Dharamsala

to Sikkim) [Bingham, 1903].

***Crematogaster (Crematogaster) sagei laevinota***

*Crematogaster sagei* var. *laevinota* Forel, 1902a: 205, (w). INDIA: Dharmasala; Pachmarhi.

*Crematogaster (Acrocoelia) sagei* var. *laevinota*: Emery, 1922: 152.

*Crematogaster (Crematogaster) sagei laevinota*: Bolton, 1995: 166.

Dist: India.

***Crematogaster (Crematogaster) semperi***

*Crematogaster semperi* Emery 1893b: 263, pl. 2, fig. 7, (w). PHILIPPINES: Manila.

*Crematogaster (Acrocoelia) semperi*: Emery, 1922: 152.

*Crematogaster (Crematogaster) semperi*: Bolton, 1995: 166.

Dist: Philippines.

***Crematogaster (Crematogaster) simoni***

*Crematogaster simoni* Emery, 1893b: 263, pl. 6, fig. 6, (w). PHILIPPINES: Antipolo, Manila.

*Crematogaster (Acrocoelia) simoni*: Emery, 1922: 152.

*Crematogaster (Crematogaster) simoni*: Bolton, 1995: 166.

Dist: Philippines.

***Crematogaster (Crematogaster) skounensis***

*Crematogaster (Acrocoelia) skounensis* Soulié in Fromantin and Soulié, 1961: 99, figs. 3, 6, 7, 8, (w, q, m). CAMBODIA: Skoun, Kompong-Cham province.

*Crematogaster (Crematogaster) skounensis*: Bolton, 1995: 166.

Dist: Cambodia.

***Crematogaster (Crematogaster) subcircularis***

*Crematogaster subcircularis* Mayr, 1879: 685, (w). MALAYSIA: Borneo.

*Crematogaster (Acrocoelia) subcircularis*: Emery, 1922: 152.

*Crematogaster (Crematogaster) subcircularis*: Bolton, 1995: 166.

Dist: Malaysia (Borneo).

***Crematogaster (Crematogaster) subnuda***

*Crematogaster subnuda* Mayr, 1879: 682, (w). INDIA: Calcutta; Imai *et al.*, 1984: 6 (k).

*Crematogaster (Acrocoelia) brunnea* subsp. *subnuda*: Emery, 1922: 150; Santschi, 1925: 85; W. M. Wheeler, 1930a: 98.

*Crematogaster (Acrocoelia) laboriosa* st. *subnuda*: Santschi, 1928a: 33; W. M. Wheeler, 1929: 5.

*Crematogaster subnuda*: Mukerjee, 1930: 153. [Revived status as species.]

*Crematogaster (Crematogaster) subnuda*: Bolton, 1995: 166.

Dist: India (Throughout India, except in hotdry desert area; Assam); Sri Lanka; Myanmar [Bingham, 1903]; Malaysia (Borneo) [W. M. Wheeler, 1919].

***Crematogaster (Crematogaster) subnuda discinodis***

*Crematogaster discinodis* Emery, 1893b: 261, pl. 6, fig. 9, (w). SINGAPORE.

*Crematogaster subnuda* var. *discinodis*: Emery, 1900a: 688.

*Crematogaster (Acrocoelia) brunnea* var. *discinodis*: Emery, 1922: 150.

*Crematogaster (Crematogaster) subnuda discinodis*: Bolton, 1995: 166.

Dist: Singapore.

***Crematogaster (Crematogaster) subnuda formosae***

*Crematogaster subnuda* var. *formosae* W. M. Wheeler, 1909: 336, (w). TAIWAN.

*Crematogaster (Acrocoelia) brunnea* var. *formosae*: Emery, 1922: 150.

*Crematogaster (Crematogaster) subnuda formosae*: Bolton, 1995: 166.

Dist: China (Zo-ce) [W. M. Wheeler, 1930b]; Taiwan.

***Crematogaster (Crematogaster) teranishii***

*Crematogaster (Acrocoelia) brunnea* st. *teranishii* Santschi, 1930: 265, (w). JAPAN: Hashida, Nuga-Len.

*Crematogaster (Acrocoelia) brunnea* st. *ruginota* var. *azumai* Santschi, 1941: 275. [Unavailable name.]

*Crematogaster (Crematogaster) brunnea teranishii*: Bolton, 1995: 166.

*Crematogaster (Crematogaster) teranishii*: Onoyama, 1998: 230. [Raised to species.]

Dist: Japan; Korea [Kim and Park, 2003].

***Crematogaster (Crematogaster) vagula***

*Crematogaster (Acrocoelia) matsumurai* subsp. *vagula* W. M. Wheeler, 1928b: 110, (w, q). JAPAN: Kobe; Moghi; Okitsu.

*Crematogaster (Crematogaster) matsumurai vagula*: Bolton, 1995: 166.

*Crematogaster (Crematogaster) vagula*: Onoyama, 1998: 231. [Raised to species.]

Dist: Japan; China (Guangxi) [Zhou, 2001]; Korea [Kim and Park, 2003].

***Crematogaster (Crematogaster) vandeli***

*Crematogaster (Acrocoelia) vandeli* Soulié in Fromantin and Soulié, 1961: 100, figs 4, 6, 7, 8, (w, q, m). CAMBODIA: Kompong-Cham.

*Crematogaster (Crematogaster) vandeli*: Bolton, 1995: 166.

Dist: Cambodia.

***Crematogaster (Crematogaster) yappi***

*Crematogaster yappi* Forel, 1901b: 374, (w). MALAYSIA: Gunong Inas, Malacca.

*Crematogaster (Acrocoelia) yappi*: Emery, 1922: 152.

*Crematogaster (Crematogaster) yappi*: Bolton, 1995: 166.

Dist: Malaysia (Peninsula).

### **Subgenus *Decacrema***

#### ***Crematogaster (Decacrema) angulosa***

*Crematogaster angulosa* André, 1896: 264, (w). MALAYSIA: Borneo.

*Crematogaster (Decacrema) angulosa*: Forel, 1911a: 32.

Dist: Malaysia (Borneo).

#### ***Crematogaster (Decacrema) biformis***

*Crematogaster biformis* André, 1892: 53, (w). MALAYSIA: Borneo.

*Crematogaster (Decacrema) biformis*: Forel, 1911a: 32.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) borneensis***

*Crematogaster borneensis* André, 1896: 263, (w). MALAYSIA: Borneo; Forel, 1911c: 386 (m).

*Crematogaster (Decacrema) borneensis*: Forel, 1910a: 18.

Dist: Malaysia (Borneo).

#### ***Crematogaster (Decacrema) borneensis capax***

*Crematogaster (Decacrema) borneensis* subsp. *capax* Forel, 1911a: 37, (w, q). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Decacrema) borneensis capax*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) borneensis harpyia***

*Crematogaster (Decacrema) borneensis* var. *harpyia* Forel, 1911a: 33, (w, q). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Decacrema) borneensis harpyia*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) borneensis hosei***

*Crematogaster (Decacrema) borneensis* subsp. *hosei* Forel, 1911a: 35, (w, q, m). MALAYSIA: Borneo.

*Crematogaster (Decacrema) borneensis hosei*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) borneensis insulsa***

*Crematogaster (Decacrema) borneensis* var. *insulsa* Forel, 1911a: 33, (w, q, m). MALAYSIA: Borneo.

*Crematogaster (Decacrema) borneensis insulsa*: Bolton, 1995: 166.

Dist: Malaysia (Borneo).

#### ***Crematogaster (Decacrema) borneensis macaranga***

*Crematogaster (Decacrema) borneensis* subsp. *macarangae* Viehmeyer, 1916: 126, (w). SINGAPORE.

*Crematogaster (Decacrema) borneensis macarangae*: Bolton, 1995: 166.

Dist: Singapore.

#### ***Crematogaster (Decacrema) borneensis novem***

*Crematogaster (Decacrema) borneensis* subsp. *novem* Forel, 1911a: 35, (w, q). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Decacrema) borneensis novem*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) borneensis sembilana***

*Crematogaster (Decacrema) borneensis* subsp. *sembilana* Forel, 1911c: 385, (q, m). MALAYSIA: Berhentian Tengi, Nigri Sembilan, Malacca.

*Crematogaster (Decacrema) borneensis sembilana*: Bolton, 1995: 166.

Dist: Malaysia (Peninsula).

#### ***Crematogaster (Decacrema) borneensis symbia***

*Crematogaster (Decacrema) borneensis* subsp. *symbia* Forel, 1911a: 34, (w, q, m). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Decacrema) borneensis symbia*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) captiosa***

*Crematogaster (Decacrema) captiosa* Forel, 1911a: 37, (w). MALAYSIA: Sarawak, Borneo.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) cephalotes***

*Crematogaster cephalotes* F. Smith, 1857: 75, (w). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Decacrema) cephalotes*: Donisthorpe, 1932b: 450.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) decamera***

*Crematogaster (Decacrema) decamera* Forel, 1910a: 18 (footnote), (w, q, m). MALAYSIA: Sarawak, Borneo.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

#### ***Crematogaster (Decacrema) enneamera***

*Crematogaster enneamera* Emery, 1900a: 330, pl. 8, figs. 33-35, (w, m). New Guinea: Insula Seleo.

*Crematogaster (Decacrema) enneamera*: Forel, 1910a: 18; Forel, 1910c: 9.

Dist: New Guinea [Menozzi, 1935]

### Subgenus **Mesocrema**

***Crematogaster (Mesocrema) brevis***

*Crematogaster brevis* Emery, 1887: 467 (footnote), pl. 2, fig. 19, (w, q). INDONESIA: Buitenzorg, Java.  
*Crematogaster (Orthocrema) brevis*: Emery, 1922: 132.  
*Crematogaster (Mesocrema) brevis*: Santschi, 1928a: 33.  
 Dist: Indonesia (Java).

***Crematogaster (Mesocrema) flavigaster***

*Crematogaster flavigaster* Emery, 1897: 567, (w). New Guinea: Kapa Kapa, Ighibirei, Kelesi.  
*Crematogaster (Orthocrema) flavigaster*: Emery, 1922: 132.  
*Crematogaster (Mesocrema) flavigaster*: Santschi, 1937a: 310.  
 Dist: New Guinea.

***Crematogaster (Mesocrema) jacobsoni***

*Crematogaster jacobsoni* Forel, 1911b: 201, (w). INDONESIA: Semarang, Java.  
*Crematogaster (Orthocrema) jacobsoni*: Emery, 1922: 132.  
*Crematogaster (Mesocrema) jacobsoni*: Santschi, 1937a: 310.  
 Dist: Indonesia (Java).

***Crematogaster (Mesocrema) karawaiewi***

*Crematogaster (Orthocrema) karawaiewi* Menozzi, 1935: 106, fig. 3, (w). New Guinea: Aroe Archipelago.  
*Crematogaster wladimirii*: Consani, 1953: 100. [Unnecessary replacement name]  
*Crematogaster (Mesocrema) karawaiewi*: Santschi, 1937a: 310.  
 Dist: Indonesia (Aroe Islands) [Menozzi, 1935]

***Crematogaster (Mesocrema) millardi***

*Crematogaster millardi* Forel, 1902a: 205, (w). MYANMAR: Moulmain; Viehmeyer, 1916: 125 (q).  
*Crematogaster (Orthocrema) millardi*: Emery, 1922: 132.  
*Crematogaster (Mesocrema) millardi*: Santschi, 1928a: 33.  
 Dist: Myanmar (Tenasserim) [Bingham, 1903]; Sri Lanka [Dias, 2002].

***Crematogaster (Mesocrema) overbecki***

*Crematogaster overbecki* Viehmeyer, 1916: 123, fig. 3, (w, q, m). SINGAPORE.  
*Crematogaster (Orthocrema) overbecki*: Emery, 1922: 132.  
*Crematogaster (Mesocrema) overbecki*: Santschi, 1928a: 33.  
 Dist: Singapore.

***Crematogaster (Mesocrema) treubi***

*Crematogaster treubi* Emery, 1896: 246, (w). INDONESIA: Java.

*Crematogaster buddhae* r. *sic* Forel, 1907a: 24, (w). MALAYSIA: Kuala Lumpur, West Malaysia.

[Junior synonym: Emery, 1922: 132]

*Crematogaster (Orthocrema) treubi*: Emery, 1922: 132.

*Crematogaster (Mesocrema) treubi*: Santschi, 1937a: 310.

Dist: Indonesia (Java, Sumur) [Menozzi, 1935]

#### ***Crematogaster (Mesocrema) treubi apilis***

*Crematogaster treubi* r. *apilis* Forel, 1913c: 195, (w). TAIWAN: Pilam.

*Crematogaster (Orthocrema) treubi* subsp. *apilis*: Emery, 1922: 132.

*Crematogaster (Mesocrema) treubi apilis*: Bolton, 1995: 166.

Dist: Taiwan.

#### ***Crematogaster (Mesocrema) treubi vastatrix***

*Crematogaster treubi* var. *vastatrix* Forel, 1911a: 24, (w, q). INDONESIA: Java.

*Crematogaster (Orthocrema) treubi* subsp. *vastatrix*: Emery, 1922: 132.

*Crematogaster (Mesocrema) treubi vastatrix*: Bolton, 1995: 166.

Dist: Indonesia (Java).

#### ***Crematogaster (Mesocrema) walshi***

*Crematogaster walshi* Forel, 1902a: 205, (w). INDIA: Pooree.

*Crematogaster (Orthocrema) walshi*: Emery, 1922: 132.

*Crematogaster (Mesocrema) walshi*: Santschi, 1928a: 33.

Dist: India.

#### ***Crematogaster (Mesocrema) walshi bouvardi***

*Crematogaster walshi* st. *bouvardi* Santschi, 1920: 160, (w, q). VIETNAM: Lang Bian, Cochinchine; Santschi, 1924: 98 [Also described as new.]

*Crematogaster (Mesocrema) walshi bouvardi*: Bolton, 1995: 166.

Dist: Vietnam [Santschi, 1924]

### **Subgenus *Orthocrema***

#### ***Crematogaster (Orthocrema) aitkenii***

*Crematogaster biroi* var. *aitkenii* Forel, 1902a: 203, (w). INDIA: Kanara.

*Crematogaster (Orthocrema) biroi* var. *aitkenii*: Emery, 1922: 132.

*Crematogaster (Orthocrema) aitkenii*: Wu & Wang, 1992: 1319. [Raised to species.]

Dist: India (Karnataka) [Tiwari, 1999].

### ***Crematogaster (Orthocrema) baduvi***

*Crematogaster baduvi* Forel, 1912b: 106, (w). INDONESIA: Nusa Kambangan, Java; Forel, 1913d: 77 (q); Menozzi, 1935: 104 (m).

*Crematogaster (Orthocrema) baduvi*: Emery, 1922: 131; Bolton, 1995: 166.

*Crematogaster batuvi*: Crawley, 1924: 394. [Misspelling name]

Dist: \*Malaysia (Peninsula) [Hosoishi, 2009b]; Indonesia (Java, Sumatra) [Menozzi, 1935]

### ***Crematogaster (Orthocrema) binghamii***

*Crematogaster binghamii* Forel, 1904: 24, (w). INDIA: Sikkim.

*Crematogaster (Orthocrema) binghamii*: Santschi, 1918: 182; Bolton, 1995: 166.

Dist: India (Sikkim); \*Bangladesh [Hosoishi, 2009b].

### ***Crematogaster (Orthocrema) biroi***

*Crematogaster biroi* Mayr, 1897: 428, (w). SRI LANKA: Colombo; Bingham, 1903: 138 (q); Imai et al., 1984: 6 (k).

*Crematogaster (Orthocrema) biroi*: Emery, 1922: 131; Bolton, 1995: 166.

Dist: China (Yunnan, Guangdong, Guangxi) [Wu & Wang, 1995]; Taiwan [Wu & Wang, 1995]; Vietnam [W. M. Wheeler, 1927d]; India (Sikkim, Kanara, Dehra Dun, Karnataka, Uttar Pradesh) Sri Lanka [Bingham, 1903; Tiwari, 1999; Dias, 2002; Hosoishi, 2009b].

### ***Crematogaster (Orthocrema) biroi andelis***

*Crematogaster biroi* var. *andelis* Santschi, 1928b: 129, (w). INDONESIA: Ile Varela, Sumatra; Stärcke, 1930: 373 (m).

*Crematogaster (Orthocrema) biroi andelis*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

### ***Crematogaster (Orthocrema) biroi bandarensis***

*Crematogaster biroi* var. *bandarensis* Forel, 1913d: 76, (w, q). INDONESIA: Bandar Baroe, Sumatra.

*Crematogaster (Orthocrema) biroi* var. *bandarensis*: Emery, 1922: 132.

*Crematogaster (Orthocrema) biroi bandarensis*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

### ***Crematogaster (Orthocrema) biroi quadriruga***

*Crematogaster biroi* var. *quadriruga* Forel, 1911f: 455, (w). THAILAND: Kerr.

*Crematogaster (Orthocrema) biroi* var. *quadriruga*: Emery, 1922: 132.

*Crematogaster (Orthocrema) biroi quadriruga*: Bolton, 1995: 166.

Dist: Thailand.

### ***Crematogaster (Orthocrema) biroi smythiesii***

*Crematogaster biroi* var. *smythiesii* Forel, 1902a: 203, (w, q). INDIA: Dehra Dun.

*Crematogaster (Orthocrema) biroi* var. *smythiesii*: Emery, 1922: 132.

*Crematogaster (Orthocrema) biroi smythiesii*: Bolton, 1995: 166.

Dist: India; Sri Lanka (Peradeniya) [Menozzi, 1935]

***Crematogaster (Orthocrema) brevimanubularis***

*Crematogaster (Orthocrema) brevimanubularis* Donisthorpe, 1943: 451, (m). New Guinea: Camp Nok, 2500 ft, Waigeu.

Dist: New Guinea.

***Crematogaster (Orthocrema) crassicornis***

*Crematogaster crassicornis* Emery, 1893b: 265, pl. 2, figs. 4, 5, (w). PHILIPPINES: Manila.

*Crematogaster (Orthocrema) crassicornis*: Emery, 1922: 132.

Dist: Philippines.

***Crematogaster (Orthocrema) emeryi***

*Crematogaster biroi* Emery, 1900a: 332, pl. 8, figs. 39-41, (w). New Guinea. [Junior primary homonym of *Crematogaster biroi* Mayr, 1897]

*Crematogaster emeryi* Forel, 1907a: 25. [Replacement name]

*Crematogaster (Orthocrema) emeryi*: Bolton, 1995: 166.

Dist: New Guinea.

***Crematogaster (Orthocrema) fritzi***

*Crematogaster fritzi* Emery, 1901: 576, fig. B, (w, m). INDONESIA: Tomohon, Sulawesi.

*Crematogaster sordidula* r. *fritzi*: Forel, 1902b: 410.

*Crematogaster fritzi*: Emery, 1912: 668. [Revived status as species.]

*Crematogaster (Orthocrema) fritzi*: Emery, 1922: 132.

Dist: Indonesia (Sulawesi).

***Crematogaster (Orthocrema) gavapiga***

*Crematogaster (Orthocrema) gavapiga* Menozzi, 1935: 109, fig. 5, (w). INDONESIA: Tjampea, Java.

Dist: Indonesia (Java).

***Crematogaster (Orthocrema) insularis***

*Crematogaster insularis* F. Smith, 1859: 149, (w). New Guinea: Aru Island.

*Crematogaster (Orthocrema) insularis*: Donisthorpe, 1932b: 456.

Dist: New Guinea.

***Crematogaster (Orthocrema) iridipennis***

*Crematogaster iridipennis* F. Smith, 1865: 74, (q). New Guinea.

*Crematogaster (Orthocrema) iridipennis*: Donisthorpe, 1932b: 473.

Dist: New Guinea.

***Crematogaster (Orthocrema) irritabilis***

*Crematogaster irritabilis* F. Smith, 1860b: 109, (w). New Guinea: Merauke, Etna Bay.

*Crematogaster (Orthocrema) irritabilis*: Emery, 1922: 133.

*Crematogaster irritabilis*: Donisthorpe, 1932b: 463.

Dist: New Guinea.

***Crematogaster (Orthocrema) irritabilis leguilloui***

*Crematogaster leguilloui* Emery, 1900a: 331 (footnote), (w). New Guinea: Humboldt Bay.

*Crematogaster irritabilis* var. *leguilloui*: Forel, 1911d: 270.

*Crematogaster (Orthocrema)* var. *leguilloui*: Emery, 1922: 133.

Dist: New Guinea.

***Crematogaster (Orthocrema) irritabilis subtilis***

*Crematogaster irritabilis* var. *subtilis* Viehmeyer, 1914: 32, (w). New Guinea: Wareo.

*Crematogaster (Orthocrema) irritabilis* var. *subtilis*: Emery, 1922: 133.

Dist: New Guinea.

***Crematogaster (Orthocrema) javanica***

*Crematogaster (Orthocrema) javanica* Menozzi, 1935: 108, fig. 4, (w). INDONESIA: Tjiapers, Java.

Dist: Indonesia (Java).

***Crematogaster (Orthocrema) longipilosa***

*Crematogaster longipilosa* Forel, 1907a: 24, (w). MALAYSIA: Kuala Lumpur; Forel, 1911c: 383 (q, m); Viehmeyer, 1916: 124 (q).

*Crematogaster (Orthocrema) longipilosa*: Emery, 1922: 132.

Dist: \*Thailand [Hosoishi, 2009b]; Malaysia (Peninsula, Borneo) [W. M. Wheeler, 1919; Malsch *et al.*, 2003; Hosoishi, 2009b]; \*Indonesia (Kalimantan, Java, Sumatra) [Hosoishi, 2009b].

***Crematogaster (Orthocrema) major***

*Crematogaster (Orthocrema) major* Donisthorpe, 1941a: 39, (w). New Guinea: Mts. Cyclops, 930 ft, Sabron.

Dist: New Guinea.

***Crematogaster (Orthocrema) major flavor***

*Crematogaster (Orthocrema) major* subsp. *flavor* Donisthorpe, 1941a: 40, (w). New Guinea: Mts. Cyclops, 930 ft, Sabron.

Dist: New Guinea.

***Crematogaster (Orthocrema) mesonotalis***

*Crematogaster mesonotalis* Emery, 1911a: 535, fig. 3, (w). New Guinea: Angadi.

*Crematogaster (Orthocrema) mesonotalis*: Emery, 1922: 133.

Dist: New Guinea.

#### *Crematogaster (Orthocrema) mimicans*

*Crematogaster (Orthocrema) mimicans* Donisthorpe, 1932b: 475, (w). New Guinea: Aru.

Dist: New Guinea.

#### *Crematogaster (Orthocrema) myops*

*Crematogaster myops* Forel, 1911a: 31, (w, q). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Orthocrema) myops*: Santschi, 1918: 182.

Dist: Malaysia (\*Peninsula, Borneo) [W. M. Wheeler, 1919; Hosoihi, 2009b]; \*Singapore [Hosoihi, 2009b]; \*Indonesia (Sumatra) [Hosoihi, 2009b].

#### *Crematogaster (Orthocrema) osakensis*

*Crematogaster sordidula* var. *osakensis* Forel, 1900: 269, (w). JAPAN: Osaka; W. M. Wheeler, 1928b: 111 (q, m).

*Crematogaster (Orthocrema) sordidula* subsp. *osakensis*: Emery, 1912: 671; W. M. Wheeler, 1928b: 111.

*Crematogaster sordidula* var. *japonica* Forel, 1912d: 339, (w). JAPAN: Tokyo. [Junior synonym: Brown, 1949: 37.]

*Crematogaster (Orthocrema) sordidula* subsp. *osakensis*: Emery, 1922: 131.

*Crematogaster osakensis*: Collingwood, 1976: 303; Kupyanskaya, 1990: 129. [Raised to species.]

Dist: Japan; China (Shanghai, Hubei, Hunan, Jiangxi, Shanxi, Anhui, Zhejiang, Sichuan, Shaanxi) [Wu and Wang, 1995]; North Korea [Radchenko, 2005]; Korea [Kim and Park, 2003].

#### *Crematogaster (Orthocrema) pauli*

*Crematogaster pauli* Emery, 1901: 575, fig. A, (w). INDONESIA: Salabanka, Sulawesi.

*Crematogaster (Orthocrema) pauli*: Emery, 1922: 132.

Dist: Indonesia (Sulawesi).

#### *Crematogaster (Orthocrema) polita*

*Crematogaster politus* F. Smith, 1865: 74, (w). New Guinea.

*Crematogaster (Orthocrema) polita*: Emery, 1922: 133; Donisthorpe, 1932b: 473.

Dist: New Guinea.

#### *Crematogaster (Orthocrema) ralumensis*

*Crematogaster ralumensis* Forel, 1901a: 16, (w). New Guinea: Bismarck Archipelago.

*Crematogaster (Orthocrema) ralumensis*: Emery, 1922: 133.

Dist: New Guinea.

#### *Crematogaster (Orthocrema) reticulata*

*Crematogaster (Orthocrema) reticulata* Hosoihi, 2009b: 259, (w). MALAYSIA: Ulu Gombak, Selangor.

Dist: Malaysia (Peninsula, Borneo); Brunei [Hosoihi, 2009c].

***Crematogaster (Orthocrema) schimperi***

*Crematogaster schimperi* Forel, 1912a: 69, (w, q). TAIWAN: Pilam.

*Crematogaster (Orthocrema) schimperi*: Emery, 1992: 132.

*Crematogaster (Decacrema) schimperi*: Bolton, 1995: 162. [Misquoted as combination in *C. (Decacrema)*.]

*Crematogaster (Orthocrema) schimperi*: Hosoishi and Ogata, 2009b

Dist: Taiwan.

***Crematogaster (Orthocrema) suehiro***

*Crematogaster suehiro* Terayama, 1999: 255, 726, figs. 1-4, (w, q). JAPAN: Ishigaki Island.

Dist: Japan.

***Crematogaster (Orthocrema) udo***

*Crematogaster sordidula* var. *udo* Forel, 1905: 20, (w). INDONESIA: Tjompea, Java.

*Crematogaster (Orthocrema) udo*: Emery, 1922: 132. [Raised to species.]

Dist: Indonesia (Java).

***Crematogaster (Orthocrema) urvijae***

*Crematogaster urvijae* Bharti, 2003: 85, (w). INDIA: Punjabi University Botanic Garden, Patiala.

Dist: India (Punjab).

***Crematogaster (Orthocrema) ustiventris***

*Crematogaster (Orthocrema) ustiventris* Menozzi, 1935: 110, fig. 6, (w). NEW GUINEA: Wammer, Aroe Island; Banda Neira.

Dist: New Guinea.

**Subgenus *Oxygne***

***Crematogaster (Oxygne) aberrans***

*Crematogaster aberrans* Forel, 1892: 532, (q): 533, (w): 534, (m). diagnoses in keys. INDIA: Thana.

*Crematogaster (Oxygyne) aberrans*: Forel, 1901b: 375.

Dist: India (Thana, Kanara, Karnataka, Maharashtra) [Bingham, 1903; Tiwari, 1999].

Note: Bingham (1903) suggested that *diffusa* may be a senior synonym of *aberrans*.

***Crematogaster (Oxygne) aberrans assmuthi***

*Crematogaster (Oxygyne) aberrans* var. *assmuthi* Forel, 1913b: 662, (w, q). INDIA: Bombay.

Dist: India (Maharashtra).

***Crematogaster (Oxygne) aberrans inglebyi***

*Crematogaster (Oxygyne) aberrans* var. *inglebyi* Forel, 1902a: 201, (w). INDIA: Travancore.

Dist: India (Travancore, Kerala) [Bingham, 1903; Tiwari, 1999].

***Crematogaster (Oxygne) augusti***

*Crematogaster augusti* Emery, 1895a: 31 (footnote), pl. 2, figs. 19, 20, (q). INDONESIA: Marang, Sumatra.

*Crematogaster (Oxygyne) augusti*: Emery, 1922: 157.

Dist: Indonesia (Sumatra).

***Crematogaster (Oxygne) butteli***

*Crematogaster (Oxygyne) butteli* Forel, 1913d: 78, (w, q, m). INDONESIA: Soengei Bamban, Sumatra.

Dist: Indonesia (Sumatra).

***Crematogaster (Oxygne) daisyi***

*Crematogaster (Oxygyne) daisyi* Forel, 1901b: 376, (w, q). MALAYSIA: Sarawak, Borneo.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919].

***Crematogaster (Oxygne) dalyi***

*Crematogaster (Oxygyne) dalyi* Forel, 1902a: 201, (w). INDIA: Coonoor.

Dist: India (Western Ghats, Tamil Nadu) [Bingham, 1903; Tiwari, 1999].

***Crematogaster (Oxygne) dalyi sikkimensis***

*Crematogaster (Oxygyne) dalyi* var. *sikkimensis* Forel, 1904: 24, (w). INDIA: Sikkim.

Dist: India (Sikkim).

***Crematogaster (Oxygne) ebenina***

*Crematogaster (Oxygyne) ebenina* Forel, 1902a: 199, (w, q). INDIA: Thana, Kanara, Poona, Belgaum.

Dist: China (Hainan) [Wu & Wang, 1995]; Vietnam (Yi Lean, Yen Bai, Laokay) [W. M. Wheeler, 1927d]; India (Thana, Kanara, Sikkim, West Bengal, Karnataka, Maharashtra); Myanmar (Tennasserim) [Bingham, 1903; Tiwari, 1999].

***Crematogaster (Oxygne) ebenina corax***

*Crematogaster ebenina* var. *corax* Forel, 1902a: 200, (w). MYANMAR: Moulmain.

*Crematogaster (Oxygyne) ebenina* var. *corax*: Forel, 1903a: 683.

Dist: China (Yi Liang) [W. M. Wheeler, 1930b].

***Crematogaster (Oxygne) soror***

*Crematogaster (Oxygyne) soror* Forel, 1902a: 200, (w, q). INDIA: Poona, Bombay.

Dist: India (Maharashtra); Myanmar (Upper Burma, Northern Shan State) [Bingham, 1903].

***Crematogaster (Oxygne) travancorensis***

*Crematogaster (Oxygyne) travancorensis* Forel, 1902a: 200, (w). INDIA: Travancore.

Dist: India (Travancore, Kerala) [Bingham, 1903; Tiwari, 1999].

#### ***Crematogaster (Oxygyne) tumidula***

*Crematogaster tumidula* Emery, 1900b: 689, fig. 8, (w). INDONESIA: Pangherang-Pisang, Sumatra.

*Crematogaster (Physocrema) tumidula*: Emery, 1922: 140; Donisthorpe, 1941c: 226.

*Crematogaster (Oxygyne) tumidula*: Hosoishi and Ogata, 2009a: 33.

Dist: Indonesia (Sumatra).

### **Subgenus *Paracrema***

#### ***Crematogaster (Paracrema) coriaria***

*Crematogaster coriaria* Mayr, 1872: 154, (w). MALAYSIA: Borneo.

*Crematogaster (Paracrema) coriaria*: Emery, 1922: 155.

Dist: Thailand [Jaitrong and Nabhitabhata, 2005]; \*Malaysia (Peninsula, Borneo) [Hosoishi, 2009b]; Brunei [Eguchi and Yamane, 2003].

#### ***Crematogaster (Paracrema) coriaria fraudatrix***

*Crematogaster coriaria* subsp. *fraudatrix* Forel, 1911c: 376, (w). INDONESIA: Sumatra.

*Crematogaster (Paracrema) coriaria* var. *fraudatrix*: Emery, 1922: 155.

*Crematogaster (Paracrema) coriaria fraudatrix*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

#### ***Crematogaster (Paracrema) dubia***

*Crematogaster (Paracrema) dubia* Karavaiew, 1935: 93, (w). CAMBODIA: Kampot.

Dist: Cambodia.

#### ***Crematogaster (Paracrema) modiglianii***

*Crematogaster modiglianii* Emery, 1900b: 688, (w). INDONESIA: Si Oban, Sipora, Mentawai Island; MALAYSIA: Banguey, Borneo.

*Crematogaster mogdiliani*: Bingham, 1903: 144. [Misspelling name]

*Crematogaster (Paracrema) modiglianii*: Emery, 1922: 156; Santschi, 1925: 90.

Dist: Thailand [Jaitrong and Nabhitabhata, 2005]; Myanmar (Tenasserim) [Bingham, 1903]; \*Malaysia (Peninsula, Borneo) [Hosoishi, 2009b]; Brunei [Eguchi and Yamane, 2003]; Indonesia (Mentawai, Sumatra).

#### ***Crematogaster (Paracrema) modiglianii anamita***

*Crematogaster modiglianii* var. *annamita* Forel, 1903a: 680 [Nomen nudum]

*Crematogaster (Paracrema) modiglianii* var. *anamita* Santschi, 1925: 90, (w). MYANMAR: Moulmam.

*Crematogaster (Paracrema) modiglianii anamita*: Bolton, 1995: 166.

Dist: Myanmar.

***Crematogaster (Paracrema) modiglianii anoemica***

*Crematogaster (Paracrema) modiglianii* var. *anoemica* Santschi, 1925: 91, (w). MYANMAR.

*Crematogaster (Paracrema) modiglianii anoemica*: Bolton, 1995: 166.

Dist: Malaysia (Borneo) [W. M. Wheeler, 1919]

***Crematogaster (Paracrema) modiglianii clemensae***

*Crematogaster modiglianii* var. *clemensae* Forel, 1910b: 125, (w). PHILIPPINES: P. I. Camp Keithley, Mindanao.

*Crematogaster (Paracrema) modiglianii* var. *clemensae*: Emery, 1922: 156.

*Crematogaster (Paracrema) modiglianii clemensae*: Bolton, 1995: 166.

Dist: Philippines.

***Crematogaster (Paracrema) modiglianii sarawakana***

*Crematogaster modiglianii* var. *sarawakana* Forel, 1911a: 25, (w). MALAYSIA: Sarawak, Borneo.

*Crematogaster (Paracrema) modiglianii* var. *sarawakana*: Emery, 1922: 156.

*Crematogaster (Paracrema) modiglianii sarawakana*: Bolton, 1995: 166.

Dist: Malaysia (Borneo).

***Crematogaster (Paracrema) modiglianii surbeki***

*Crematogaster (Paracrema) modiglianii* var. *surbeki* Santschi, 1925: 90, (w). INDONESIA: Labuan Bilik, Sumatra.

*Crematogaster (Paracrema) modiglianii surbeki*: Bolton, 1995: 166.

Dist: Indonesia (Sumatra).

***Crematogaster (Paracrema) spengeli***

*Crematogaster spengeli* Forel, 1912e: 56, (w). INDONESIA: Indrapura, Sumatra.

*Crematogaster (Paracrema) spengeli*: Santschi, 1918: 182.

Dist: Indonesia (Sumatra).

***Crematogaster (Paracrema) spengeli compacta***

*Crematogaster (Paracrema) spengeli* subsp. *compacta* Crawley, 1924: 398, (w). INDONESIA: Suban Ajam, Sumatra.

Dist: Indonesia (Sumatra).

***Crematogaster (Paracrema) spengeli picata***

*Crematogaster spengeli* subsp. *taipingensis* var. *picata* Viehmeyer, 1916: 125. [Unavailable name]

*Crematogaster (Paracrema) spengeli* var. *picata* Emery, 1922: 156, (w). SINGAPORE: Gunong Angsi. [First available name]

*Crematogaster (Paracrema) spengeli picata*: Bolton, 1995: 166.

Dist: Singapore.

***Crematogaster (Paracrema) spengeli taipingensis***

*Crematogaster spengeli* r. *taipingensis* Forel, 1913d: 75, fig. V, (w, q, m). MALAYSIA: Taiping, Maxwell's Hill.

*Crematogaster (Paracrema) spengeli* var. *taipingensis*: Emery, 1922: 156.

*Crematogaster (Paracrema) spengeli taipingensis*: Bolton, 1995: 166.

Dist: Malaysia; Indonesia (Sumatra) [Menozzi, 1935].

***Crematogaster (Paracrema) vandermeermohri***

*Crematogaster (Paracrema) vandermeermohri* Menozzi, 1930: 1, fig. 1, (w). INDONESIA: Toetoe-pan, 850m, Sumatra.

Dist: Indonesia (Sumatra).

***Crematogaster (Paracrema) wroughtonii***

*Crematogaster wroughtonii* Forel, 1902a: 206, (w, q). INDIA: Poona.

*Crematogaster (Paracrema) wroughtonii*: Emery, 1922: 156.

Dist: India (West Bengal, Maharashtra, Tamil Nadu) [Bingham, 1903; Tiwari, 1999].

**Subgenus *Physocrema***

***Crematogaster (Physocrema) ampullaris***

*Crematogaster ampullaris* F. Smith, 1861: 47, (w). INDONESIA: Tondano, Sulawesi.

[Junior synonym of *diformis*: Emery, 1901: 574; W. M. Wheeler, 1919: 74]

*Crematogaster (Physocrema) ampullaris*: Donisthorpe, 1932b: 469. [Revived from synonymy.]

Dist: Indonesia (Sulawesi); East Timor [Hosoishi, 2009b]; Philipines (Leyte) [Hosoishi, 2009b].

***Crematogaster (Physocrema) aurita***

*Crematogaster (Physocrema) aurita* Karavaiew, 1935: 92, fig. 18, (w). CAMBODIA: Pursat; Hosoishi and Ogata, 2008: 3 [Lectotype designation and redescription of type material.]

Dist: Vietnam (Cat Tien); Laos; Thailand [Hosoishi, 2009b].

***Crematogaster (Physocrema) bakeri***

*Crematogaster (Physocrema) bakeri* Menozzi, 1925: 447, fig. 6, (w). PHILIPPINES: Davao, Mindanao.

Dist: Philippines [Baltazar, 1966].

***Crematogaster (Physocrema) difformis***

*Crematogaster difformis* F. Smith, 1857: 76, (w). SINGAPORE, (w). MALAYSIA: Sarawak, Borneo;

Emery, 1901: 574 (q); Forel, 1909: 225 (m); G. C. Wheeler and J. Wheeler, 1952: 261 (l); Hosoishi and Ogata, 2009a: 22 [Lectotype designation and redescription of type material.]

*Crematogaster deformis*: Roger, 1863: 37, and many subsequent authors. [Misspelled name.]

*Crematogaster edentata* Mayr, 1867: 104, pl. 2, fig. 10, (q). INDONESIA: Java. [Junior synonym:

Emery, 1901: 574.]

*Crematogaster (Physocrema) difformis*: Forel, 1912c: 220.

Dist: Thailand [Jaitrong and Nabhitabhata, 2005]; Myanmer (Tenasserim) [Bingham, 1903]; Malaysia (Peninsula, Borneo) [W. M. Wheeler, 1919; Malsch *et al.*, 2003; Hosoishi, 2009b]; Brunei [Hosoishi, 2009b]; Indonesia (Krakatau, Java) [W. M. Wheeler, 1924; Ito *et al.*, 2001]; Philiplines [Baltazar, 1966].

#### ***Crematogaster (Physocrema) inflata***

*Crematogaster inflatus* F. Smith, 1857:76, pl. 2, fig. 2, (w). SINGAPORE, (w). MALAYSIA: Sarawak, Borneo; Santschi, 1928b: 128 (q); Hosoishi and Ogata, 2009a: 23 [Lectotype designation and redescription of type material.]

*Crematogaster (Physocrema) inflata*: Forel, 1912c: 220.

*Crematogaster (Physocrema) moorei* Donisthorpe, 1941c: 225, (w). PHILIPPINES: Bagnio, Luzon. [Junior synonym: Hosoishi and Ogata, 2009a: 23.]

Dist: Thailand [Jaitrong and Nabhitabhata, 2005; Hosoishi, 2009b]; Myanmer (Tenasserim) [Bingham, 1903]; Malaysia (Peninsula, Borneo) [Malsch *et al.*, 2003; Hosoishi, 2009b]; Brunei [Eguchi and Yamane, 2003]; Indonesia (Kalimantan) [Hosoishi, 2009b]; Philippines [Baltazar, 1966].

#### ***Crematogaster (Physocrema) mucronata***

*Crematogaster deformis* var. *mucronata* Emery, 1900b: 690, (w). INDONESIA: Pangherang-Pisang, Sumatra.

*Crematogaster (Physocrema) mucronata*: Emery, 1922: 140; Donisthorpe, 1941c: 226. [Raised to species.]

*Crematogaster (Physocrema) fulmeki* Forel, 1922: 95, (w). INDONESIA: Sumatra; Santschi, 1928b: 127 [Brief characterization]; Hosoishi and Ogata, 2009a: 24 [Junior synonym of *mucronata* and Lectotype designation.]

Dist: Indonesia (Sumatra) [Hosoishi, 2009b].

#### ***Crematogaster (Physocrema) onusta***

*Crematogaster (Physocrema) onusta* Stitz, 1925: 118, (w). PHILIPPINES: Palawan; Hosoishi and Ogata, 2009a: 26 [Lectotype designation and redescription of type material.]

*Crematogaster (Paracrema) onusta*: Donisthorpe, 1941c: 226.

*Crematogaster (Physocrema) onusta*: Hosoishi and Ogata, 2009a: 26.

Dist: Malaysia (Tioman Island, Borneo) [Hosoishi, 2009b]; Indonesia (Kalimantan) [Hosoishi, 2009b].

#### ***Crematogaster (Physocrema) physothorax***

*Crematogaster deformis* r. *physothorax* Emery, 1889: 506, (w). MYANMAR: Thagata, Tenasserim; Hosoishi and Ogata, 2009a: 27 [Lectotype designation and redescription of type material.]

*Crematogaster physothorax*: Dalla Torre, 1893: 84; Bingham, 1903: 146; Hosoishi & Ogata, 2008: 6. [Raised to species.]

*Crematogaster (Physocrema) difformis* subsp. *physothorax*: W. M. Wheeler, 1919: 75; Emery, 1922: 140.

Dist: Thailand (Naratiwat) [Hosoishi, 2009b]; Myanmer (Tenasserim: Haungdraw Valley, Ataran Valley, Karennee, Lower Burma: Pegu Yoma) [Bingham, 1903]; Malaysia (Peninsula, Borneo) [W. M. Wheeler, 1919; Hosoishi, 2009b].

#### ***Crematogaster (Physocrema) sewardi***

*Crematogaster deformis* r. *sewardi* Forel, 1901c: 64, (w, q). MALAYSIA: Borneo; Hosoishi and Ogata, 2009a: 28 [Lectotype designation and redescription of type material.]

*Crematogaster (Physocrema) deformis* subsp. *sewardi*: Emery, 1922: 140.

*Crematogaster (Physocrema) sewardi*: Hosoishi & Ogata, 2008: 7. [Raised to species.]

Dist: Thailand [Hosoishi, 2009b]; Malaysia (Peninsula, Borneo) [Hosoishi, 2009b]; Singapore [Hosoishi, 2009b]; Brunei [Hosoishi, 2009b]; Indonesia (Kalimantan, Sumatra, Krakatau, Java, Mentawai, Bali, Lombok) [Hosoishi, 2009b].

#### ***Crematogaster (Physocrema) tanakai***

*Crematogaster (Physocrema) tanakai* Hosoishi & Ogata, 2009a: 29, (w, m). MALAYSIA: Lambir N. P., Miri, Sarawak, Borneo.

Dist: Malaysia (Borneo).

#### ***Crematogaster (Physocrema) vacca***

*Crematogaster deformis* subsp. *vacca* Forel, 1911c: 384, (w). MALAYSIA: Berhentian TIngi, Nigri Sembilan, Malacca; Hosoishi & Ogata, 2009a: 30 [Lectotype designation and redescription of type material.]

*Crematogaster (Physocrema) stethogompha* W. M. Wheeler, 1919: 75, (w). MALAYSIA: Kuching, Borneo. [Junior synonym of *vacca* and Lectotype designation: Hosoishi and Ogata, 2009a: 30]

*Crematogaster (Physocrema) stethogompha* var. *detritinodis* W. M. Wheeler, 1919: 77, (w). MALAYSIA: Kuching, Borneo. [Junior synonym of *vacca*: Hosoishi and Ogata, 2009a: 30]

*Crematogaster (Physocrema) deformis* subsp. *vacca*: Emery, 1922: 140.

*Crematogaster (Physocrema) vacca*: Hosoishi & Ogata, 2009a: 30. [Raised to species.]

Dist: Malaysia (Peninsula, Borneo) [Hosoishi, 2009b].

#### ***Crematogaster (Physocrema) yamanei***

*Crematogaster (Physocrema) yamanei* Hosoishi & Ogata, 2009a: 33, (w). INDONESIA: Parapat, Danau Toba, Sumatra.

Dist: Indonesia (Sumatra).

### **Subgenus *Rhachiocrema***

#### ***Crematogaster (Rhachiocrema) aculeata***

*Crematogaster (Rhachiocrema) aculeata* Donisthorpe, 1941b: 203, (w). New Guinea: Sabron, 200ft, Cyclops Mountains, Sabron, 200ft.

Dist: New Guinea.

***Crematogaster (Rhachiocrema) macracantha***

*Crematogaster (Rhachiocrema) macracantha* Creighton, 1945: 114, pl. 12, figs. 4, 5, (w). MALAYSIA:

Mt. Penrissen, Sarawak, Borneo.

Dist: Malaysia (Borneo) [Hosoishi, 2009b].

***Crematogaster (Rhachiocrema) paradoxa***

*Crematogaster paradoxa* Emery, 1894: 72, fig., (w). New Guinea: Humboldt-Bay.

*Crematogaster (Rhachiocrema) paradoxa*: Mann, 1919: 318.

Dist: Indonesia (Irian Jaya) [Hosoishi, 2009b].

***Crematogaster (Rhachiocrema) wheeleri***

*Crematogaster (Rhachiocrema) wheeleri* Mann, 1919: 318, fig. 21, (w). SOLOMON ISLANDS:

Malaita, near Fourafi.

Dist: Solomon Islands.

**Subgenus *Xiphocrema***

***Crematogaster (Xiphocrema) dahlii***

*Crematogaster dahlii* Forel, 1901a: 15, (w). PAPUA NEW GUINEA: Bismarck Archipelago.

*Crematogaster (Xiphocrema) dahlii*: Forel, 1913d: 80.

Dist: Papua New Guinea.

***Crematogaster (Xiphocrema) elegans***

*Crematogaster elegans* F. Smith, 1859: 149, (w). INDONESIA: Aru Island.

*Crematogaster (Xiphocrema) elegans*: Emery, 1922: 139; Donisthorpe, 1932b: 456.

Dist: Indonesia (Aru Island).

***Crematogaster (Xiphocrema) flavitarsis***

*Crematogaster flavitarsis* Emery, 1900a: 332, pl. 8, fig. 42, (w). New Guinea: Insulae Seleo et Tamara.

*Crematogaster (Xiphocrema) flavitarsis*: Emery, 1922: 139.

Dist: New Guinea.

***Crematogaster (Xiphocrema) recurva***

*Crematogaster recurva* Emery, 1897: 556, pl. 1, figs. 11, 12, (w). New Guinea.

*Crematogaster (Xiphocrema) recurva*: Emery, 1922: 139.

Dist: New Guinea [Hosoishi, 2009b].

***Crematogaster (Xiphocrema) tarsata***

*Crematogaster tarsata* F. Smith, 1865: 74, (w). INDONESIA: Morotai Island.  
*Crematogaster (Xiphocrema) tarsata*: Emery, 1922: 139; Donisthorpe, 1932b: 473.  
 Dist: Indonesia (Morotai Island).

***Crematogaster (Xiphocrema) tetricantha***

*Crematogaster tetricantha* Emery, 1887: 467, pl. 2, fig. 18, (w). NEW GUINEA: Ramoi.  
*Crematogaster (Xiphocrema) tetricantha*: Forel, 1913d: 80.  
 Dist: New Guinea.

***Crematogaster (Xiphocrema) weberi***

*Crematogaster weberi* Emery, 1911b: 254, fig. 3, (w). NEW GUINEA: Etna Bay.  
*Crematogaster (Xiphocrema) weberi*: Emery, 1922: 139.  
 Dist: New Guinea.

**Nomen nudum*****brookei***

*Crematogaster brookei* Menozzi, in Eidmann, 1941: 18, (w). CHINA: 1000m, Suidsepu.

**Unavailable name*****azumai***

*Crematogaster (Acrocoelia) brunnea* st. *ruginota* var. *azumai* Santschi, 1941: 275, (w). JAPAN:  
 Yaze, Akita.

***confucii***

*Crematogaster (Acrocoelia) laboriosa* st. *politula* var. *confucii* Santschi, 1928a: 32, (w, q, m). CHINA:  
 Zo-sé, Zi-ka-wei.

***contemtior***

*Crematogaster (Acrocoelia) brunnea* subsp. *contemta* var. *contemtior* W. M. Wheeler, 1929: 5, (w).  
 CHINA: Soochow; W. M. Wheeler, 1930b.

***demangei***

*Crematogaster (Acrocoelia) dohrni* var. *demangei* Santschi VIETNAM; Karavaiew, 1935: 91.

***flaccida***

*Crematogaster (Acrocoelia) dohrni* subsp. *fabricans* var. *flaccida* W. M. Wheeler, 1927a: 5, (w).  
CHINA: Back Liang.

***hayvepana***

*Crematogaster egidiyi* subsp. *spinozae* var. *hayvepana* Forel, 1911a: 26, (w, q). MALAYSIA: Hayvep,  
Borneo.

***lefevrei***

*Crematogaster (Acrocoelia) brunnea* subsp. *ruginota* var. *lefevrei* W. M. Wheeler, 1929: 6, (w).  
CHINA: Tsingtau, Shantung.

***mongolica***

*Crematogaster (Acrocoelia) laboriosa* st. *politula* var. *mongolica* Santschi, 1928a: 33, (w). MON-  
GOLIA: Zi-ka-wei.

***nigromedia***

*Crematogaster (Orthocrema) major* subsp. *flavior* var. *nigro-media* Donisthorpe, 1941a: 40, (w).  
New Guinea: Mts. Cyclops, 1200 ft, Sabron.

***nitida***

*Crematogaster (Acrocoelia) dohrni* subsp. *rogenhoferi* var. *nitida* Crawley, 1924: 395, (w). INDO-  
NESIA: Fort de Kock, Sumatra.

***notabilis***

*Crematogaster subnuda* r. *contemta* var. *notabilis* Forel, 1902a: 208, (w, q). INDIA: Poona, Guzerath,  
Coonoor.  
India (Tamil Nadu, Maharashtra) [Tiwari, 1999].

***obscurior***

*Crematogaster obscurus* F. Smith, 1860b: 109, (w). INDONESIA: Batjan I.; [Junior primary homon-  
onym of *obscura*.]  
*Crematogaster obscurior*: Dalla Torre, 1892: 90 [Replacement name]

***salvazai***

*Crematogaster walshi* st. *bouvardi* var. *salvazai* Santschi, 1920: 161, (w). LAOS: Xiang Mouang;  
Santschi, 1924: 99 [Also described as new.]

***tagala***

*Crematogaster subnuda* subsp. *politula* var. *tagala* Forel, 1910b: 124, (w, q, m). PHILIPPINES: P. I.,  
Manila, Luzon.

***tubuli***

*Crematogaster (Decacrema) borneensis* subsp. *hosei* var. *tubuli* Viehmeyer, 1916: 126, (w). SIN-GAPORE.

**Acknowledgments**

We would like to thank the ANeT members for encouragement. This study was partially supported by a JSPS Grant-in-Aid for Scientific Research (no. 19370035) from the Ministry of Education, Science, Supports and Culture, Japan.

**References**

- André, E. 1892. Voyage de M. Chaper à Borneo. Catalogue des fourmis et description des espèces nouvelles. *Mémoires de la Société Zoologique de France* **5**: 46-55.
- André, E. 1896. Fourmis nouvelles d'Asie et d'Australie. *Revue d'Entomologie* **15**: 251-265.
- Baltazar, C. R. 1966. A catalogue of Philippine Hymenoptera (with a bibliography, 1758-1963). *Pacific Insects Monographs* **8**: 1-488.
- Bharti, H. 2003. A new species of *Crematogaster* (Hymenoptera; formicidae: myrmicinae) from India. *Entomon* **28**: 85-88.
- Bingham, C. T. 1903. *The fauna of British India, including Ceylon and Burma. Hymenoptera 2. Ants and Cuckoo-Wasps*: 506pp. London.
- Bolton, B. 1995. *A New General Catalogue of the ants of the World*: 504pp. Cambridge, Mass.
- Bolton, B., Alpert, G., Ward, P. S. and Naskrecki, P. 2006. *Bolton's catalogue of ants of the world : 1758-2005*. Harvard University Press, Cambridge, Massachusetts, CD-ROM.
- Brown, W. L. Jr. 1949. Notes on Chinese ants. 1. *Crematogaster* Lund. *Mushi* **20**: 37-38.
- Chapman, J. W. & Capco, C. R. 1951. Check list of the ants of Asia. *Monographs of the Institute of Science and Technology, Manila* **1**: 327pp.
- Collingwood, C. A. 1976. Ants from North Korea. *Annales Historico-Naturales Musei Nationalis Hungarici* **68**: 295-309.
- Consani, M. 1953. Un caso di omonimia nel genere *Crematogaster* Lund. *Bollettino della Società Entomologica Italiana* **82**: 100.
- Crawley, W. C. 1924. Ants from Sumatra. With biological notes by Edward Jacobson. *Annals and Magazine of Natural History* (9) **13**: 380-409.
- Creighton, W. S. 1945. Observations on the subgenus *Rhachiocrema* with the description of a new species from Borneo. *Psyche* **52**: 109-118.
- Dalla Torre, C. G. de. 1892. Hymenopterologische Notizen. *Wiener Entomologische Zeitung* **11**: 89-93.
- Dalla Torre, C. G. de. 1893. *Catalogus Hymenopterorum, hucusque descriptorum systematicus et synonymicus* **7**: 289pp. Lipsiae.
- Donisthorpe, H. 1932a. On the identity of some ants from Ceylon described by F. Walker. *Annals and Magazine of Natural History* (10) **9**: 574-576.
- Dias, R. K. S. 2002. Current knowledge on ants of Sri Lanka. *ANeT Newsletter* **4**: 17-21.
- Donisthorpe, H. 1932b. On the identity of Smith's types of Formicidae collected by Alfred Russell Wallace in the Malay Archipelago, with descriptions of two new species. *Annals and Magazine of Natural History* (10) **10**: 441-476.
- Donisthorpe, H. 1941a. New ants from Waigeu Island, New Guinea, and the Solomons. *Entomologist* **74**: 36-42.
- Donisthorpe, H. 1941b. Descriptions of new ants from various localities. *Annals and Magazine of Natural History* (11) **8**: 199-210.
- Donisthorpe, H. 1941c. Description of a new species of *Crematogaster* Lund, subgenus *Physocrema* Forel, with a list of, and a key to, the known species of the subgenus. *Entomologist* **74**: 225-227.
- Donisthorpe, H. 1943. The ants of Waigeu Island, North Dutch New Guinea. *Annals and Magazine of Natural History* (11) **10**: 433-475.

- Eguchi, K. and Yamane, S. 2003. Species diversity of ants (Hymenoptera, Formicidae) in a lowland rainforest, Northwestern Borneo. *New Entomologist* **52** (1, 2): 49-59.
- Eguchi, K., Bui, T. V., Yamane, S., Okido, H. and Ogata, K. 2004. Ant faunas of Ba Vi and Tam Dao, North Vietnam (Insecta: Hymenoptera: Formicidae). *Bulletin of the Institute of Tropical Agriculture, Kyushu University* **27**: 77-98.
- Eidmann, H. 1941. Zur Ökologie und Zoogeographie der Ameisenfauna von Westchina und Tibet. Wissenschaftliche Ergebnisse der 2. Brooke Dolan-Expedition 1934-1935. *Zeitschrift für Morphologie und Ökologie der Tiere* **38**: 1-43.
- Emery, C. 1887. Catalogo delle formiche esistenti nelle collezioni del Museo Civico di Genova. Parte terza. Formiche della regione Indo-Malese e dell'Australia (continuazione e fine). *Annali del Museo Civico dei Storia Naturale di Genova* (2) **5** [25]: 427-473.
- Emery, C. 1888. Catalogo delle formiche esistenti nelle collezioni del Museo Civico di Genova. Parte terza (supplemento). Formiche raccolte dal sig. Elio Modigliani in Sumatra e nell'isola Nias. *Annali del Museo Civico di Storia Naturale di Genova* (2) **5** [25]: 528-534.
- Emery, C. 1889. Viaggio di Leonardo Fea in Birmania e regioni vicine. 20. Formiche di Birmania e del Tenasserim raccolte da Leonardo Fea (1885-87). *Annali del Museo Civico di Storia Naturale di Genova* (2) **7** [27]: 485-520.
- Emery, C. 1893a. Voyage de MM. Bedot et Pictet dans l'Archipel Malais. Formicides de l'Archipel Malais. *Revue Suisse de Zoologie* **1**: 187-229.
- Emery, C. 1893b. Voyage de M. E. Simon aux îles Philippines (mars er avril 1890). Formicides. *Annales de la Société Entomologique de France* **62**: 259-270.
- Emery, C. 1894. Descriptions de deux fourmis nouvelles. *Annals de la Société Entomologique de France* **63**: 72-74.
- Emery, C. 1895a. Voyage de M. E. Simon dans l'Afrique australe (janvier-avril 1893). Formicides. *Annales de la Société Entomologique de France* **64**: 15-56.
- Emery, C. 1895b. Viaggio di Leonardo Fea in Birmania e regioni vicine. 63. Formiche di Birmania, del Tenasserim e dei Monti Carin, raccolte da L. Fea. *Annali del Museo Civico di Storia Naturale di Genova* (2) **14** [34] (1894): 450-483.
- Emery, C. 1896. Formicides récoltés à Buitenzorg (Java), par M. Massart. *Annales de la Société Entomologique de Belgique* **40**: 245-249.
- Emery, C. 1897. Viaggio di Lamberto Loria nella Papuasia orientale. 18. Formiche raccolte nella Nuova Guinea dal Dott. Lamberto Loria. *Annali del Museo Civico di Storia Naturale di Genova* (2) **18** [38]: 546-594.
- Emery, C. 1900a. Formicidarum species novae vel minus cognitae in collectione Musaei Nationalis Hungarici, quas in Nova-Guinea, colonia germanica, collegit L. Biró. Publicatio secunda. *Természetrajzi Füzetek* **23**: 310-338.
- Emery, C. 1900b. Formiche raccolte da Elio Modigliani in Sumatra, Engano e Mentawai. *Annali del Museo Civico di Storia Naturale di Genova* (2) **20** [40]: 661-722.
- Emery, C. 1901. Formiciden von Celebes. *Zoologische Jahrbücher. Abteilung für Systematik, Geographie und Biologie der Tiere* **14**: 565-580.
- Emery, C. 1911a. *Nova Guinea*. Résultats de l'expédition scientifique néerlandaise à la Nouvelle-Guinée en 1903 sous les auspices de Arthur Wichmann. **5** Zoologie: 531-539.
- Emery, C. 1911b. *Nova Guinea*. Résultats de l'expédition scientifique néerlandaise à la Nouvelle-Guinée en 1907 et 1909 sous les auspices de Dr. H. A. Lorentz. **9** Zoologie: 249-259.
- Emery, C. 1912. Beiträge zur Monographie der Formiciden des paläarktischen Faunengebietes. 11. *Deutsche Entomologische Zeitschrift* **1912**: 651-672.
- Emery, C. 1922. Hymenoptera, Fam. Formicidae, subfam. Myrmicinae. In: *Genera Insectorum*. Fasc. **174B**: 95-206. Bruxelles.
- Forel, A. 1886. Indian ants of the Indian Museum, Calcutta. No. 2. *Journal of the Asiatic Society of Bengal. Part 2. Natural Science* **55**: 239-249.
- Forel, A. 1892. Nouvelles espèces de formicides de Madagascar. (Récoltées par M. Sikora.) *Annales de la Société Entomologique de Belgique* **36**: 516-535.
- Forel, A. 1900. Fourmis du Japon. Nids en toile. *Strongylognathus huberti* et voisins. Fourmilière triple. *Cyphomyrmex wheeleri*. Fourmis importées. *Mittheilungen der Schweizerischen Entomologischen Gesellschaft* **10**: 267-287.
- Forel, A. 1901a. Formiciden aus dem Bismarck-Archipel, auf Grundlage des von Prof. Dr. F. Dahl gesammelten Materials bearbeitet. *Mitteilungen aus dem Zoologischen Museum in Berlin* **2**: 1-38.
- Forel, A. 1901b. Varietes myrmecologiques. *Annales de la Société Entomologique de Belgique* **45**: 334-382.
- Forel, A. 1901c. Formiciden des Naturhistorischen Museums zu Hamburg. Neue Calyptomyrmex, Dacryon, Podomyrma, und Echinopla-Arten. *Mitteilungen aus dem Naturhistorischen Museum in Hamburg* **18**: 43-82.
- Forel, A. 1902a. Myrmicinae nouveaux de l'Inde et de Ceylan. *Revue Suisse de Zoologie* **10**: 165-249.
- Forel, A. 1902b. Fourmis nouvelles d'Australie. *Revue Suisse de Zoologie* **10**: 405-548.
- Forel, A. 1903a. Les formicides de l'Empire des Indes et de Ceylan. Part 10. *Journal of the Bombay Natural History Society*

- 14: 679-715.
- Forel, A. 1903b. Mélanges entomologiques, biologiques et autres. *Annales de la Société Entomologique de Belgique* **47**: 249-268.
- Forel, A. 1904. Miscellanea myrmécologiques. *Revue Suisse de Zoologie* **12**: 1-52.
- Forel, A. 1905. Ameisen aus Java. Gesammelt von Prof. Karl Kraepelin, 1904. *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten [Mitteilungen aus dem Naturhistorischen Museum]* **22**: 1-26.
- Forel, A. 1907a. Formicides du Musée National Hongrois. *Annales Historico-Naturales Musei Nationalis Hungarici* **5**: 1-42.
- Forel, A. 1907b. Formiciden aus dem Naturhistorischen Museum in Hamburg. *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten [Mitteilungen aus dem Naturhistorischen Museum]* **24**: 1-20,
- Forel, A. 1909. Ameisen aus Java und Krakatau beobachtet und gesammelt von Herrn Edward Jacobson. 1. Systematisch-en Thiel. *Notes from the Leyden Museum* **31**: 221-232.
- Forel, A. 1910a. Glanures myrmecologiques. *Annales de la Société Entomologique de Belgique* **54**: 6-32.
- Forel, A. 1910b. Fourmis des Philippines. *Philippine Journal of Science* **5** (sect. D): 121-130.
- Forel, A. 1910c. In Schultze, L. *Zoologische und anthropologische Ergebnisse einer Forschungsreise im westlichen und zentralen Sudafrika*, ausgeführt in den Jahren 1903-1905 mit Unterstützung der Kgl. Preussischen Akademie der Wissenschaften zu Berlin 4. Formicidae. (Fortsetzung von Bd. 2. X. Insecta (3te serie)): 1-30. Jena.
- Forel, A. 1911a. Fourmis de Bornéo, Singapore, Ceylan, etc. *Revue Suisse de Zoologie* **19**: 23-62.
- Forel, A. 1911b. Ameisen aus Java beobachtet und gesammelt von Herrn Edward Jacobson. 2 Theil. *Notes from the Leyden Museum* **33**: 193-218.
- Forel, A. 1911c. Fourmis nouvelles ou intéressantes. *Bulletin de la Société Vaudoise des Sciences Naturelles* **47**: 331-400.
- Forel, A. 1911d. Die Ameisen de K. Zoologischen Museums in München. *Sitzungsberichte der Königlich Bayerischen Akademie der Wissenschaften Mathematisch-Physikalische Klasse* **1911**: 249-303.
- Forel, A. 1911e. Fourmis d'Afrique et d'Asie. Annexe. 2. Quelques fourmis d'Asie. *Revue Zoologique Africaine* **1**: 284-286.
- Forel, A. 1911f. Sur le genre *Metapone* n. g. nouveau groupe des formicides et sur quelques autres formes nouvelles. *Revue Suisse de Zoologie* **19**: 445-459.
- Forel, A. 1912a. H. Sauter's Formosa-Ausbeute: Formicidae. *Entomologische Mitteilungen* **1**: 45-81.
- Forel, A. 1912b. Ameisen aus Java beobachtet und gesammelt von Edward Jacobson. 3 Theil. *Notes from the Leyden Museum* **34**: 97-112.
- Forel, A. 1912c. Formicides Neotropiques. Part 3. 3me sous-famille Myrmicinae (suite). Genres *Cremastogaster* et *Pheidole*. *Memoires de la Société Entomologique de Belgique* **19**: 211-237.
- Forel, A. 1912d. Quelques fourmis de Tokio. *Annales de la Société Entomologique de Belgique* **56**: 339-342.
- Forel, A. 1912e. Einige neue und interessante Ameisenformen aus Sumatra etc. *Zoologische Jahrbücher Supplement* **15**: 51-78.
- Forel, A. 1913a. Fourmis de la faune méditerranéenne récoltées par MM. U. et J. Sahlberg. *Revue Suisse de Zoologie* **21**: 427-438.
- Forel, A. 1913b. Quelques fourmis des Indes, du Japon et d'Afrique. *Revue Suisse de Zoologie* **21**: 659-673.
- Forel, A. 1913c. H. Sauter's Formosa-Ausbeute: Formicidae 2. *Archiv für Naturgeschichte* **79** (A): 183-202.
- Forel, A. 1913d. Wissenschaftliche Ergebnisse einer Forschungsreise nach Ostindien, ausgeführt im Auftrage der Kgl. Preuss. Akademie der Wissenschaften zu Berlin von H. v. Buttel-Reepen. 2. Ameisen aus Sumatra, Java, Malacca und Ceylon. Gesammelt von Herrn Prof. Dr. v. Buttel-Reepen in den Jahren 1911-1912. *Zoologische Jahrbücher. Abteilung für Systematik, Geographie und Biologie der Tiere* **36**: 1-148.
- Forel, A. 1922. Glanures myrmecologiques en 1922. *Revue Suisse de Zoologie* **30**: 87-102.
- Fromantin, J. and Soulié, J. 1961. Notes systématiques sur le genre *Cremastogaster* avec description de trois espèces nouvelles du Cambodge. *Bulletin de la Société d'Histoire Naturelle de Toulouse* **96**: 87-112.
- Ghosh, S. N. and Sheela, S. 2008. On a collection of Formicidae (Hymenoptera: Vespoidea) from Buxa Tiger Reserve, West Bengal, India, with new records of one rare genus and a rare species. *Asian Myrmecology* **2**: 99-102.
- Hannan, M. A. 2003. Ants of Bangladesh. *ANet Newsletter* **6**: 10-14.
- Hosoishi, S. 2009a. A new species from *Crematogaster* the subgenus *Orthocrema* in Asia (Hymenoptera: Formicidae). *Japanese Journal of Systematic Entomology* (in press).
- Hosoishi, S. 2009b. Revision of the ant genus *Crematogaster* in Asia, with special reference to the subgenera *Mesocrema*, *Orthocrema*, *Paracrema*, *Physocrema* and *Rhaciocrema* (Hymenoptera: Formicidae). PhD thesis (unpublished).
- Hosoishi, S. and Ogata, K. 2008. The ant genus *Crematogaster* Lund, subgenus *Physocrema* Forel, in the Indochinese Peninsula (Hymenoptera: Formicidae). *Asian Myrmecology* **2**: 1-10.
- Hosoishi, S. and Ogata, K. 2009a. A taxonomic revision of the Asian endemic subgenus *Physocrema* of the genus *Crematogaster* (Hymenoptera: Formicidae). *Zootaxa* **2062**: 15-36.

- Hosoishi, S. and Ogata, K. 2009b. On the identity of *Crematogaster schimperi* and the distribution of the subgenus *Decacrema* in Asia (Hymenoptera: Formicidae). *Asian Myrmecology* 3 (in press).
- Imai, H. T., Brown, W. L. Jr., Kubota, M., Yong, H.-S. and Tho, Y. P. 1984. Chromosome observations on tropical ants from western Malaysia. 2. *Annual Report of the National Institute of Genetics, Japan* 34: 66-69.
- Ito, F., Yamane, S., Eguchi, K., Noerdjito, W. A., Kahono, S., Tsuji, K., Ohkawara, K., Yamauchi, K., Nishida, T., Nakamura, K. 2001. Ant species diversity in the Bogor Botanic Garden, West Java, Indonesia, with descriptions of two new species of the genus *Leptanilla* (Hymenoptera, Formicidae). *Tropics* 10: 379-404.
- Ito, T. 1914. Formicidarum Japonicum species novae vel minus cognitae. *Annales de la Société Entomologique de Belgique* 58: 40-45.
- Jaitrong, W. and Nabhitabhata, J. 2005. A list of known ant species of Thailand (Formicidae: Hymenoptera). *The Thailand Natural History Museum Journal* 1(1): 9-54.
- Japanese Ant Database Group. 1998. *Japanese Ant Color Image Database* [CD-ROM]. The Myrmecological Society of Japan, Tokyo.
- Jerdon, T. C. 1851. A catalogue of the species of ants found in southern India. *Madras Journal of Literature and Science* 17: 103-127.
- Karavaiew, V. 1935. Neue Ameisen aus dem Indo-Australischen Gebiet, nebst Revision einiger Formen. *Treubia* 15: 57-117.
- Kim, B.-J. and Park, S.-J. 2003. Ant (Hymenoptera, Formicidae) Study in Korea. *ANet Newsletter* 6: 1-7.
- Kupyanskaya, A. N. 1990. *Murav'i Dal'nego Vostoka SSR* (1989): 258pp. Vladivostok.
- Malsch, A. K. F., Rosciszewski, K., and Maschwitz, U. 2003. The ant species richness and diversity of a primary lowland rain forest, the Pasoh Forest Reserve, West-Malaysia. In: Okuda T, Manokaran N, Matsumoto Y, Niiyama K, Thomas SC, Ashton PS (Eds.), *Pasoh: Ecology of a lowland rain forest in Southeast Asia*. Springer-Verlag, Tokyo, pp. 347-373.
- Mann, W. M. 1919. The ants of the British Solomon Islands. *Bulletin of the Museum of Comparative Zoology at Harvard College* 63: 273-391.
- Mayr, G. 1862. Myrmecologische Studien. *Verhandlungen der k. k. Zoologisch-Botanischen Gesellschaft in Wien* 12: 649-776.
- Mayr, G. 1867. Adnotationes in monographiam formicidarum Indo-Neer-landicarum. *Tijdschrift voor Entomologie* (2) 2 [10]: 33-117.
- Mayr, G. 1868. *Crematogaster ransonneti* n. sp. *Verhandlungen der k. k. Zoologisch-Botanischen Gesellschaft in Wien* 18: 287-288.
- Mayr, G. 1872. Formicidae Borneenses collectae a J. Doria et Beccari in territorio Sarawak annis 1865-1867. *Annali del Museo Civico di Storia Naturale di Genova* 2: 133-155.
- Mayr, G. 1879. Beiträge zur Ameisen-Fauna Asiens. *Verhandlungen der k. k. Zoologisch-Botanischen Gesellschaft in Wien* 28 (1878): 645-686.
- Mayr, G. 1897. Formiciden aus Ceylon und Singapur. *Természetrajzi Füzetek* 20: 420-436.
- Menozzi, C. 1925. Nouvelles fourmis des Philippines. *Philippine Journal of Science* 28: 439-449.
- Menozzi, C. 1930. Formiche di Sumatra raccolte dal Prof. J. C. van der Meer Mohr. *Miscellanea Zoologica Sumatrana* 47: 1-5.
- Menozzi, C. 1935. Formiche indo-australiane del genere *Crematogaster* Lund raccolte da W. Karawaiew. *Konowia* 14: 103-116.
- Motschoulsky, V. de. 1863. Essai d'un catalogue des insectes de l'île Ceylan. *Bulletin de la Société Impériale des Naturalistes de Moscou* 36: 1-153.
- Mukerjee, D. 1930. Report on a collection of ants in the Indian Museum, Calcutta. *Journal of the Bombay Natural History Society* 34: 149-163.
- Onoyama, K., Morisita, M. 1992. Genus *Crematogaster*. Pp. 59-62. In: Morisita, M., Kubota, M., Onoyama, K., Ogata, K., Terayama, M., Kondoh, M., Imai, H. T. (Eds) *A guide for the identification of Japanese ants. III. Myrmicinae and supplement to Leptanillinae (Hymenoptera: Formicidae)*. Myrmecological Society of Japan, Tokyo. (In Japanese).
- Onoyama, K. 1998. Taxonomic notes on the ant genus *Crematogaster* in Japan. *Entomological Science* 1: 227-232.
- Radchenko, A. 2005. Monographic revision of the ants (Hymenoptera: Formicidae) of North Korea. *Annales Zoologici* 55 (2): 127-221.
- Roger, J. 1863. Verzeichniss der Formiciden-Gattungen und Arten. *Berliner Entomologische Zeitschrift* 7 (Beilage): 1-65.
- Santschi, F. 1918. Sous-genres et synonymies de *Cremastogaster*. *Bulletin de la Société Entomologique de France* 1918: 182-185.
- Santschi, F. 1920. Fourmis d'Indo-Chine. *Annales de la Société Entomologique de Belgique* 60: 158-176.
- Santschi, F. 1924. Fourmis d'Indochine. *Faune Entomologique de l'Indochine Française* 8: 95-117.

- Santschi, F. 1925. Contribution à la faune myrmécologique de la Chine. *Bulletin de la Société Vaudoise des Sciences Naturelles* **56**: 81-96.
- Santschi, F. 1928a. Nouvelles fourmis de Chine et du Turkestan Russe. *Bulletin et Annales de la Société Entomologique de Belgique* **68**: 31-46.
- Santschi, F. 1928b. Fourmis de Sumatra, récoltées par Mr. J. B. Corporaal. *Tijdschrift voor Entomologie* **71**: 119-140.
- Santschi, F. 1930. Trois notes myrmécologiques. *Bulletin et Annales de la Société Entomologique de Belgique* **70**: 263-270.
- Santschi, F. 1937a. Contribution à l'étude des *Crematogaster* paléarctiques. *Mémoires de la Société Vaudoise des Sciences Naturelles* **5**: 295-317.
- Snatschi, F. 1937b. Fourmis du Japon et de Formose. *Bulletin et Annales de la Société Entomologique de Belgique* **77**: 361-388.
- Santschi, F. 1941. Quelques fourmis japonaises inédites. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* **18**: 273-279.
- Smith, F. 1857. Catalogue of the hymenopterous insects collected at Sarawak, Borneo; Mount Ophir, Malacca; and at Singapore, by A. R. Wallace. *Journal of the Proceedings of the Linnean Society of London, Zoology* **2**: 42-88.
- Smith, F. 1858. *Catalogue of hymenopterous insects in the collection of the British Museum*. **6** Formicidae. London: British Museum, 216 pp.
- Smith, F. 1859. Catalogue of hymenopterous insects collected by Mr. A. R. Wallace at the Islands of Aru and Key. *Journal of the Proceedings of the Linnean Society of London, Zoology* **3**: 132-158.
- Smith, F. 1860a. Descriptions of new species of hymenopterous insects collected by Mr. A. R. Wallace at Celebes. *Journal of the Proceedings of the Linnean Society, Zoology* **5** (supplement to volume 4): 57-93.
- Smith, F. 1860b. Catalogue of hymenopterous insects collected by Mr. A. R. Wallace in the Islands of Bachian Kaisaa, Amboyna, Gilolo, and at Dory in New Guinea. *Journal of the Proceedings of the Linnean Society, Zoology* **5** (supplement to volume 4): 93-143.
- Smith, F. 1861. Catalogue of hymenopterous insects collected by Mr. A. R. Wallace in the Islands of Ceram, Celebes, Ter-nate, and Gilolo. *Journal of the Proceedings of the Linnean Society, Zoology* **6**: 36-48.
- Smith, F. 1865. Descriptions of new species of hymenopterous insects from the Islands of Sumatra, Sula, Gilolo, Salwatty, and New Guinea, collected by Mr. A. R. Wallace. *Journal of the Proceedings of the Linnean Society, Zoology* **8**: 61-94.
- Smith, F. 1873. "Exhibitions, &c." *Transactions of the Entomological Society of London* **1873** (Proceedings): viii-ix.
- Smith, F. 1874. Descriptions of new species of Tenthredinidae, Ichneumonidae, Chrysidae, Formicidae, &c. of Japan. *Transactions of the Entomological Society of London* (4) **7**: 373-409.
- Smith, F. 1878. *Scientific Results of the Second Yarkand Mission*; based upon the collections and notes of the late Ferdinand Stoliczka, Ph.D. Part **9**. Hymenoptera: 22 pp. Calcutta.
- Stärcke, A. 1930. Verzeichnis der bis jetzt von der Insel Pulau Berhala bekannt gewordenen Ameisen. *Treubia* **12**: 371-381.
- Stitz, H. 1925. Ameisen von den Philippinen, den malayischen und ozeanischen Inseln. *Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin* **1923**: 110-136.
- Sykes, W. H. 1835. Descriptions of new species of Indian ants. *Transactions of the Entomological Society of London* **1**: 99-107.
- Tang, J., Li, S., Huang, E., Zhang, B. and Chen, Y. 1995. Hymenoptera: Formicidae (1). *Economic Insect Fauna of China* **47**: 1-133.
- Terayama, M. 1999. Description and record of a new and a little known ants from Japan (Formicidae). In: Sk. Yamane, S. Ikudome and M. Terayama (Eds) *Identification Guide to the Aculeata of the Nansei Islands, Japan*. Pp. 726-727. Hokkaido University Press, Sapporo.
- Tiwari, R. N. 1999. Taxonomic studies on ants of Southern India. *Memoirs of the Zoological Survey of India* **18**: 1-96.
- Viehmeyer, H. 1914. Neue und unvollständig bekannte Ameisen der alten Welt. *Archiv für Naturgeschichte* **79** (A. 12) (1913): 24-60.
- Viehmeyer, H. 1916. Ameisen von Singapore. Beobachtet und gesammelt von H. Overbeck. *Archiv für Naturgeschichte* **81** (A.8) (1915): 108-168.
- Walker, F. 1859. Characters of some apparently undescribed Ceylon insects. *Annals and Magazine of Natural History* (3) **4**: 370-376.
- Wheeler, G. C. & Wheeler, J. 1952. The ant larvae of the myrmicine tribe Crematogastrini. *Journal of the Washington Academy of Sciences* **42**: 248-262.
- Wheeler, W. M. 1906. The ants of Japan. *Bulletin of the American Museum of Natural History* **22**: 301-328.
- Wheeler, W. M. 1909. Ants of Formosa and the Philippines. *Bulletin of the American Museum of Natural History* **26**: 333-345.
- Wheeler, W. M. 1919. The ants of Borneo. *Bulletin of the Museum of Comparative Zoology at Harvard College* **63**: 43-147.
- Wheeler, W. M. 1924. Ants of Krakatau and other islands in the Sunda Straight. *Treubia* **5**: 239-258.
- Wheeler, W. M. 1927a. Chinese ants collected by Professor S. F. Light and Professor N. Gist Gee. *American Museum No-*

- vitates **255**: 1-12.
- Wheeler, W. M. 1927b. A few ants from China and Formosa. *American Museum Novitates* **259**: 1-4.
- Wheeler, W. M. 1927c. The physiognomy of insects. *Quarterly Review of Biology* **2**: 1-36.
- Wheeler, W. M. 1927d. Ants collected by Professor F. Silvestri in Indochina. *Bulletino del Laboratorio di Zoologia generale e agraria della R. Scuola Superiore di Agricoltura di Portici* **20**: 83-106.
- Wheeler, W. M. 1928a. Ants collected by Professor F. Silvestri in China. *Bulletino del Laboratorio di Zoologia generale e agraria del R. Istituto Superiore agrario di Portici* **22**: 3-38.
- Wheeler, W. M. 1928b. Ants collected by Professor F. Silvestri in Japan and Korea. *Bullettino del Laboratorio di Zoologia generale e agraria del R. Istituto Superiore agrario di Portici* **22**: 96-125.
- Wheeler, W. M. 1929. Some ants from China and Manchuria. *American Museum Novitates* **361**: 1-11.
- Wheeler, W. M. 1930a. Formosan ants collected by Dr. R. Takahashi. *Proceedings of the New England Zoological Club* **11**: 93-106.
- Wheeler, W. M. 1930b. A list of the known Chinese ants. *Peking Natural History Bulletin* **5**: 53-81.
- Wu, J. and Wang, C. 1992. Formicidae (pp. 1301-1320). In Peng, J. et al., *Iconography of Forest Insects in Hunan, China*. Forest Bureau of Hunan Province: 1473 pp. Hunan Scientific and Technical Publishing House.
- Wu, J. and Wang, C. 1995. *The Ants of China*: 214 pp. Beijing (China Forestry Publishing House).
- Zhou, S. 2001. *Ants of Guangxi*: 255 pp. Guangxi Normal University Press, Guilin, China.

