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A checklist of known ant species (Hymenoptera: Formicidae) in the Songkhram River Basin, Thailand

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Abstract

Northeastern Thailand remains one of the most undersampled areas for ant biodiversity. To address this knowledge gap, we present the first checklist of known ant species in the Songkhram River Basin (SRB). This list is based on specimens collected from 54 sampling sites across 19 districts in five SRB provinces. In total, 75 species, representing 38 genera and eight subfamilies, were recorded. Additionally, thirteen alien ant species were documented. Some ant specimens collected from the SRB are still awaiting identification, and future collections are expected to yield further new species records.

Keyword: ant biodiversity, northeastern Thailand, Songkhram River Basin, species checklist, alien ants

INTRODUCTION

The Songkhram River Basin (SRB) is one of the 37 Mekong Basin tributaries. The basin can be divided into two parts, the upper basin and the lower basin. The SRB has a total area of approximately 6,470 square kilometers, covering areas in five provinces: Sakon Nakhon, Udon Thani, Nong Khai, Bueng Kan and Nakhon Phanom. The Songkhram River is in the SRB that has a length of approximately 420 kilometers. The river is considered the most important and longest river in the upper part of northeastern Thailand (World Wide Fund for Nature, 2024). Although ant fauna is now known to some extent in several areas in Thailand and Laos (e.g. Jaitrong *et al*., 2016; Khachonpisitsak *et al*., 2020), the ants of SRB are largely unknown. A recently updated checklist of Thai ants shows that northeastern Thailand, especially for SRB, as one of the least known areas in the country (Khachonpisitsak *et al*., 2020), thus placing it as a top priority for ant biodiversity research. Khachonpisitsak *et al*. (2020) reported about 10 ant species from SRB. Since that time, no species have been

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recorded from the area.

We sought to increase the knowledge of the ant fauna in SRB by compiling data on ant geographic distributions from a review of literature and through new field surveys between August 2023–January 2024. With this material, we present the first preliminary checklist of the known ant species from SRB in order to encourage future research on ants and biodiversity conservation in the region.

MATERIALS AND METHODS

An extensive collection was acquired from 54 sampling sites in 19 districts of five provinces in the Songkhram River Basin and surrounding areas (Figures 1, 2) by Weeyawat Jaitrong and Tadsanai Jeenthong. The ant specimens are now deposited in the Natural History Museum of National Science Museum, Thailand (THNHM). The sampling sites are as follows:

S01 Nakhon Phanom Province, Tha Uthen District, Chaiyaburi Subdistrict, river mouth, open area, 17.653443ºN, 104.463896ºE.

S02 Nakhon Phanom Province, Tha Uthen District, Na Piang Subdistrict., Ban Khaw Pad Pong, open area, 17.64646ºN, 104.42375ºE.

S03 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Rice field, 17.615799ºN, 104.384481ºE.

S04 Nakhon Phanom Province, Si Songkhram District, rubber tree plantation, 17.61978ºN, 104.379844ºE.

S05 Nakhon Phanom Province, Tha Uthen District, Pa Nom Subdistrict, grove wood, 17.685665ºN, 104.366614ºE.

S06 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Intra Resort, open area, 17.623214ºN, 104.259245ºE.

S07 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Ban Than Bo, grove wood, 17.63089ºN, 104.210226ºE.

S08 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Ban Tha Bo Temple, dry evergreen forest, 17.651924ºN, 104.210726ºE.

S09 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Ban Tha Bo Forest community, dry evergreen forest, 17.661218ºN, 104.128511ºE.

S10 Nakhon Phanom Province, Si Songkhram District, Si Songkhram Subdistrict, Ban Sam Pong, village community, 17.714282ºN, 104.147444ºE.

S11 Nakhon Phanom Province, Na Thom District, Na Thom Subdistrict, Ban Na Thom, village community, 17.835407ºN, 104.05233ºE.

S12 Nakhon Phanom Province, Na Thom District, Ban Tha Pan Hong Subdistrict, open area, 17.810194ºN, 104.017905ºE.

S13 Bueng Kan Province, Seka District, Sang Subdistrict, open area, 17.861923ºN, 104.004340ºE.

S14 Bueng Kan Province, Seka District, Seka Subdistrict, Ban Sang Forest Community, dry evergreen forest, 17.853698ºN, 103.960148ºE.

S15 Bueng Kan Province, Seka District, Seka Subdistrict, Saowaluck Hotel, village community, 17.925065ºN, 103.952434ºE.

S16 Bueng Kan Province, Seka District, Tha Sa-ard Subdistrict, Ban Tha Sa-ard, grove wood near Song Khram River, 17.950475ºN, 103.766107ºE.

S17 Bueng Kan Province, Seka District, Tha Sa-ard Subdistrict, Tha Loeng Pueai Temple, dry evergreen forest, 17.949358ºN, 103.767053ºE.

S18 Bueng Kan Province, Seka District, Tha Sa-ard Subdistrict, Ban Tha Sa-ard, near Songkhram River, 17.955785ºN, 103.762441ºE.

S19 Bueng Kan Province, Phon Charoen District, Si Chom Phu Subdistrict, rubber tree plantation, 18.012328ºN, 103.566424ºE.

S20 Bueng Kan Province, Phon Charoen District, Don Ya Nang Subdistrict, Ban Don Ya Nang School, village community, 18.053283ºN, 103.613667ºE.
S21 Bueng Kan Province, So Phisai District, Nong Hua Chang Subdistrict, So Phisai Highway Depot, grove wood, 18.088432ºN, 103.545992ºE.
S22 Bueng Kan Province, So Phisai District, Kham Kaeo Subdistrict, near Songkhram River, open area, 18.072542ºN, 103.509923ºE.
S23 Sakon Nakhon Province, Ban Muang District, Dong Mo Thong Subdistrict, Tha Samran Temple, near Songkhram River, 18.059285ºN, 103.505169ºE.
S24 Sakon Nakhon Province, Akat Amnuai District, Samakkhi Phatthana Subdistrict, Ban Nong Sam Kha, dry dipterocarp forest, 17.702172ºN, 104.019385ºE.
S25 Sakon Nakhon Province, Akat Amnuai District, Tha Kon Subdistrict, Ban Tha Kon, village community near Songkhram River, 17.776641ºN, 103.963865ºE.
S26 Sakon Nakhon Province, Kham Ta Kla District, Nong Bua Sim Subdistrict, Ban Phiang Tai, 17.85356ºN, 103.88923ºE.
S27 Sakon Nakhon Province, Kham Ta Kla District, Nong Bua Sim Subdistrict, Ban Nong Bua Tai, restaurant, 17.840378ºN, 103.847768ºE.
S28 Sakon Nakhon Province, Ban Muang District, Muang Subdistrict, Ban Suankwan Resort, 17.852278ºN, 103.574719ºE.
S29 Sakon Nakhon Province, Ban Muang District, Dong Mo Thong Tai Subdistrict, Kaeng Tao, open area, 17.975704ºN, 103.430132ºE.
S30 Nong Khai Province, Fao Rai District, Na Di Subdistrict, Ban Na Di, dry dipterocarp forest, 17.980303ºN, 103.377422ºE.
S31 Nong Khai Province, Fao Rai District, Udom Phon Subdistrict, Ban Kham Chi, 17.937684ºN, 103.393391ºE.
S32 Udon Thani Province, Ban Dung District, Ban Chan Subdistrict, Rong Chae Weir, 17.867871ºN, 103.400381ºE.
S33 Udon Thani Province, Ban Dung District, Ban Muang Subdistrict, Ban Kham Cha Nod, wetland, 17.744444ºN, 103.361111ºE.
S34 Udon Thani Province, Thung Fon District, Thung Fon Subdistrict, Modern Prarinyada Resort, 17.475191ºN, 103.25504ºE.
S35 Udon Thani Province, Thung Fon District, Thung Fon Subdistrict, Trailak Graveyard, dry dipterocarp forest, 17.462346ºN, 103.276444ºE.
S36 Sakon Nakhon Province, Sawang Daen Din District, Bong Tai Subdistrict, Ban Yang Ngam Temple, near Songkhram River, 17.43079ºN, 103.281245ºE.
S37 Udon Thani Province, Nong Han District, Ban Ya Subdistrict, Pa Nong Phue Temple, dry dipterocarp forest, 17.414628ºN, 103.274676ºE.
S38 Udon Thani Province, Nong Han District, Ban Ya Subdistrict, Pa Thammarangsri temple, Rice field, 17.385459ºN, 103.291399ºE.
S39 Udon Thani Province, Chai Wan District, Chai Wan Subdistrict, near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.243570ºE.
S40 Udon Thani Province, Chai Wan District, Chai Wan Subdistrict, Ban Nong Ruea, a restaurant, 17.277136ºN, 103.247747ºE.
S41 Sakon Nakhon Province, Song Dao District, Tha Sila Subdistrict, Tha Sila Temple, dry dipterocarp forest, 17.246149ºN, 103.358581ºE.
S42 Sakon Nakhon Province, Song Dao District, Tha Sila Subdistrict, Phu Ta Kham Temple, dry dipterocarp forest, 17.239372ºN, 103.403896ºE.
S43 Udon Thani Province, Wang Sam Mo District, Phasuk Subdistrict, Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE.
S44 Bueng Kan Province, Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.219960ºN, 103.837799E.
S45 Bueng Kan Province, Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, rubber tree plantation, 18.292600ºN, 103.786681ºE.

S46 Sakon Nakhon Province, Charoen Sin District, Nong Paen Subdistrict, Nonchadwipatsana Temple, open area, 17.693792ºN, 103.493184ºE.
S47 Sakon Nakhon Province, Ban Muang District, Ban Muang Subdistrict, near Songkhram River, open area, 17.729159ºN, 103.411091ºE.
S48 Sakon Nakhon Province, Song Dao District, Thasila Subdistrict, Phu Pha Lek, near Huai Had, 17.252300ºN, 103.431070ºE, dry dipterocarp forest.
S49 Sakon Nakhon Province, Song Dao District, Thasila Subdistrict, near Songkhram River, 17.222820ºN, 103.402240ºE.
S50 Udon Thani Province, Wang Sam Mo District, dry dipterocarp forest, 17.213250ºN, 103.450640ºE.
S51 Udon Thani Province, Chai Wan District, Kan Lor Subdistrict, 17.234170ºN, 103.378110ºE.
S52 Sakon Nakhon Province, Song Dao District, Ban Thasila, 17.244720ºN, 103.367590ºE.
S53 Sakon Nakhon Province, Song Dao District, Thasila Subdistrict, Phu Takam Temple, 17.231660ºN, 103.394930ºE.
S54 Udon Thani Province, Wang Sam Mo District, Pha Suk Subdistrict, rubber tree plantation, 17.163780ºN, 103.489970ºE.

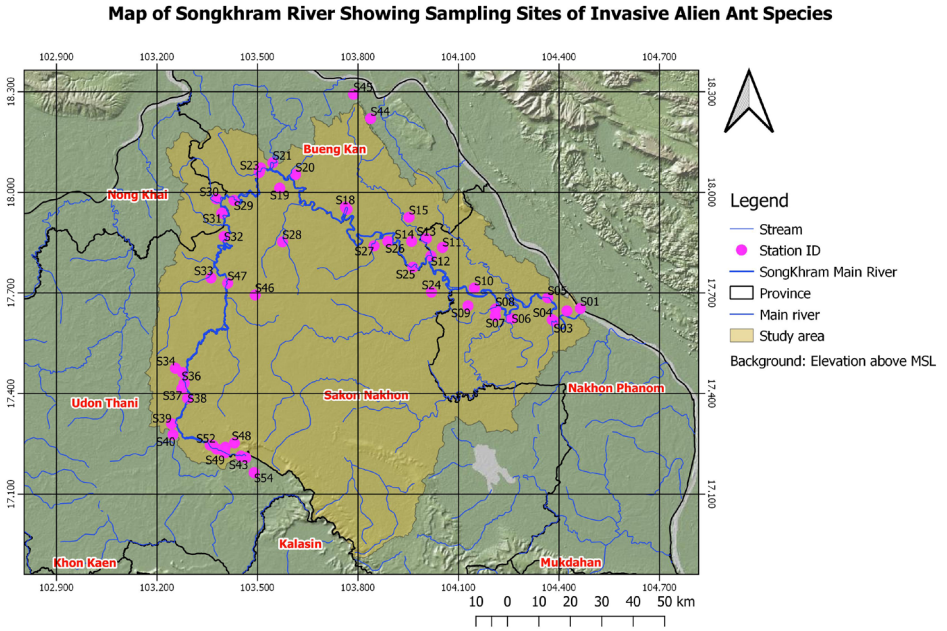

Figure 1. Map of the study area showing the sampling sites (pink spots).

The specimens were identified by W. Jaitrong comparing with images of known species available on Antweb (2024) and identification keys created for Southeast Asian ants (e.g. Ward, 2001; Bolton, 2007; Eguchi, 2008; Hosoishi and Ogata, 2009; Jaitrong and Yamane, 2011; Jaitrong *et al*., 2011; Jaitrong and Jeenthong, 2022; Jaitrong *et al*., 2020). Supposed biological species (not identified as known species) are not included in the list. Species validity, spelling and authority have been checked in Bolton's Synopsis of the Formicidae and Catalogue of Ants of the World (Bolton, 2024). The list is arranged alphabetically by subfamily, genus, and species. Material examined and distributions are given for the listed species. The species previously recorded from the Songkhram River Basin and surrounding areas are marked with "*".

RESULTS AND DISCUSSION

In the present paper, 75 named species are listed of 38 genera belonging to eight subfamilies from the Songkhram River Basin (SRB). The most speciose subfamily is the Myrmicinae with around 34 percent of all genera and 33 percent of all species, followed by Formicinae, Ponerinae, Dolichoderinae and Pseudomyrmecinae respectively (see Table 1). In Thailand, currently 10 subfamilies, 109 genera and 557 species are known in Formicidae (Khachonpisitsak *et al*., 2020; Wang *et al*., 2021; Jaitrong *et al*., 2021a; Jaitrong *et al*., 2021b; Barabag and Jaitrong, 2022; Jaitrong and Jeenthong, 2022; Jaitrong *et al*., 2022a; Jaitrong *et al*., 2022b; Jarernkong *et al*., 2023; Jeenthong *et al*., 2023; Jaitrong *et al*., 2023a; Jaitrong *et al*., 2023b; Tang and Guénard, 2023; Phosrithong *et al*., 2024). Thus, to date the record in the study area covers only 13.5 percent of all known ant species in the country, though this may in part be a result of the incompleteness of investigation.

Our material contains many other species identified only at the genus level; and thus, the number of species is likely to increase once these are identified. The genera collected for which no species could be identified are: *Hypoponera* (Ponerinae), *Nylanderia* (Formicinae), and *Philidris* (Dolichoderinae). As a result, 42 genera have been recorded from the study area for now. Many other genera widespread in Thailand (e.g. *Aenictus*, *Cerapachys*, *Cryptopone*, *Dorylus*, *Discothyrea*, *Emeryopone*, *Gauromyrmex*, *Gesomyrmex*, *Leptanilla*, *Lordomyrma*, *Mesoponera*, *Myopias*, *Myrmecina*, *Myrmicaria*, *Myrmoteras*, *Paraparatrechina*, *Platythyrea*,

Figure 2. Habitats of sampling sites. A, Open area at Songkhram river mouth; B, open area near Songkhram river; C, village community; D, rice field; E, rubber tree plantation; F, secondary forest; G, dry evergreen forest; H, dry dipterocarp forest; I, swamp forest.

Table 1. Numbers and percentages of named species and genera recorded for each subfamily from the Songkhram River Basin.

Subfamilies	No. of genera	%	No. of species	%
Amblyoponinae	1	2.6	1	1.3
Dolichoderinae	5	13.2	10	13.3
Ectatomminae	1	2.6	2	2.7
Formicinae	9	23.7	20	26.7
Myrmicinae	13	34.2	25	33.3
Ponerinae	7	18.4	12	16.0
Proceratiinae	1	2.6	1	1.3
Pseudomyrmecinae	1	2.6	4	5.3
Total	38	100	75	100

Ponera, *Proceratium*, *Vombisidris*) are expected in the SRB. The most speciose and commonly encountered genera are *Polyrhachis* (8 species), *Pheidole* (7) *Leptogenys* (5), *Technomyrmex* (5), *Camponotus* (4), *Tetraponera* (4), *Tetramorium* (3), and *Monomorium* (3). Together, the eight most diverse genera include 52 percent of the known species from SRB. Twenty-two genera (57.9%) are so far represented in SRB by a single species. There are some genera with large numbers of SRB species (according to the specimens deposited in THNHM), but most of these remain unknown, as they have not been studied in detail and identified yet, and therefore are not represented in this paper. For instance, *Camponotus* and *Crematogaster* all have several unidentified species. Over 80 percent of the known ant species from SRB are common in Thailand. Some species which to date have been recorded only other parts of Thailand and Laos might occur in SRB, but they are omitted from the list because their presence has not been confirmed. For example, the common species, e.g. *Carebara castanea* Smith, 1858; *Carebara affinis* (Jerdon, 1851); and *Pheidole planifrons* Santschi, 1920, are recorded from Thailand and Laos (Jaitrong *et al*., 2016; Kachonpisitsak *et al*., 2020; Jaitrong *et al*., 2020), but not from SRB. However, it is likely that this distribution gap exists due to incompleteness of sampling in SRB.

Kachonpisitsak *et al*. (2020) recorded 16 alien ant species from Thailand. We found 13 alien species from SRB (Table 2). Most of the alien ants found in this study inhabited open and disturbed areas, while two species: *Anoplolepis gracilipes* (Smith, 1857) and *Paratrechina longicornis* (Latreille, 1802) were able to adapt to live in natural forests.

In the ant collections of THNHM, we recognized about 15 unidentified species from SRB, some of which seem to be new to science; a new species of *Crematogaster* will be described soon (Jaitrong *et al*., in prep.). Specimens of some genera, e.g., *Nylanderia*, *Philidris*, *Paraparatrechina*, and *Hypoponera*, have not yet been identified to species.

We carefully studied all the ant specimens collected by us from SRB. However, we present here only a first checklist of known species while intensive surveys are being planned. Future work performed in SRB should greatly expand the knowledge on ant diversity in this area. New intensive surveys of ants in SRB are planned during 2024–2025 by Weeyawat Jaitrong and Tadsanai Jeenthong, which should help address increasing on ant knowledge. Without a doubt, many species and distribution records as well as biological information on ants from the SRB will increase knowledge beyond the initial checklist presented here.

Table 2. Alien ant list and distribution in the Songkhram River Basin.

Species	Origin	References
Dolichoderinae		
Iridomyrmex anceps	Indo–Pacific	Heterick and Shattuck, 2011; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Ochetellus glaber	Indo–Pacific	Deyrup *et al*., 2000; Khachonpisitsak *et al*., 2020
Tapinoma melanocephalum	Indo–Pacific	Wetterer, 2009; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Technomyrmex albipes	Indo–Pacific	Wetterer, 2009; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Technomyrmex difficilis	Unknown	Wetterer, 2013; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Technomyrmex vitiensis	Fiji	Bolton, 2007
Formicinae		
Anoplolepis gracilipes	Asia or Africa	Wetterer, 2005; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Paratrechina longicornis	Africa	Khachonpisitsak *et al*., 2020; Jaitrong *et al*., 2020
Myrmicinae		
Monomorium floricola	Asia	Wetterer, 2010a; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Monomorium pharaonis	Asia or Africa	Wetterer, 2010b; Jaitrong *et al*., 2020; Khachonpisitsak *et al*. 2020
Solenopsis geminata	Neotropic	Wetterer, 2011; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Tetramorium kheperra	Unknown	Yamane and Jaitrong, 2011; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020
Trichomyrmex destructor	Indian sub-continent	Deyrup *et al*., 2000, Wetterer, 2009; Jaitrong *et al*., 2020; Khachonpisitsak *et al*., 2020

CHECKLIST OF SPECIES

Amblyoponinae Forel, 1893

Mystrium camillae* Emery, 1889 (Figure 3)

Mystrium camillae Emery, 1889: 491, Plate 10, Figures 1–3. Type locality: Myanmar.

Material examined. NE Thailand, Bueng Kan Prov., Seka Dist., Khok Kong Subdist., rubber plantation, 20.VI.2018, W. Jaitrong leg., WJT200618–17 (THNHM); same locality, date and collector, WJT200618–18 (THNHM).

Distribution in Songkhram River Basin. S45.

Habitat. *Mystrium camillae* was found to nest in soil under rotting wood in a rubber tree plantation.

Remarks. This species was previously recorded from Bueng Kan Province, Seka District (Khachonpisitsak *et al*., 2020: 10).

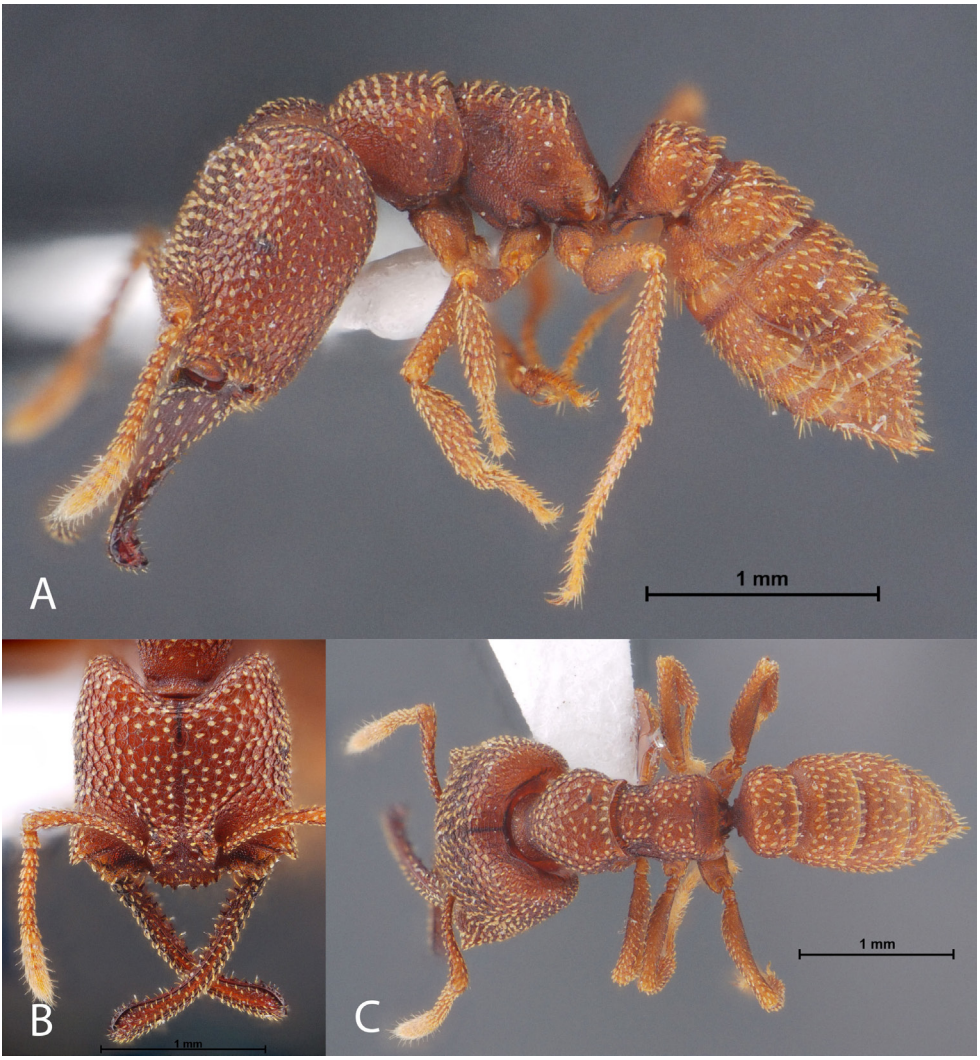

Figure 3. *Mystrium camillae* (Amblyoponinae). A, Body in profile; B, head in full-face view; C, body in dorsal view.

Dolichoderinae Forel, 1878

***Dolichoderus thoracicus* (Smith, 1860)** (Figure 4A–B)

Tapinoma thoracica F. Smith, 1860: 69. Type locality: Indonesia (Sulawesi). Combination in *Dolichoderus*: Dalla Torre, 1893: 162.

Material examined. Two workers, Sakhon Nakhon Prov., Akat Amnuai Dist., Samakki Pattana Subdist., 3.VIII.2023, W. Jaitrong leg.; 2 workers, Sakhon Nakhon Prov., Akat Amnuai Dist., Tha Kon Subdist., Ban Tha Kon, 3.VIII.2023, W. Jaitrong leg.; 4 workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo Temple, 1.VIII.2023, W. Jaitrong leg; 3 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S08, S18, S24, S25, S28, S43.

Habitat. This species was found to nest under or between leaves in disturbed forest along the Songkhram River. Some colonies nested under bark of dead tree or inside dead twig.

***Iridomyrmex anceps* (Roger, 1863)** (Figure 4C–D)

Formica anceps Roger, 1863a: 164. Type locality: West Malaysia. Combination in *Iridomyrmex*: Dalla Torre, 1893: 168.

Material examined. Three workers, Nakhon Phanom Prov., Tha Uthen Dist., Na Piang Subdist., Ban Khaw Pad Pong, 31.VII.2023, W. Jaitrong leg.; 1 worker, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Than Bo, 1.VIII.2023, W. Jaitrong leg.; 1 worker, Nakhon Phanom Prov., Na Thom Dist., Ban Tha Pan Hong Subdist., 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1668; 1 worker, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 11.I.2024, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 10.I.2024, W. Jaitrong leg., general collection; 4 workers, same locality, date, and collector, WJT110124-01.

Distribution in Songkhram River Basin. S02, S03, S06, S07, S09, S12, S13, S15, S16, S18, S26, S28, S29, S30, S38, S43, S44, S50, S51, S52, S53.

Habitat. This is an alien ant species (Khachonpisitsak *et al*., 2020; Jaitrong *et al*., 2020) found in the river basin. It nested in soil in open areas. The workers were fast runners and usually appeared on the ground.

***Ochetellus glaber* (Mayr, 1862)** (Figure 4E–F)

Hypoclinea glabra Mayr, 1862: 705. Type locality: Australia. Combination in *Ochetellus*: Shattuck, 1992: 17.

Material examined. Twele workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo Forest community, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1665.

Distribution in Songkhram River Basin. S09.

Habitat. This alien species is uncommon in the study area because we found only one colony in a disturbed dry dipterocarp forest. It nested in a small dead twig hanging on a shrub.

***Tapinoma indicum* Forel, 1895** (Figure 4G–I)

Tapinoma indicum Forel, 1895: 472. Type locality: India.

Material examined. Seven workers, Sakon Nakhon Pov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 3.VIII.2023, W. Jaitrong leg., TH23-WJT-1709.

Distribution in Songkhram River Basin. S02, S26.

Habitat. This species was found to walk on the ground in open areas.

***Tapinoma melanocephalum* (Fabricius, 1793)** (Figure 4J–L)

Formica melanocephala Fabricius, 1793: 353. Type locality: French Guiana. Combination in *Tapinoma*: Mayr, 1862: 651.

Material examined. Two workers, Sakon Nakhon Prov., Akat Aumnuai Dist., Samakki Pattana Subdist., 3.VIII.2023, W. Jaitrong leg.; 3 workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1654; 1 worker, Nakhon Phanom Prov., Tha Uthen Dist., Na Piang Subdist., Ban Khaw Pad Pong, 31.VII.2023, W. Jaitrong leg.; 1 worker, Nakhon Phanom Prov., Na Thom Dist., Na Thom Subdist., Ban Na Thom, 1.VIII.2023, W. Jaitrong leg; 3 worker, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., WJT100124-03; 2 workers, Udon Thani Province, Wang Sam Mo District, Pha Suk

Subdistrict, rubber tree plantation, 17.16378ºN, 103.48997ºE, 12.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S02, S04, S05, S06, S07, S08, S10, S11, S13, S15, S16, S19, S20, S21, S22, S23, S24, S25, S27, S28, S29, S30, S31, S32, S33, S34, S36, S37, S38, S39, S40, S41, S42, S43, S44, S48, S54.

Habitat. *Tapinoma melanocephalum* is a common species found in the study area. We found this species in almost all habitats such as open areas, village communities, agricultural areas, disturbed forest, and primary forest (dry evergreen and dry dipterocarp forests).

Remarks. Khachonpisitsak *et al*. (2020) included *T. melanocephaum* in the list of the alien ant species of Thailand.

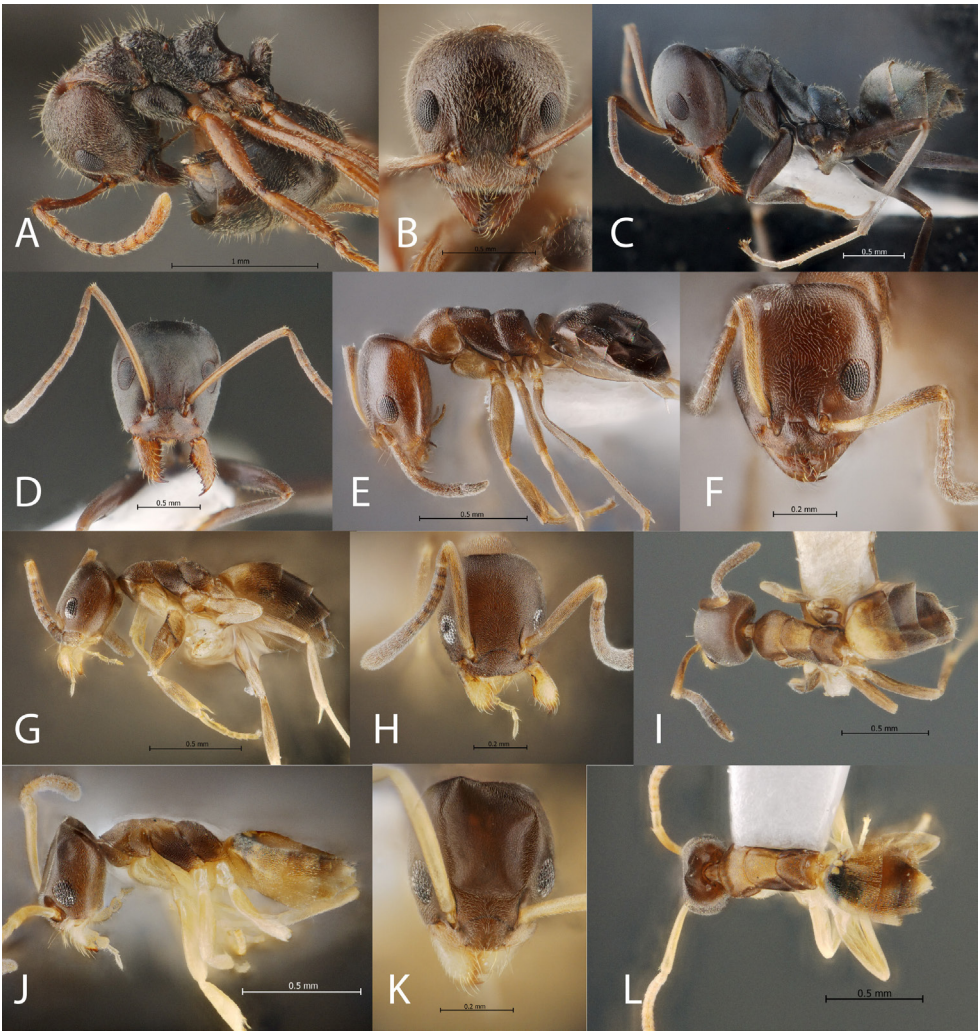

Figure 4. Subfamily Dolichoderinae: A–B, *Dolichoderus thoracicus*; C–D, *Iridomyrmex anceps*; E–F, *Ochetellus glaber*; G–I, *Technomyrmex indicum*; J–L, *Tapinoma melanocephalum*.

***Technomyrmex albipes* (F. Smith, 1861)** (Figure 5A–B)

Formica (*Tapinoma*) *albipes* F. Smith, 1861: 38. Type locality: Indonesia (Sulawesi). Combination in *Technomyrmex*: Emery, 1888: 392.

Material examined. Six workers, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 3.VIII.2023, W. Jaitrong leg., TH23-WJT-1688;12 workers, same locality, date, and collector, TH23-WJT-1890; 8 workers and 4 wing males, Sakon Nakhon Prov., Sawang Dan Din Dist., Bong Tai Subdist., 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1698; 10 workers, 1 queen, and 3 wingless males, samelocality, date, and collector, TH23-WJT-1699; 4 workers, 2 queens, and 3 wing males, same locality, date, and collector, TH23-WJT-1670; 6 workers, 1 queen, and 12 wing males, same locality, date, and collector, TH23-WJT-1710; 15 workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1656; 1 worker, same locality, date, and collector, general collection; 6 workers, same locality, date, and collector, TH23-WJT-1661; 5 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest.

Distribution in Songkhram River Basin. S01, S04, S12, S26, S36, S48.

Habitat. *Technomyrmex albipes* is an alien ant species in Thailand (Khachonpisitsak *et al*., 2020). It nested in dead twigs hanging on shrubs or in rotting wood on ground. We found this species in almost all habitats in the Songkhram River Basin.

Remarks. This species was previously recorded from Bueng Kan Province, Bueng Kan Forest Plantation (Khachonpisitsak *et al*., 2020: 18).

***Technomyrmex difficilis* Forel, 1892** (Figure 5C–D)

Technomyrmex mayri r. *difficilis* Forel, 1892: 242. Type locality: Madagascar. Raised to species: Bolton, 2007: 47.

Material examined. Twenty-one workers, 2 wing queens, 1 wing male, Nakhon Phanom Prov., Na Thom Dist., Ban Tha Pan Hong Subdist., 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1668.

Distribution in Songkhram River Basin. S11, S12.

Habitat. *Technomyrmex difficilis* is an alien species that was introduced from Madagascar (Khachonpisitsak *et al*., 2020). The species was found to nest in dead twigs hanging on shrubs in open areas.

***Technomyrmex elatior* Forel, 1902** (Figure 5E–F)

Technomyrmex modiglianii r. *elatior* Forel, 1902a: 293. Type locality: India. Raised to species: Bingham, 1903: 302.

Material examined. Fourteen workers, Bueng Kan Prov., So Phisai Dist., Nong Hua Chang Subdist., 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1687.

Distribution in Songkhram River Basin. S21.

Habitat. *Technomyrmex elatior* is a rare species for the study area. We found only one colony nesting in rotting wood on the ground in grove woods.

***Technomyrmex kraepelini* Forel, 1905** (Figure 5G–I)

Technomyrmex kraepelini Forel, 1905: 23 (w.) Indonesia (Java).

Material examined. One worker, Bueng Kan Prov., Phon Charoen Dist., Sri Chomphu Subdist., 2.VIII.2023, general collection.

Distribution in Songkhram River Basin. S19.

Habitat. We found a worker of this species in a honey baiting trap in a rubber tree plantation. The species might nest in rotting wood, on the ground, or in leaf litter.

***Technomyrmex vitiensis* Mann, 1921** (Figure 5J–L)

Technomyrmex albipes var. *vitiensis* Mann, 1921: 473. Type locality Fiji Island. Raised to species: Santschi, 1928c.

Material examined. Eight workers, Bueng Kan Prov., Muaeng Bueng Kan, Bueng Kan Forest Plantation, rubber tree plantation, 6.I.2015, W. Jaitrong leg., TH15-WJT-01.

Distribution in Songkhram River Basin. S45.

Habitat. *Technomyrmex vitiensis* is an alien ant in Thailand (Khachonpisitsak *et al*., 2020) and rather rare species for the study area. We found this species nested in soil in a rubber tree plantation.

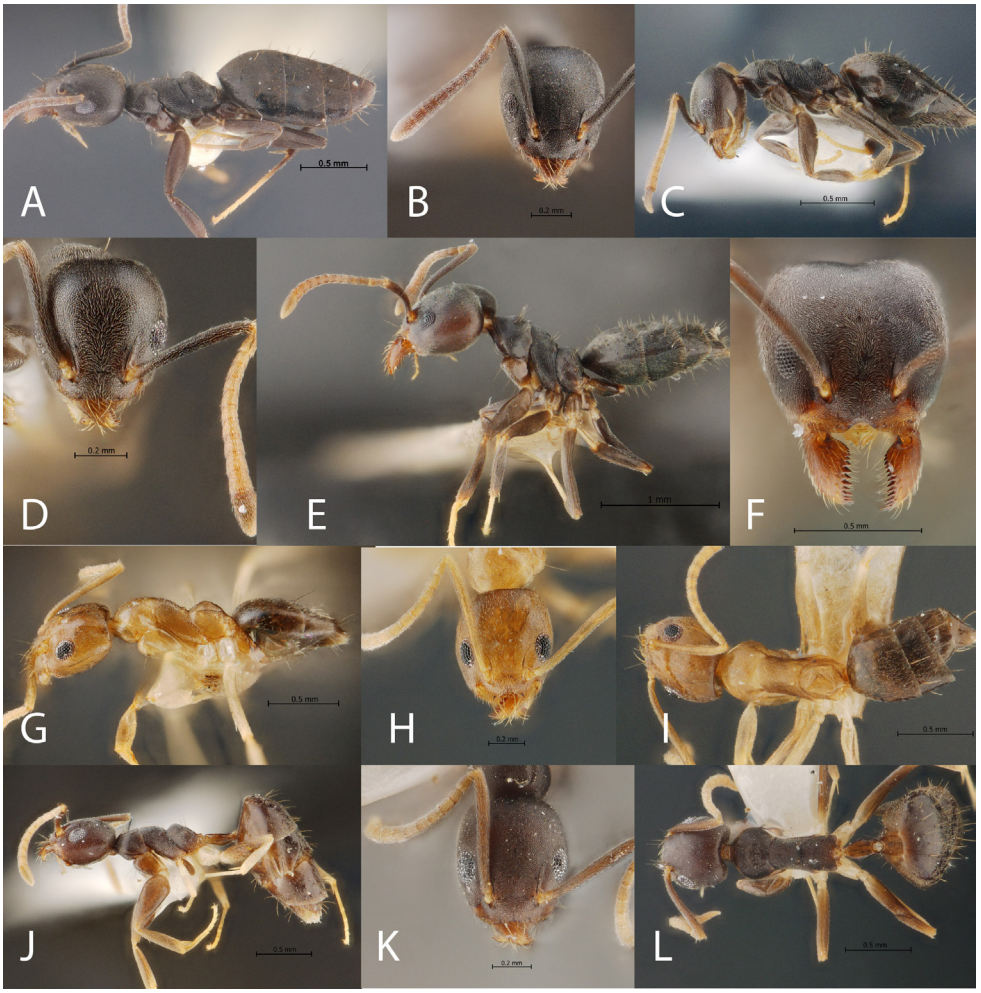

Figure 5. Subfamily Dolichoderinae: A–B, *Technomyrmex albipes*; C–D, *Technomyrmex difficilis*; E–F, *Technomyrmex elatior*; G–I, *Tapinoma kraepelini*; J–L, *Technomyrmex vitiensis*.

Ectatomminae Emery, 1895

***Stictoponera bicolor* (Emery, 1889)** (Figure 6A–C)

Ectatomma (*Stictoponera*) *bicolor* Emery, 1889: 493. Type locality: Myanmar. Combination in *Stictoponera*: Emery, 1911: 48.

Material examined. Five workers, Bueng Kan Province, Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., general collection.

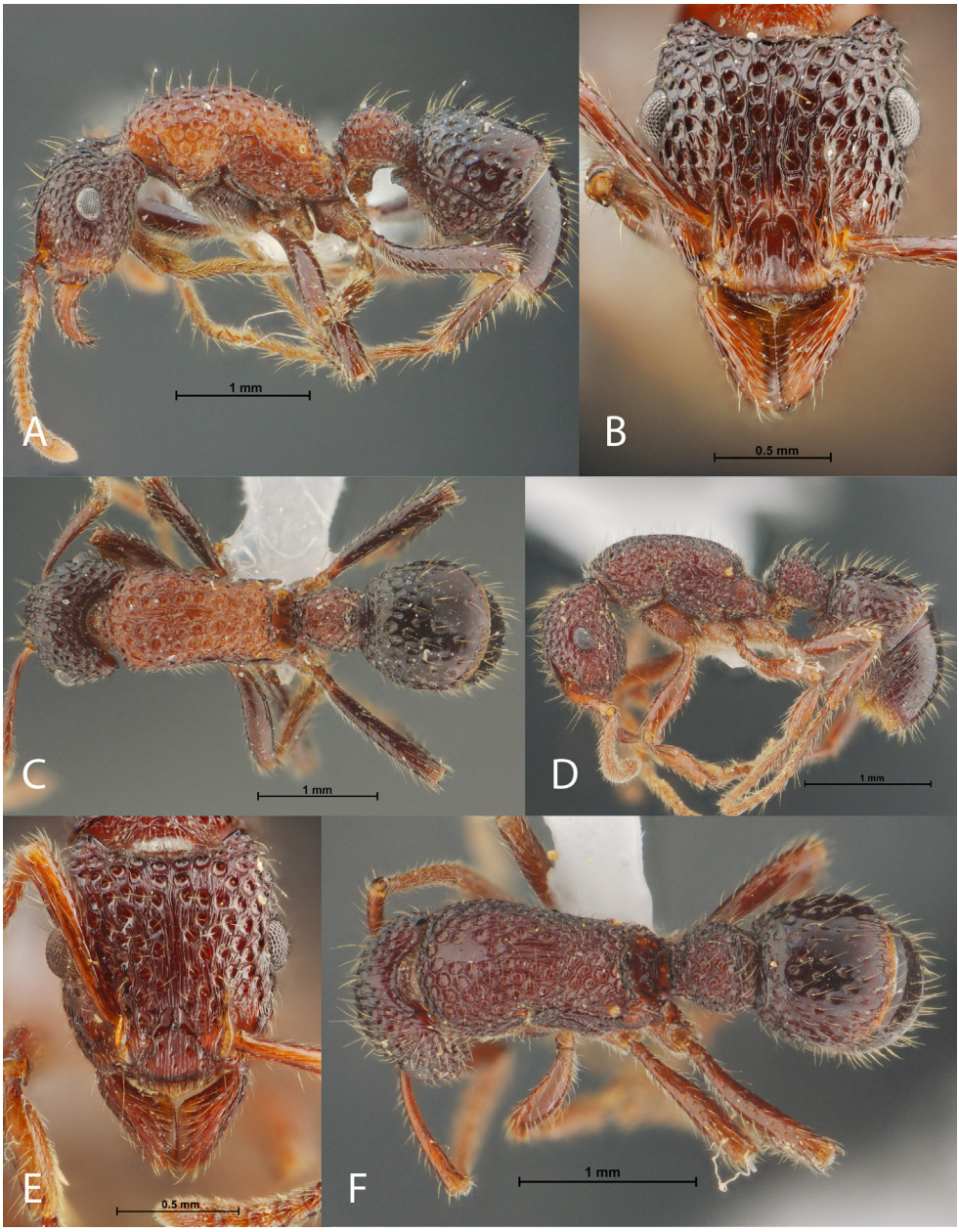

Figure 6. Subfamily Ectatomminae: A–C, *Stictoponera bicolor*; D–F, *Stictoponera binghamii*.

Distribution in Songkhram River Basin. S44.
Habitat. *Stictoponera bicolor* nested in rotting wood in a dry dipterocarp forest. Kachonpisitsak *et al*. (2020: 37) cited the species as *Gnamptogenys bicolor*.

***Stictoponera binghamii* (Forel, 1900)** (Figure 6D–F)
Ectatomma (*Stictoponera*) *binghamii* Forel, 1900: 317. Type locality: Myanmar. Combination in *Stictoponera*: Emery, 1911: 47; Camacho *et al*., 2022: 12.
Material examined. One worker, Bueng Kan Province, Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, rubber tree plantation, 18.27605ºN, 103.81013ºE, 21.X.2023, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S45.
Habitat. We collected a specimen of this species using honey baiting trap in dry dipterocarp forest. Kachonpisitsak *et al*. (2020: 37) cited the species as *Gnamptogenys bicolor*.

Formicinae Latreille, 1809

***Acropyga butteli* Forel, 1912** (Figure 7A–B)
Acropyga (*Atopodon*) *butteli* Forel, 1912a: 772 (q.). Type locality: West Malaysia.
Material examined. Eight workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg., WJT221023-01.
Distribution in Songkhram River Basin. S44.
Habitat. This species was found to nest in soil in a dry dipterocarp forest.

***Anoplolepis gracilipes* (F. Smith, 1857)** (Figure 7C–D)
Formica gracilipes F. Smith, 1857: 55. Type locality: Singapore. Combination in *Anoplolepis*: Bolton, 1995: 67.
Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 1 worker, Nakhon Phanom Prov., Tha Uthen Dist., Na Piang Subdist., Ban Khaw Pad Pong, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Nakhon Phanom Prov., Nathom Dist., Ban Tha Pan Hong, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Nakhon Phanom Prov., Sri Songkhram Dist., Sri Songkhram Subdist., Ban Tha Bo, 1.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Bueng Kan Prov., Seka Dist., Sang Subdist., Ban Sang Forest Community, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., So Phisai Dist., Nong Hua Chang Subdist., 2.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, W. Jaitrong leg., general collection; 2 workers, Sakon Nakhon Prov., Sawang Dan Din Dist., Bong Tai Subdist., 5.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., rice field, 5.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 12.I.2024, W. Jaitrong leg., general collection; 3 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., WJT100124-05; 2 workers, Udon Thani Prov., Wang Sam Mo Dist., Pha Suk Subdist., rubber tree plantation, 17.16378ºN, 103.48997ºE, 12.I.2024, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S01, S02, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S27,

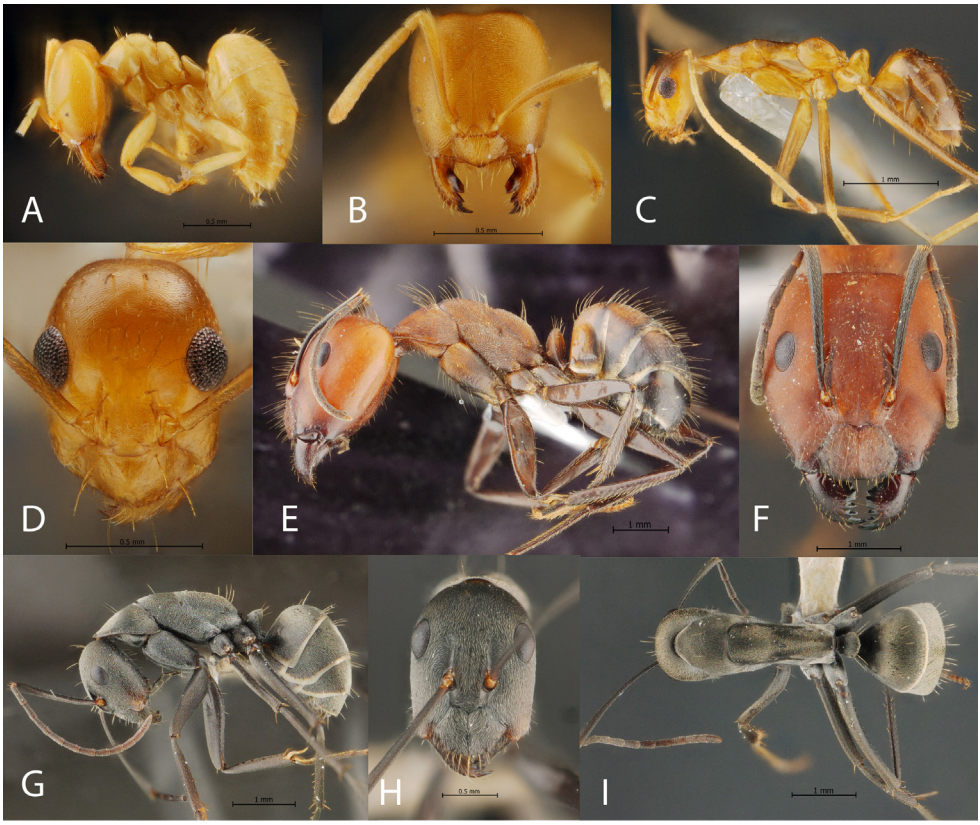

Figure 7. Subfamily Formicinae: A–B, *Acropyga butteli*; C–D, *Anoplolepis gracilipes*; E–F, *Camponotus nicobarensis*; G–I, *Camponotus rufoglaucus*.

S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S45, S46, S48, S49, S50, S51, S52, S53, S54.

Habitat. *Anoplolepis gracilipes* can be found in all habitats of the study area. Nests were in soil, leaf litter, rotting wood, and dead parts of standing trees. This species can be found in all seasons.

***Camponotus lasiselene* Wang & Wu, 1994** (Figure 8A–F)

Camponotus lasiselene Wang & Wu, 1994: 24, Figure 3 (w.). Type locality: China (Yunnan).

Material examined. Ten workers and 1 dealate queen, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg., WJT221023-14.

Distribution in Songkhram River Basin. S44.

Habitat. This species was found to nest in dead twigs in dry dipterocarp forest and disturbed forest.

***Camponotus nicobarensis* Mayr, 1865** (Figure 7E–F)

Camponotus nicobarensis Mayr, 1865: 31, Plate 1, Figure 1. Type locality: India (Nicobar Island).

Material examined. Nine workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., 31.VII.2023, W. Jaitrong leg., general collection; 6 workers and

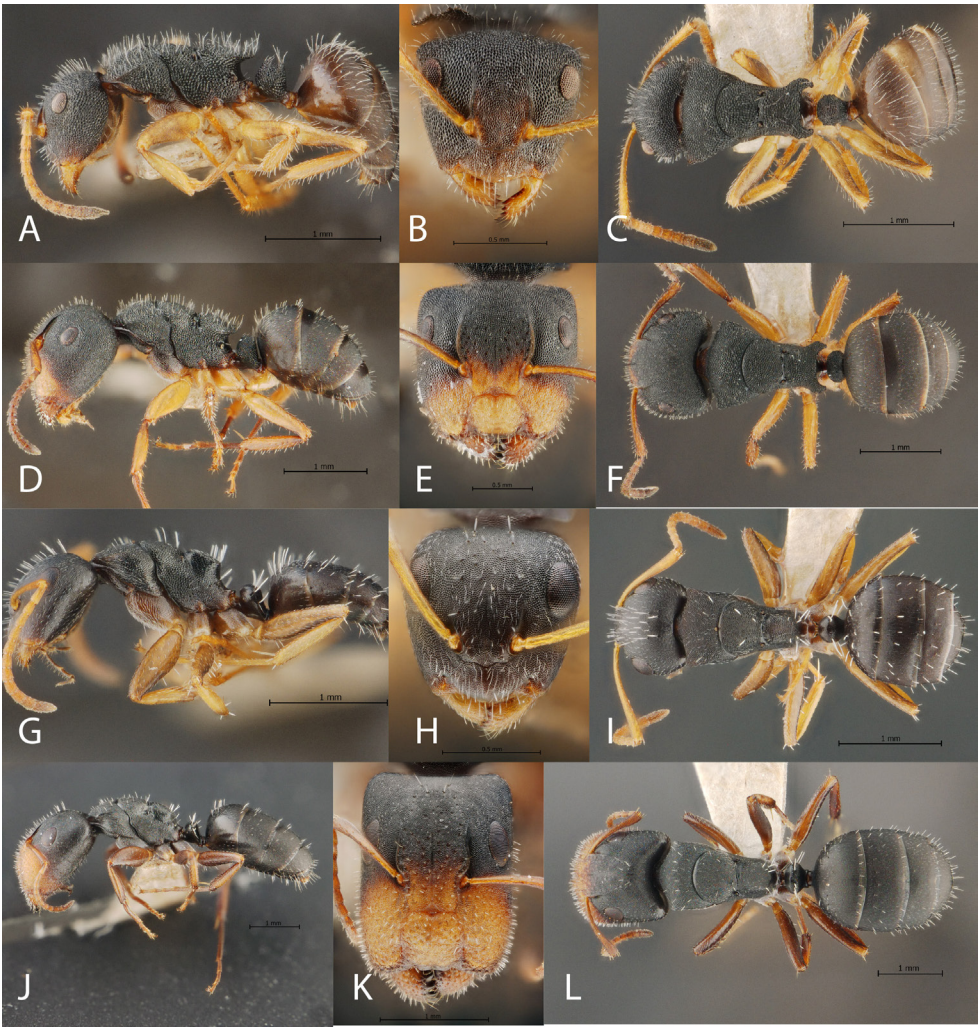

Figure 8. Subfamily Formicinae: A–F, *Camponotus lasiselene*; G–L, *Camponotus siamensis*.

1 dealate queen, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, T. Jeenthong leg., Jt-BK-221023-01.
Distribution in Songkhram River Basin. S03, S04, S26, S33, S36, S44.
Habitat. *Camponotus nicobarensis* nested in rotting wood in dry evergreen forest, dry dipterocarp forest, and grove woods.

***Camponotus rufoglaucus* (Jerdon, 1851)** (Figure 7G–I)
Formica rufoglauca Jerdon, 1851: 124 (w.). Type locality: India (Karnataka). Combination in *Camponotus*: Roger, 1863b: 3.
Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 1 worker, Sakon Nakhon Prov., Ban Muang Dist., Dong Mo Thong Tai Subdist., Khlong Tao, 4.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry

dipterocarp forest, 10.I.2024, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Wang Sam Mo District., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S29, S43, S44, S48, S50.

Habitat. *Camponotus rufoglaucus* is a common species found in the study area. It nested in soil in open areas, disturbed forest, and dry dipterocarp forest. The species was usually found to forage individually on ground.

***Camponotus siamensis* Jaitrong & Jeenthong, 2022** (Figure 8G–L)

Camponotus (*Orthonotomyrmex*) *siamensis* Jaitrong and Jeenthong, 2022: 34, Figure 1A–F (w.q.). Type locality: Thailand.

Material examined. Thirty-nine workers, Skon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 3.VIII.2023, W. Jaitrong leg., TH23-WJT-1692; 1 worker, Sakon Nakhon Prov., Ban Muang Dist., Dong Mo Thong Tai Subdist., Khlong Tao, 4.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., general collection; 22 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, T. Jeenthong leg., TJ-BK-211023-06.

Distribution in Songkhram River Basin. S26, S29, S43, S44.

Habitat. *Camponotus siamensis* nested in dead twig hanging on shrub in disturbed forest. Jaitrong and Jeenthong (2022) described this species from a mixed deciduous forest in northeastern Thailand. The types nested in a dead bamboo twig. So far *C. siamensis* is an endemic species for Thailand.

***Colobopsis leonardi* Emery, 1889** (Figure 9A–C)

Camponotus (*Colobopsis*) *leonardi* Emery, 1889: 515, Plate 11, Figure 22, 23 (s.w.). Type locality: Myanmar. Combination in *Colobopsis*: Ward *et al*., 2016: 350.

Material examined. Four workers, Udon Thani Province, Wang Sam Mo District, Phasuk Subdistrict, Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, T. Jeenthong leg, WJT100124-21.

Distribution in Songkhram River Basin. S43, S44, S45.

Habitat. We found *C. leonardi* foraged on ground and tree trunks. The species might nest in dead branches of trees. Zettel *et al*. (2018) found that this species inhabited a fallen branch of a rambutan tree (*Nephelium lappaceum* L., Sapindaceae) in southern Thailand (Trang Province).

***Colobopsis vitrea* (F. Smith, 1860)** (Figure 9D–I)

Formica vitrea F. Smith, 1860: 94 (w.) Type locality: Indonesia (Batjan Island). Combination in *Colobopsis*: Ward *et al*., 2016: 350.

Material examined. 1 worker, Bueng Kan Prov., Seka Dist., Sang Dist., Ban Sang Forest Community, 1.VIII.2023, W. Jaitrong leg., general collection; 12 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg., WJT221023-11.

Distribution in Songkhram River Basin. S14, S44.

Habitat. We found workers of this species foraging on lower vegetation. Nest was in a dead twig.

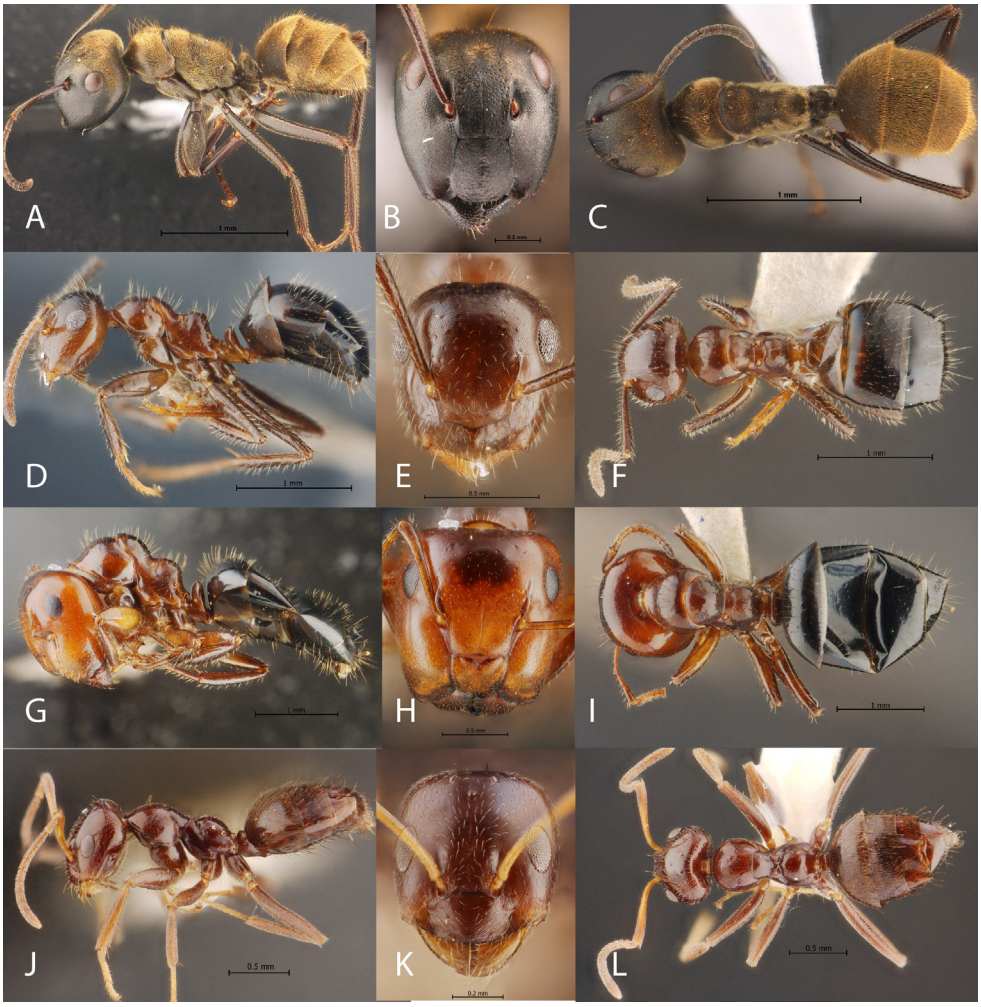

Figure 9. Subfamily Formicidae: A–C, *Colobopsis leonardi*; D–I, *Colobopsis vitrea*; J–K, *Lepisiota rothneyi*.

***Lepisiota rothneyi* (Forel, 1894)** (Figure 9J–L)

Plagiolepis rothneyi Forel, 1894: 415 (w.). Type locality: India. Combination in *Lepisiota*: Bolton, 1995: 228.

Material examined. Two workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S48.

Habitat. We found workers of this species foraging on the ground. A nest was in soil.

***Oecophylla smaragdina* (Fabricius, 1775)** (Figure 10A–C)

Formica smaragdina Fabricius, 1775: 828 (q.). Type locality: India. Combination in *Oecophylla*: F. Smith, 1860: 102.

Material examined. One worker, Bueng Kan Prov., Seka Dist., Tha Sa-aed Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection;

Figure 10. Subfamily Formicinae: A–C, *Oecophylla smaragdina*; D–F, *Paratrechina longicornis*.

1 worker, Bueng Kan Prov., Phon Charoen Dist., Si Chomphu Subdist., 2.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Bueng Kan Prov., So Phisai Dist., Nong Hua Chang Subdist., 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1686; 4 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg., general collection; 5 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 12.I.2024, W. Jaitrong leg., general collection; 4 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., WJT100124-07; 1 worker, Udon

Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S45, S48, S49, S50, S51, S52, S53, S54.

Habitat. The species was found to nest on trees. We usually find this ant in disturbed forests, plantations, agricultural and urban areas.

***Paratrechina longicornis* (Latreille, 1802)** (Figure 10D–F)

Formica longicornis Latreille, 1802: 113 (w.). Type locality: Senegal. Combination in *Paratrechina*: Wheeler, 1921: 112.

Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Nakhon Phanom Prov., Tha Uthen Dist., Na Piang Subdist., Ban Khaw Pad Pong, 31.VII.2023, W. Jaitrong leg., general collection; 1 worker, Nakhon Phanom Prov., Na Thom Dist., Na Thom Subdist., Ban Na Thom, 1.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Ban Dong Dist., Bang Chan Subdist., Ban Rong Shae, 4.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., rice field, 5.VIII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S02, S04, S05, S07, S08, S09, S10, S11, S12, S13, S15, S19, S20, S21, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S48, S49, S50, S51, S52, S53, S54.

Habitat. *Paratrechina longicornis* is a common species found in the study area. We found this species almost in all habitats such as open areas, village communities, agricultural areas, disturbed forest, and primary forest (dry evergreen and dry dipterocarp forests).

Remarks. Khachonpisitsak *et al*. (2020) included *P. longicornis* in the list of the alien ant species of Thailand.

***Plagiolepis adynata* Bolton, 1995** (Figure 11)

Plagiolepis adynata Bolton, 1995: 334. Type locality: Vietnam. Replacement name for *flava* Karavaiev, 1935: 110.

Material examined. Nine workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, T. Jeenthong leg., TJ-BK-211023-06.

Distribution in Songkhram River Basin. S44.

Habitat. This species was found to nest in a dead twig in a dry dipterocarp forest.

***Polyrhachis armata* (Le Guillou, 1842)** (Figure 12A–B)

Formica armata Le Guillou, 1842: 313 (q.). Type locality: Philippines. Combination in *Polyrhachis*: Roger, 1863b: 9.

Material examined. Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S17.

Habitat. This is an arboreal species. We found a few workers in a dry evergreen forest.

***Polyrhachis dives* F. Smith, 1857** (Figure 12C–D)

Polyrhachis dives F. Smith, 1857: 64 (w.). Type locality: Singapore. Combination in *Polyrhachis* (*Myrmhopla*): Wheeler, 1919: 132.

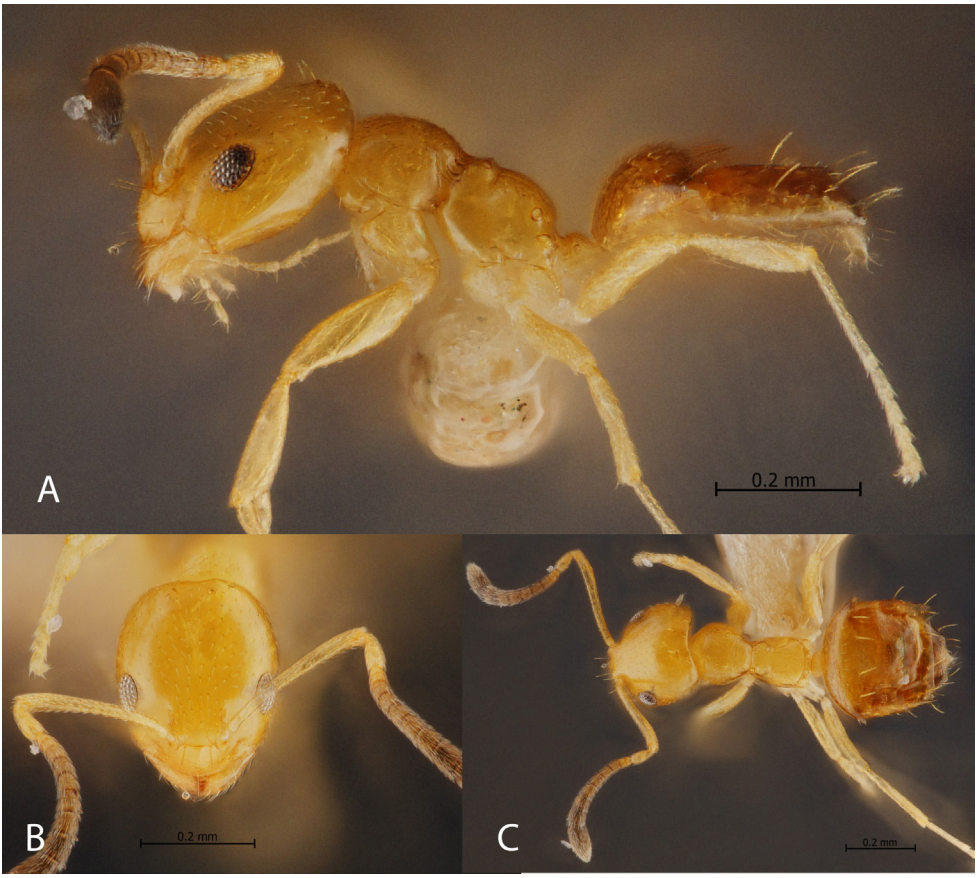

Figure 11. *Plagiolepis adynata* (Formicinae): A, Body in profile; B, head in full-face view; C, body in dorsal view.

Material examined. Eleven workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1661; 1 worker, Nakhon Phanom Prov., Na Thom Dist., Ban Tha Pan Hong, 1.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, 2.VIII.2023, W. Jaitrong leg., general collection; 3 workers, Sakon Nakhon Prov., Ban Muang Dist., Ban Muang Subdist., near Songkhram River, 23.X.2023, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S01, S12, S18, S47.
Habitat. We found this species forged on lower vegetation in disturbed area. The nest is made from fiber mixed with grass clippings.

***Polyrhachis halidayi* Emery, 1889** (Figure 12E–F)
Polyrhachis halidayi Emery, 1889: 517 (w.). Type locality: Myanmar. Combination in *Polyrhachis* (*Campomyrma*): Emery, 1925: 180.
Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Ban Dong Dist, Ban Muang Subdist., Ban Kham Cha Nod, 4.VIII.2023,

Figure 12. Subfamily Formicinae: A–B, *Polyrhachis armata*; C–D, *Polyrhachis dives*; E–F, *Polyrhachis halidayi*; G–H, *Polyrhachis illaudata*; I–J *Polyrhachis laevissima*; K–L *Polyrhachis lao*.

W. Jaitrong leg., TH23-WJT-1693; 1 worker and 1 dealate queen, same locality, date, and collector, general collection.
Distribution in Songkhram River Basin. S01, S33.
Habitat. *Polyrhachis halidayi* was found at the Songkhram river mouth and a swamp forest. Nests were in rotting wood.

***Polyrhachis illaudata* Walker, 1859** (Figure 12G–H)
Polyrhachis illaudatus Walker, 1859: 373 (w., not m.). Type locality: Sri Langka. Combination in *Polyrhachis* (*Myrma*): Donisthorpe, 1932: 576.

Material examined. Bueng Kan prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S17.
Habitat. This species was found in a dry evergreen forest. Workers foraged on lower vegetation.

***Polyrhachis laevissima* Smith, 1858** (Figure 12I–J)
Polyrhachis laevissimus F. Smith, 1858: 64, Plate 4, Figure 42 (w.). Type locality: Myanmar. Combination in *Polyrhachis* (*Cyrtomyrma*): Wheeler, 1919: 137.
Material examined. One worker, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Than Bo, 1.VIII.2023, W. Jaitrong leg., generall collection; 2 workers, Bueng Kan Prov., Seka Dist., Sang Subdist., 1.VIII.2023, W. Jaitrong leg., general collection; 5 workers, Udon Thani Prov., Bang Dung Dist., Ban Muang Subdist., Ban Kham Cha Nod, 4.VIII.2023, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S07, S13, S33.
Habitat. This species was found in open areas, grove woods, and dry evergreen forest. Workers foraged on lower vegetation.

***Polyrhachis lao* Jaitrong & Yamane, 2023** (Figure 12K–L)
Polyrhachis lao Jaitrong & Yamane, in Jaitrong *et al*., 2023a: 303, Figures 1B, 6 (w.). Type locality: Laos.
Material examined. One worker, Udon Thani Prov., Wang Sam Mo Dist., Pha Suk Subdist., rubber tree plantation, 17.16378ºN, 103.48997ºE, 12.I.2024, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S54.
Habitat. We collected a specimen of *P. lao* walking on ground in a rubber tree plantation. Jaitrong *et al*. (2023a) described *P. lao* from Laos. The type series and a colony were collected from a plantation. The nests were in dead wood hanging on shrubs.

***Polyrhachis proxima* Roger, 1863** (Figure 13A–B)
Polyrhachis proxima Roger, 1863a: 155 (w.). Type locality: Indonesia (Lingga Island). Combination in *Polyrhachis* (*Myrma*): Viehmeyer, 1916: 166.
Material examined. Two workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo Forest Community, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Seka Dist., Sang Subdist., Ban Sang Forest Community, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, 1 dealate queen, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg., general collection; 2 workers, same locality and collector, 21.X.2023, general collection; 1 worker, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., general collection; 2 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Takam Temple, 17.23166ºN, 103.39493ºE, 11.I.2024, W. Jaitrong leg., general collection.
Distribution in Songkhram River Basin. S09, S14, S43, S44, S50, S53.
Habitat. *Polyrhachis proxima* was found in open areas, secondary forest, dry dipterocarp forest, and dry evergreen forest. This species nested in the soil.

***Polyrhachis tibialis* F. Smith, 1858** (Figure 13C–D)
Polyrhachis tibialis F. Smith, 1858: 63 (w.). Type locality: Myanmar.

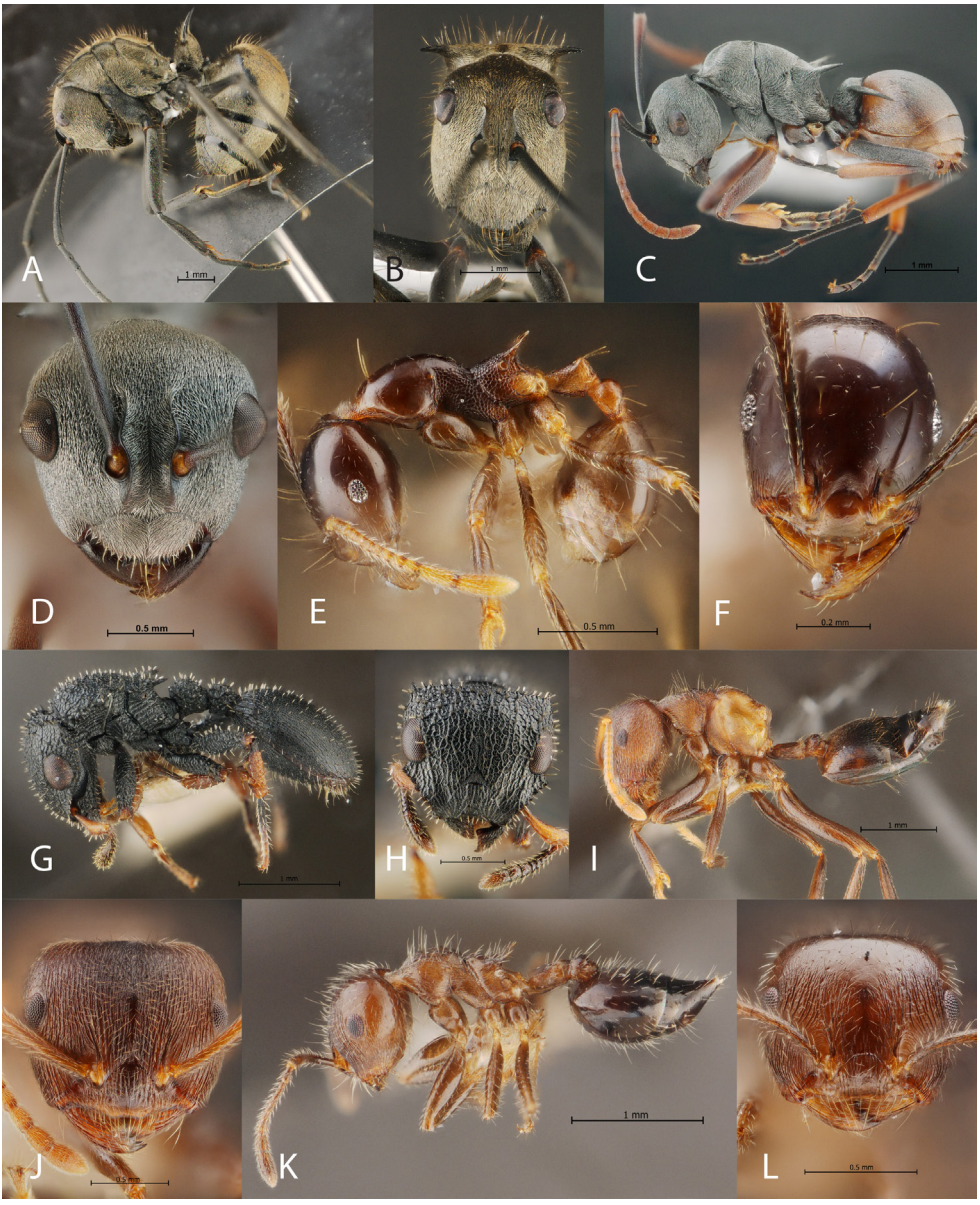

Figure 13. Subfamily Formicinae: A–B, *Polyrhachis proxima*; C–D, *Polyrhachis tibialis*. Subfamily Myrmicinae: E–F, *Carebara diversa*; G–H, *Cataulacus granulatus*; I–J *Crematogaster aurita*; K–L *Crematogaster modiglianii*.

Material examined. 13 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., WJT100124-14.
Distribution in Songkhram River Basin. S43.
Habitat. This species was found to nest between leaves in a dry dipterocarp forest.

Myrmicinae Lepeletier de Saint-Fargeau, 1835

***Carebara diversa* (Jerdon, 1851)** (Figure 13E–F)

Oecodoma diversa Jerdon, 1851: 109 (s.w.). Type locality: India (Kerala). Combination in *Carebara*: Fischer *et al*. 2014: 71.

Material examined. 4 workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, open area17.653443N, 104.463896E, 31.VII.2023, W. Jaitrong leg., general collection; 5 workers, Udon Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., WJT110124-01.

Distribution in Songkhram River Basin. S01, S08, S19, S36, S44, S45, S46, S47.

Habitat. *Carebara diversa* can be found in open areas, rice fields, rubber tree plantations, grove woods near the Songkhram river, dry dipterocarp forest, and the edge of dry evergreen forest. This species had a large colony and nested in the soil.

***Cataulacus granulatus* (Latreille, 1802)** (Figure 13G–H)

Formica granulata Latreille, 1802: 275, Plate 12, Figure 75 (w.). Type locality: Grand Indes. Combination in *Cataulacus*: F. Smith, 1853: 226.

Material examined. Four workers and 3 males, Sakon Nakhon Prov., Sawang Daen Din Dist., Bong Tai Subdist., Ban Yang Ngam Temple, near Songkhram River, 17.43079ºN, 103.281245ºE, 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1711; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.24357ºE, 5.VIII.2023, W. Jaitrong leg., general collection; 3 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., WJT100124-18; 12 workers, same locality, date, and collector, WJT100124-23; 4 workers, same locality, date, and collector, WJT100124-22; 5 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 22.X.2023, W. Jaitrong leg., WJT221023-16; 12 workers, same locality, date and collector, WJT221023-06; 15 workers, same locality, date and collector, WJT221023-22; 6 same locality and collector, 21.X.2023, WJT211023-18; 18 workers and 1 queen, same locality, 22.X.2023, T. Jeenthong leg., JT-BK-221023-04; 2 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S36, S39, S43, S44, S48.

Habitat. *Cataulacus granulatus* was found in grove woods near the Songkhram river, rice fields, dry dipterocarp forest, and dry evergreen forest. Nests were in dead twigs.

***Crematogaster aurita* Karavaiev, 1935** (Figure 13I–J)

Crematogaster (*Physocrema*) *aurita* Karavaiev, 1935: 92, Figure 18 (w.). Type locality: Cambodia.

Material examined. Two workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., rubber tree plantation, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1663; 6 workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1673; 5 workers, Bueng Kan Prov., So Phisai Dist., Nong Hua Chang Subdist., 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1685; 5 workers, Udon Thani Prov., Ban Dung Dist., Bang Muang Subdist., Kham Cha Nod, 4.VIII.2023, W. Jaitrong leg., TH23-WJT-1694; 10 workers, Bueng Kan Prov.,

Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, T. Jeenthong leg., JT-BK-221023-02; 6 workers, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., WJT100124-25; 3 workers, same locality, date, and collector, general collection; 4 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., WJT100124-01; 7 workers, same locality, date and collector, WJT100124-08; 5 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Takam Temple, 17.23166ºN, 103.39493ºE, 11.I.2024, W. Jaitrong leg., WJT110124-06; 3 workers, Udon Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., WJT110124-08.

Distribution in Songkhram River Basin. S04, S09, S17, S21, S33, S43, S44, S48, S50, S53.

Habitat. *Crematogaster aurita* was found in open areas, rice fields, rubber tree plantations, grove woods, dry dipterocarp forest, and dry evergreen forest. Nests were in dead logs.

***Crematogaster modiglianii* Emery, 1900** (Figure 13K–L)

Crematogaster modiglianii Emery, 1900: 688 (w.). Type locality: Indonesia (Sumatra, Mentawei Island), Borneo (East Malaysia: Sabah).

Material examined. Nine workers, Sakon Nakhon Prov., Sawang Daen Din Dist., Bong Tai Subdist., Ban Yang Ngam Temple, near Songkhram River, 17.43079ºN, 103.281245ºE, 5.VIII.2023, W. Jaitrong leg, TH23-WJT-1702; 6 workers, Udon Thani Province, Chai Wan District, Chai Wan Subdistrict, near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.24357ºE, 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1706; 16 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 22.X.2023, W. Jaitrong leg., WJT221023-09; 12 workers, same locality, and collector, 21.X.2023, WJT211023-13; 8 workers, same locality, date and collector, WJT211023-12; 21 workers, same locality, date and collector, WJT211023-06; 8 workers, Udon Thani Province, Wang Sam Mo District, Phasuk Subdistrict, Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., WJT100124-20; 8 workers, Udon Thani Prov., Wang Sam Mo Dist., dry dipterocarp forest, 17.21325ºN, 103.45064ºE, 11.I.2024, W. Jaitrong leg., WJT110124-07.

Distribution in Songkhram River Basin. S36, S39, S43, S44, S50.

Habitat. This species was found in rice fields, grove woods, and dry evergreen forest. It nests in dead twigs.

***Crematogaster rogenhoferi* Mayr, 1879** (Figure 14A–B)

Crematogaster rogenhoferi Mayr, 1879: 683 (w.). Type locality: Myanmar, India (West Bengal), Sri Lanka.

Material examined. Four workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Than Bo, grove wood, 17.63089ºN, 104.210226ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Nakhon Phanom Prov., Na Thom Dist., Ban Tha Pan Hong Subdist., open area, 17.810194ºN, 104.017905ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 3 workers, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Phiang Tai, 17.85356ºN, 103.88923ºE, 3.VIII.2023, W. Jaitrong leg., general collection; 5 workers, Sakon Nakhon Prov., Ban Muang Dist., Ban Muang Subdist., near Songkhram River, open area, 17.729159ºN,

Figure 14. Subfamily Myrmicinae: A–B, *Crematogaster rogenhoferi*; C–D, *Meranoplus bicolor*; E–F, *Monomorium chinense*; G–H, *Monomorium floricola*; I–J, *Monomorium pharaonis*; K–L, *Pheidole dugasi*.

103.411091ºE, 10.I.2024, W. Jaitrong leg., WJT100124-16.
Distribution in Songkhram River Basin. S07, S12, S13, S26, S47.
Habitat. *Crematogaster rogenhoferi* inhabited an open area, rice fields, grove woods, secondary forest, and dry dipterocarp forest. This species usually builds a round nest on a tree.

Dilobocondyla propotriangulata **Bharti & Kumar, 2013** (Figure 15)
Dilobocondyla propotriangulatus Bharti & Kumar, 2013: 36, Figures 15–17 (w.). Type locality: Vietnam.
Material examined. Seven workers and 1 queen, Bueng Kan Prov., Mueang Bueng

Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 22.X.2023, WJT221023-06.

Distribution in Songkhram River Basin. S44.

Habitat. We found this species in a dry dipterocarp forest during the dry season. The nest was in a dead twig.

***Meranoplus bicolor* (Guérin-Méneville, 1844)** (Figure 14C–D)

Cryptocerus bicolor Guérin-Méneville, 1844: 425 (w.). Type locality: India (Puducherry). Combination in *Meranoplus*: F. Smith, 1853: 224.

Material examined. Two workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, open area17.653443ºN, 104.463896ºE, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Than Bo, grove wood, 17.63089ºN, 104.210226ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 3 workers, Sakon Nakhon Prov., Ban Muang Dist., Dong Mo Thong Tai Subdist., Kaeng Tao, open area, 17.975704N, 103.430132E, 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1706; 11 workers, Sakon Nakhon Prov., Song Dao Dist., Ban Thasila, 17.24472ºN, 103.36759ºE, 11.I.2024, W. Jaitrong leg., WJT110124-02.

Distribution in Songkhram River Basin. S01, S07, S28, S39, S44, S52.

Habitat. This is a common species that is usually found in open areas or disturbed forests. It nested in the soil.

***Monomorium chinense* Santschi, 1925** (Figure 14E–F)

Monomorium minutum var. *chinensis* Santschi, 1925: 86 (w.). Type locality: China (Shanghai).

Material examined. Two workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., rice field, 17.615799ºN, 104.384481ºE, 31.VII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S03.

Habitat. This species was found in a rice field.

***Monomorium floricola* (Jerdon, 1851)** (Figure 14G–H)

Atta floricola Jerdon, 1851: 107 (w.). Type locality: India (Kerala). Combination in *Monomorium*: Mayr, 1879: 671.

Material examined. Six workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, open area17.653443ºN, 104.463896ºE, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1653; 4 workers, Nakhon Phanom Prov., Si Songkhram Dist., rubber tree plantation, 17.61978ºN, 104.379844ºE, 2.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.24357ºE, 5.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 22.X.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S03, S11, S19, S21, S26, S36, S39, S44.

Habitat. *Monomorium floricola* is a common alien species for Thailand. In the Songkhram river basin, this species can be found in almost all habitats. Nests were usually found in dead twigs.

***Monomorium pharaonis* (Linnaeus, 1758)** (Figure 14I–J)

Formica pharaonis Linnaeus, 1758: 580 (w.). Type locality: Egypt. Combination in *Monomorium*: Mayr, 1862: 752.

Material examined. Three workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo Forest community, dry evergreen forest, 17.661218ºN,

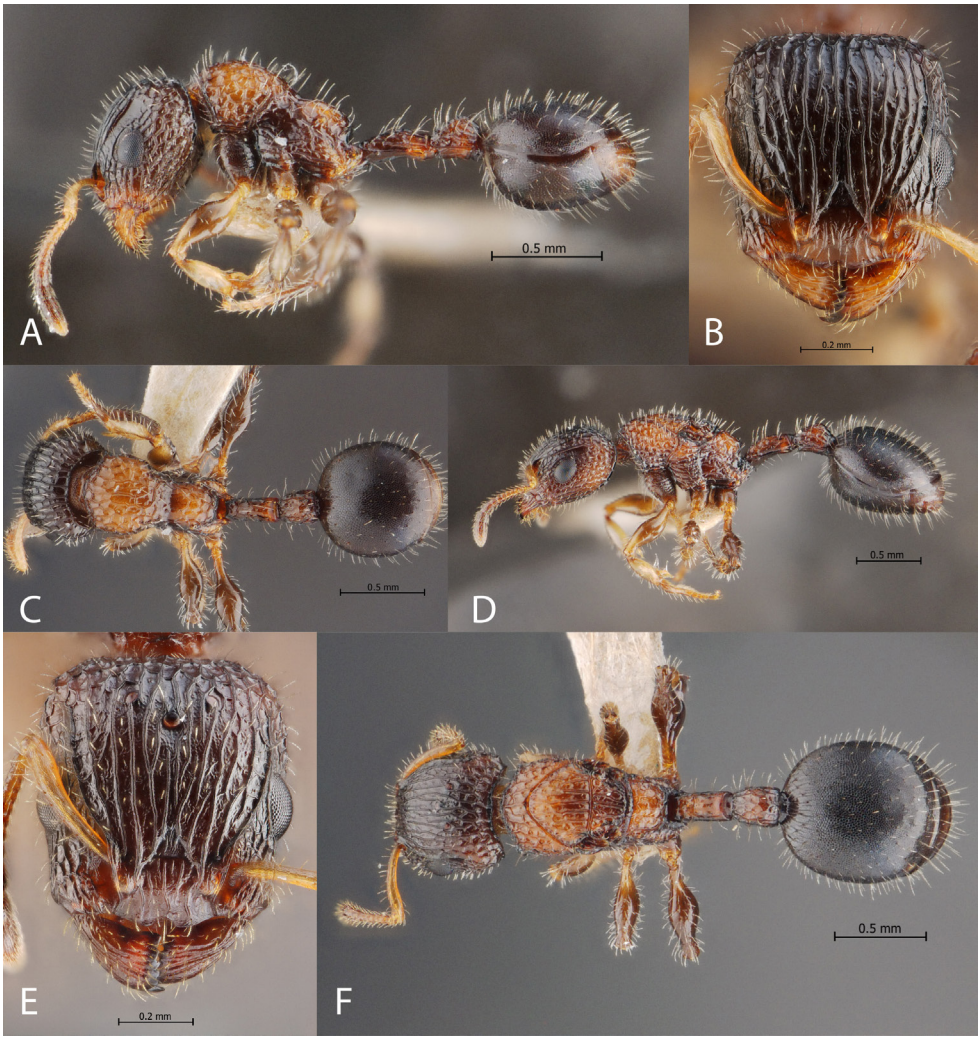

Figure 15. *Dilobocondyla propotriangulata* (Myrmicinae). A–C, Worker; D–F, queen; A, D, body in profile; B, E, head in full-face view; C, F, body in dorsal view.

104.128511ºE, 1.VII.2023, W. Jaitrong leg., general collection; 4 workers, Sakon Nakhon Prov., Akat Amnuai Dist., Tha Kon Subdist., Ban Tha Kon, village community near Songkhram River, 17.776641ºN, 103.963865ºE, 3.VIII.2023, W. Jaitrong leg., general collection; 5 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., general collection; 6 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Takam Temple, 17.23166ºN, 103.39493ºE, 11.I.2024, W. Jaitrong leg., WJT110124-05.

Distribution in Songkhram River Basin. S01, S08, S09, S17, S25, S33, S35, S36, S41, S42, S44, S48, S53.

Habitat. *Monomorium pharaonis* is a common alien species for Thailand. In the Songkhram river basin, this species can be found in almost all habitats. Nests were usually found in dead twigs.

***Pheidole dugasi* Forel, 1911** (Figure 14K–L)

Pheidole dugasi Forel, 1911: 222 (footnote) (w.). Type locality: Vietnam.

Material examined. One major and 4 minor workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 22.X.2023, W. Jaitrong leg., WJT221023-10.

Distribution in Songkhram River Basin. S44, S48, S53.

Habitat. *Pheidole dugasi* was found in rubber tree plantations and dry dipterocarp forest. This species nests in the soil.

***Pheidole hongkongensis* Wheeler, 1928** (Figure 16A–B)

Pheidole rinae subsp. *hongkongensis* Wheeler, 1928: 11 (s.w.q.). Type locality: China (Hong Kong). Raised to species: Zhou and Zheng, 1999: 87.

Material examined. Seven major and 5 minor workers, Bueng Kan Prov., Pon Charoen Dist., Si Chom Phu Sub Dist., 18.012328ºN, 103.566424ºE, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1683.

Distribution in Songkhram River Basin. S19.

Habitat. We found this species in a rubber tree plantation. The nest was in the soil.

***Pheidole inornata* Eguchi, 2001** (Figure 16C–D)

Pheidole inornata Eguchi, 2001: 66, Figure 22 (s.w.m.). Type locality: Borneo.

Material examined. Four major and 1 monor workers, Bueng Kan Prov., Seka District, Tha Sa-ard Subdist., Tha Loeng Pueai Tember, dry evergreen forest, 17.949358ºN, 103.767053ºE, 2.VIII.2023, W. Jaitrong leg., general collection; 8 major and 5 minor workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, near Songkhram River, 17.955785ºN, 103.762441ºE, 3.VIII.2023, W. Jaitrong leg., TH23-WJT-1678; 4 major and 6 minor workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., WJT211023-08.

Distribution in Songkhram River Basin. S17, S18, S44.

Habitat. We found *P. inornata* in grove wood near the Songkhram river, dry evergreen and dry dipterocarp forests. This species usually nests together with *Odontomachus rixosus*.

***Pheidole nodifera* (F. Smith, 1858)** (Figure 16E–F)

Atta nodifer F. Smith, 1858: 165 (w.). Type locality: China. Combination in *Pheidole*: Mayr, 1886: 360.

Material examined. Five major and 3 minor workers, Bueng Kan Prov., Seka District, Tha Sa-ard Subdist., Tha Loeng Pueai Tember, dry evergreen forest, 17.949358ºN, 103.767053ºE, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1667.

Distribution in Songkhram River Basin. S09.

Habitat. This species was found in a secondary forest. It nested in a rotting wood.

***Pheidole plagiaria* F. Smith, 1860** (Figure 16G–H)

Pheidole plagiaria F. Smith, 1860: 112 (s.w.). Type locality: Indonesia (Batjan Island).

Material examined. Four major workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Tha Bo Forest community, dry evergreen forest, 17.661218ºN, 104.128511ºE, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1666; 4 major and 1 minor workers, Bueng Kan Prov., Seka Dist., Seka Subdist., Ban Sang Forest Community, dry evergreen forest, 17.853698ºN, 103.960148ºE, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1670; 4 minor workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Tha Loeng Pueai Tember, dry evergreen forest, 17.949358ºN, 103.767053ºE, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1972.

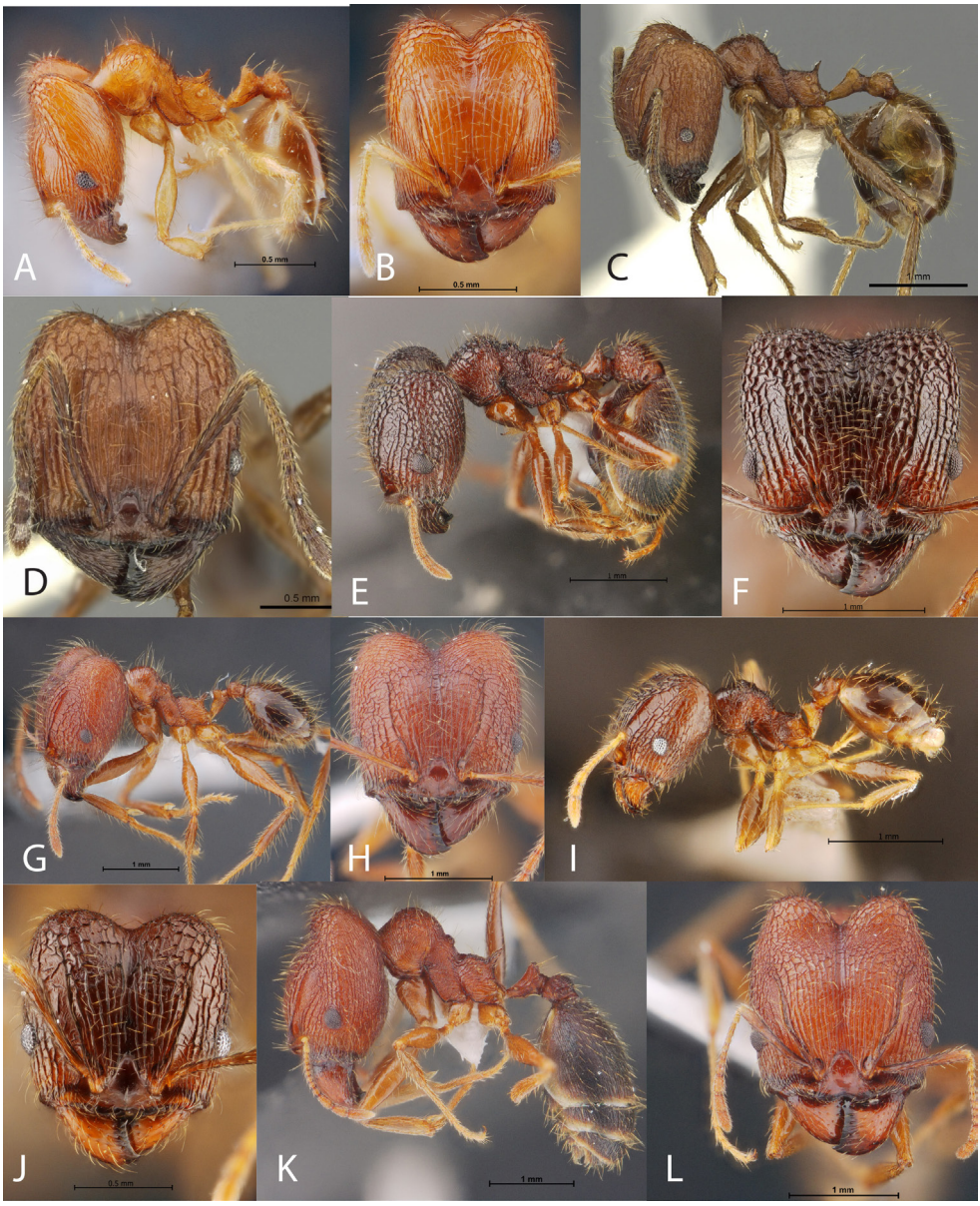

Figure 16. Subfamily Myrmicinae: A–B, *Pheidole hongkongensis*; C–D, *Pheidole inornate* (casent0281670 available on AntWeb): E–F, *Pheidole nodifera*; G–H, *Pheidole plagiaria*; I–J, *Pheidole protea*; K–L, *Pheidole yeensis*.

Distribution in Songkhram River Basin. S09, S14, S17.
Habitat. We found this species in secondary forest, dry dipterocarp forest, and dry evergreen forest. Nests can be found in the soil or rotting wood.

***Pheidole protea* Forel, 1912** (Figure 16I–J)
Pheidole javana subsp. *proteus* Forel, 1912b: 55 (s.). Type locality: Indonesia (Sumatra).
Material examined. Two Major and 2 minor workers, Bueng Kan Province, Mueang

Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., WJT211023-06.

Distribution in Songkhram River Basin. S44.

Habitat. This species can be found in dry dipterocarp forest. The specimens were collected from the soil.

***Pheidole yeensis* Forel, 1902** (Figure 16K–L)

Pheidole sulcaticeps r. *yeensis* Forel, 1902b: 179 (s.). Type locality: Myanmar. Raised to species: Bingham, 1903: 252.

Material examined. Four major and 3 minor, Bueng Kan Province, Mueang Bueng Kan, Khok Kong Subdistrict, Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE; one major worker and 3 minor workers, Udon Thani Prov., Wang Sam Mo Dist., Pha Suk Subdist., rubber tree plantation, 17.16378ºN, 103.48997ºE, 12.I.2.24, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S44, S54.

Habitat. *Pheidole yeensis* was found in an open area and rubber tree plantations. The species nested in the soil.

***Pristomyrmex punctatus* (F. Smith, 1860)** (Figure 17A–B)

Myrmica punctata F. Smith, 1860: 108 (w.). Type locality: Indonesia (Batjan Island). Combination in *Pristomyrmex*: Mayr, 1886: 361.

Material examined. Three workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Rice field, 17.615799ºN, 104.384481ºE, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1660; 1 worker, Sakon Nakhon Prov., Ban Muang Dist., Dong Mo Thong Subdist., Tha Samran Temple, near Songkhram River, 18.059285ºN, 103.505169ºE, 2.VIII.2023, W. Jaitrong leg., general collection; 6 workers, Sakon Nakhon Prov., Sawang Daen Din Dist., Bong Tai Subdist., Ban Yang Ngam Temple, near Songkhram River, 17.43079ºN, 103.281245ºE, 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1701.

Distribution in Songkhram River Basin. S03, S23, S36.

Habitat. This species was found in open areas and a rice field. Workers foraged on ground and ground vegetation.

***Proatta butteli* Forel, 1912** (Figure 17C–D)

Proatta butteli Forel, 1912a: 769 (w.m.). Type locality: Indonesia (Sumatra).

Material examined. Twele workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., WJT211023-11.

Distribution in Songkhram River Basin. S44.

Habitat. This species was a rare species in the study area. It was found to nest in a dry dipterocarp forest.

***Solenopsis geminata* (Fabricius, 1804)** (Figure 17E–F)

Atta geminata Fabricius, 1804: 423 (q.). Type locality: South America (no state data). Combination in *Solenopsis*: Mayr, 1863: 453.

Material examined. 5 workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, open area17.653443ºN, 104.463896ºE, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1652; 1 worker, Nakhon Phanom Prov., Tha Uthen Dist., Na Piang Subdist., Ban Khaw Pad Pong, open area17.64646ºN, 104.42375ºE, 31.VII.2023, W. Jaitrong leg., general collection; 2 workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram

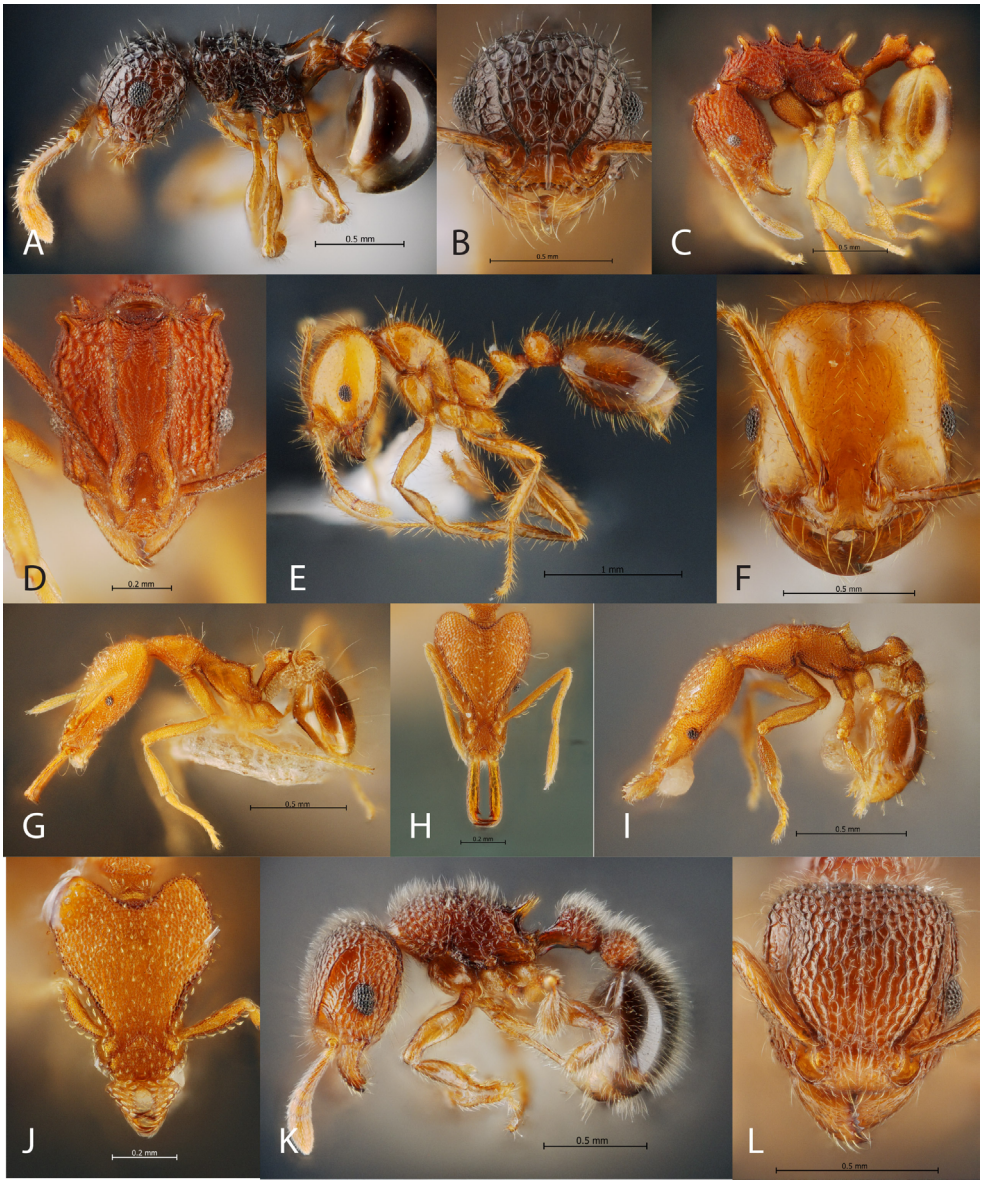

Figure 17. Subfamily Myrmicinae: A–B, *Pristomyrmex punctatus*; C–D, *Proatta butteli*: E–F, *Solenopsis geminata*; G–H, *Strumigenys kraepelini*; I–J, *Strumigenys sydorata*; K–L, *Tetramorium kheperra*.

Subdist., Rice field, 17.615799ºN, 104.384481ºE, 31.VII.2023, W. Jaitrong leg., general collection; 1 worker, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., Ban Than Bo, grove wood, 17.63089ºN, 104.210226ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Nakhon Phanom Prov., Na Thom Dist., Na Thom Subdist., Ban Na Thom, village community, 17.835407ºN, 104.05233ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, near Songkhram River, 17.955785ºN, 103.762441ºE, 2.VIII.2023, W.

Jaitrong leg., general collection; 2 workers, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Phiang Tai, 17.85356ºN, 103.88923ºE, 3.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.24357ºE, 5.VIII.2023, general collection; 1 worker, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE, 10.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S02, S03, S04, S05, S07, S08, S10, S11, S12, S13, S15, S18, S20, S21, S22, S23, S24, S26, S27, S28, S29, S30, S31, S32, S34, S35, S36, S37, S39, S40, S43, S44, S46, S47, S48, S49, S50, S51, S52, S53.

Habitat. *Solenopsis geminata* is a common alien species found in the study area. The species was found in open areas throughout the Songkhram river basin. This ant has a venomous sting.

***Strumigenys kraepelini* Forel, 1905** (Figure 17G–H)

Strumigenys kraepelini Forel, 1905: 8 (w.). Type locality: Indonesia (Java).

Material examined. Fourteen workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Tha Loeng Pueai Tember, dry evergreen forest, 17.949358ºN, 103.767053ºE, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1675; Eight workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., WJT211023-02; same locality, date and collector, WJT211023-07; 12 workers and 1 queen, same locality and date, T. Jeenthong leg., JT-BK-211023-03.

Distribution in Songkhram River Basin. S17, S44.

Habitat. This species was found in primary forest. It nested in rotting wood.

***Strumigenys sydorata* Bolton, 2000** (Figure 17I–J)

Strumigenys sydorata Bolton, 2000: 876 (w.q.). Type locality: Indonesia (Java).

Material examined. Four workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Tha Loeng Pueai Tember, dry evergreen forest, 17.949358ºN, 103.767053ºE, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1676; 7 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, dry dipterocarp forest, 18.25269ºN, 103.81433ºE, 21.X.2023, W. Jaitrong leg., WJT211023-09.

Distribution in Songkhram River Basin. S17, S44.

Habitat. This species was found in primary forest. It nested in rotting wood.

***Tetramorium kheperra* (Bolton, 1976)** (Figure 17K–L)

Triglyphothrix kheperra Bolton, 1976: 349, Figure 71 (w.). Type locality: Indonesia (Java). Combination in *Tetramorium*: Bolton, 1985: 247.

Material examined. One worker, Bueng Kan Prov., So Phisai Dist., Nong Hua Chang Subdist., So Phisai Highway Depot, grove wood, 18.088432ºN, 103.545992ºE, 2.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Nong Bua Tai, restaurant, 17.840378ºN, 103.847768ºE, 3.VIII.2023, general collection; 3 workers, Udon Thani Prov., Ban Dung Dist., Ban Chan Subdist., Rong Chae Weir, 17.867871ºN, 103.400381ºE, 4.VIII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S21, S27, S32, S35.

Habitat. We usually find this species in disturbed areas. It is an alien species for Thailand (Khachonpisitsak *et al*., 2020).

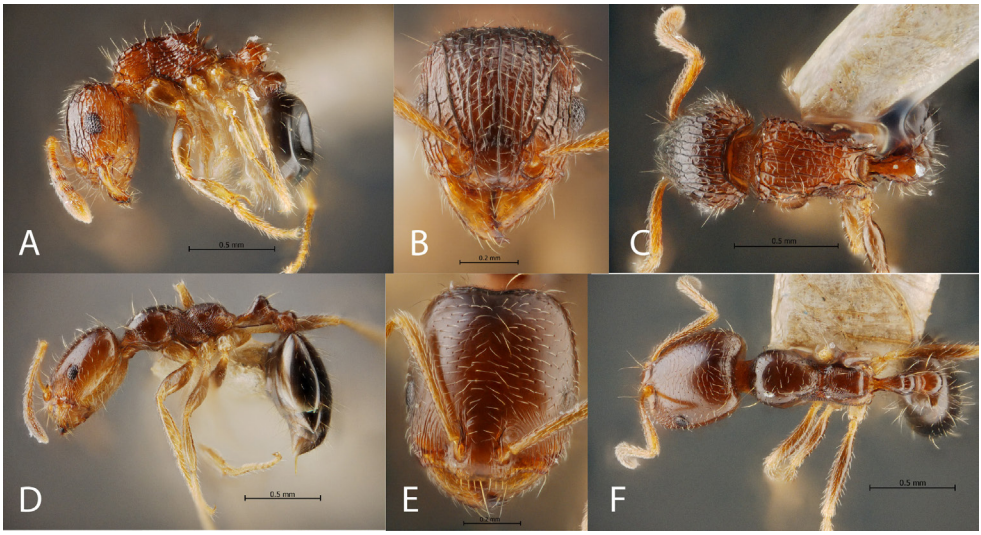

Figure 18. Subfamily Myrmicinae: A–C, *Tetramorium smithi*; D–F, *Trichomyrmex destructor*.

***Tetramorium smithi* Mayr, 1879** (Figure 18A–C)
Tetramorium smithi Mayr, 1879: 673 (w.). Type locality: India.

Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, open area, 17.653443ºN, 104.463896ºE, 31.VII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01.

Habitat. The species was found at the Songkhram River mouth. Workers were collected using honey baiting traps.

***Trichomyrmex destructor* (Jerdon, 1851)** (Figure 18D–F)
Atta destructor Jerdon, 1851: 105 (w.). Type locality: India (no state data).

Material examined. Three workers, Bueng Kan Prov., Seka Dist., Sang Subdist., open area, 17.263336ºN, 103.897032ºE, 1.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Phiang Tai, 17.85356ºN, 103.88923ºE, 3.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Ban Dung Dist., Ban Chan Subdist., Rong Chae Weir, 17.867871ºN, 103.400381ºE, 4.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Udon Thani Prov., Nong Han Dist., Ban Ya Subdist., Pa Thammarangsri temple, Rice field, 17.385459ºN, 103.291399ºE, 5.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., near Non-Sang Ka Temple, Rice field, 17.309982ºN, 103.24357ºE, 5.VIII.2023, W. Jaitrong leg., general collection; 4 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, dry dipterocarp forest, 10.I.2024, W. Jaitrong leg., WJT100124-04.

Distribution in Songkhram River Basin. S05, S08, S10, S11, S13, S14, S15, S20, S22, S26, S27, S29, S30, S31, S32, S38, S39, S40, S43, S44, S46, S48.

Habitat. We usually find this species in disturbed areas. It is an alien species for Thailand (Khachonpisitsak *et al*., 2020).

Ponerinae Lepeletier de Saint-Fargeau, 1835

***Anochetus graeffei* Mayr, 1870** (Figure 19A–B)
Anochetus graeffei Mayr, 1870: 961. Type locality: Samoa.

Material examined. Nine workers, Bueng Kan Prov., Muang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, W. Jaitrong leg., WJT211023-01; 5 workers and 1 dealate queen, Bueng Kan prov., Phon Charoen Dist., Sri Chomphu Subdist., 2.VIII.2023, W. Jaitrong leg., TH23-WJT1679.

Distribution in Songkhram River Basin. S19, S44.

Remarks. We found *A. graeffei* in rubber tree plantations and dry dipterocarp forest. The species nested in the soil.

***Diacamma indicum* Santschi, 1920** (Figure 19C–D)
Diacamma rugosum var. *indica* Santschi, 1920: 179 (w.). Type locality: India.

Material examined. Three workers, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 3 workers, Bueng Kan Prov., Seka Dist., Sang Subdist., Ban Sang Forest Community, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1669; 1 worker, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, 2.VIII.2023, W. Jaitrong leg., general collection; 10 workers, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 3.VIII.2023, W. Jaitrong leg., TH23-WJT-1689; 18 workers, Udon Thani Prov., Ban Dung Dist., Bang Muang Subdist., Ban Kham Cha Nod, 4.VIII.2023, W. Jaitrong leg., TH23-WJT-1695; 1 worker, Udon Thani Prov., Wang Sam Mo Dist., Phasuk Subdist., Tham Sumontha Pawana Temple, dry evergreen forest, 17.208194ºN, 103.46517ºE; 5 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, 10.I.2024, W. Jaitrong leg., WJT100124-11.

Distribution in Songkhram River Basin. S01, S14, S18, S26, S33, S43, S48.

Habitat. *Diacamma indicum* was found in open areas, grove wood, swamp forest, dry dipterocarp forest, dry evergreen forest. This species nested in the soil or rotting wood.

***Diacamma orbiculatum* Santschi, 1932** (Figure 19E–F)
Diacamma ceylonensis var. *orbiculatum* Santschi, 1932: 14 (w.). Type locality: Laos.

Material examined. Five workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, 10.I.2024, W. Jaitrong leg., WJT100124-13; 6 workers, same locality, date, and collector, WJT100124-14; 13 workers, same locality, date, and collector, WJT100124-15.

Distribution in Songkhram River Basin. S48.

Habitat. *Diacamma orbiculatum* was found in a dry dipterocarp forest. It nested in the soil.

Remarks. Khachonpisitsak *et al*. (2020) reported this species from Sakon Nakhon Province.

***Ectomomyrmex astutus* (F. Smith, 1858)** (Figure 19G–H)
Pachycondyla astuta F. Smith, 1858: 107 (w.). Type locality: Australia. Combination in *Ectomomyrmex*: Schmidt & Shattuck, 2014: 193.

Material examined. One worker, Bueng Kan Prov., Seka Dist., Sang Subdist., 1.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection.

Figure 19. Subfamily Ponerinae: A–B, *Anochetus graeffei*; C–D, *Diacamma indicum*: E–F, *Diacamma orbiculatum*; G–H, *Ectomomyrmex astutus*; I–J, *Ectomomyrmex leeuwenhoeki*; K–L, *Leptogenys diminuta*.

Distribution in Songkhram River Basin. S13, S17.
Habitat. This species was found in an open area and a dry evergreen forest. It nested in the soil.

***Ectomomyrmex leeuwenhoeki* (Forel, 1886)** (Figure 19I–J)
Ponera leeuwenhoeki Forel, 1886: 244 (w.). Type locality: India. Combination in *Ectomomyrmex*: Schmidt & Shattuck, 2014: 193.
Material examined. Seven workers, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1674;

5 workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, W. Jaitrong leg., WJT211023-15.

Distribution in Songkhram River Basin. S17, S44.

Habitat. We found this species in dry dipterocarp and dry evergreen forests. It nested in rotting wood.

***Leptogenys diminuta* (F. Smith, 1857)** (Figure 19K–L)

Ponera diminuta F. Smith, 1857: 69 (w.). Type locality: Borneo. Combination in *Leptogenys*: Emery, 1895: 461.

Material examined. Nine workers, Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., rubber tree plantation, 31.VII.2023, W. Jaitrong leg., TH23-WJT-1657; 4 workers, Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, 10.I.2024, W. Jaitrong leg., WJT100124-12.

Distribution in Songkhram River Basin. S04, S48.

Habitat. We found this species in a rubber tree plantation and a dry dipterocarp forest. It nested in the soil or rotting log.

***Leptogenys myops* (Emery, 1887)** (Figure 20A–B)

Lobopelta myops Emery, 1887: 432 (w.). Type locality: Indonesia (Java). Combination in *Leptogenys*: Emery, 1900: 671.

Material examined. Eighteen workers, Bueng Kan Prov., Phon Charoen Dist., Sri Chom Phu Subdist., 2.VIII.2023, W. Jaitrong leg., TH23-WJT-1680.

Distribution in Songkhram River Basin. S19.

Habitat. This species inhabited a rubber tree plantation. The nest was in the soil.

***Leptogenys peuqueti* (André, 1887)** (Figure 20C–D)

Lobopelta peuqueti André, 1887: 292 (w.). Type locality: Vietnam. Combination in *Leptogenys*: Emery, 1895: 461.

Material examined. Ten workers, Udon Thani Prov., Ban Dung Dist., Bang Muang Subdist., Ban Kham Cha Nod, 4.VIII.2023, W. Jaitrong leg., TH23-WJT-1696.

Distribution in Songkhram River Basin. S33.

Habitat. This species was found in a swamp forest. Workers foraged on a fig tree.

***Odontomachus rixosus* F. Smith, 1857** (Figure 20E–F)

Odontomachus rixosus F. Smith, 1857: 64 (w.). Type locality: Singapore.

Material examined. One worker, Bueng Kan Prov., Seka Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection; 6 workers, Udon Thani Prov., Nong Han Dist., Ban Ya Subdist., 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1703.

Distribution in Songkhram River Basin. S17, S37.

Habitat. This species was found in an open area and a dry dipterocarp forest. It nests in rotting wood.

***Odontomachus simillimus* F. Smith, 1858** (Figure 20G–H)

Odontomachus simillimus F. Smith, 1858: 80, Plate 5, Figures 8–9 (q.). Type locality: Fiji Island, Sri Lanka.

Material examined. Two workers, Bueng Kan Prov., Phon Charoen Dist., Si Chom Phu Subdist., 2.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Sakon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 2.VIII.2023, W.

Figure 20. Subfamily Ponerinae: A–B, *Leptogenys myops*; C–D, *Leptogenys peuqueti*: E–F, *Odontomachus rixosus*; G–H, *Odontomachus simillimus*; I–J, *Odontoponera denticulata*; K–L, *Pseudoneoponera rufipes*.

Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Ban Dung Dist., Bang Muang Subdist., Ban Kham Cha Nod, 4.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Udon Thani Prov., Nong Han Dist., Ban Ya Subdist., 5.VIII.2023, W. Jaitrong leg., TH23-WJT-1704.

Distribution in Songkhram River Basin. S01, S19, S26, S33, S37.

Habitat. This species was found in disturbed areas. Nests were in the soil or rotting wood.

***Odontoponera denticulata* (F. Smith, 1858)** (Figure 20I–J)

Ponera denticulata F. Smith, 1858: 90, Plate 6, Figures 13–14 (q.). Type locality: South Africa: Cape of Good Hope, "?C.G.Hope" on label. Locality in error (Donisthorpe, 1943: 677), specimen mislabeled.

Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Seka Dist., Tha Sa-ard Dist., Tha Sa-ard Subdist., Ban Tha Sa-ard, dry evergreen forest, 2.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Skon Nakhon Prov., Kham Ta Kla Dist., Nong Bua Sim Subdist., Ban Piang Tai, 3.VIII.2023, W. Jaitrong leg., general collection; 2 workers, Sakon Nakhon Prov., Ban Muang Dist., Dong Mo Thong Subdist., Khlong Tao, 4.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Udon Thani Prov., Chai Wan Dist., Chai Wan Subdist., Peddy field, 5.VIII.2023, W. Jaitrong leg., general collection; 1 worker, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, T. Jeenthong leg., JT-BK-211023-07; 1 worker, same locality, date, and collector, general collection; Sakon Nakhon Prov., Song Dao Dist., Thasila Subdist., Phu Pha Lek, near Huai Had, 17.25230ºN, 103.43107ºE, 10.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S45, S48.

Habitat. *Odontoponera denticulata* is a common ant species found in the study area. The species was found in open and disturbed areas throughout the Songkhram river basin. This ant has a venomous sting.

***Pseudoneoponera rufipes* (Jerdon, 1851)** (Figure 20K–L)

Ponera rufipes Jerdon, 1851: 119 (w.). Type locality: India (Karnataka/Kerala; "Malabar"). Combination in *Pseudoneoponera*: Schmidt and Shattuck 2014: 135.

Material examined. One worker, Nakhon Phanom Prov., Tha Uthen Dist., Chaiyaburi Subdist., Estuary, 31.VII.2023, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S01.

Habitat. This is a rare ant species that can be found at the Songkhram River mouth. Workers were collected using honey baiting traps.

Proceratiinae Emery, 1895

***Probolomyrmex longiscapus* Xu & Zeng, 2000** (Figure 21A–C)

Probolomyrmex longiscapus Xu and Zeng, 2000: 216, Figures 9–11 (w.). Type locality: China (Yunnan).

Material examined. Eleven workers, Bueng Kan Prov., Mueang Bueng Kan, Khok Kong Subdist., Phu Sing, 21.X.2023, T. Jeenthong leg., JT-BK-211023-01.

Distribution in Songkhram River Basin. S44.

Habitat. This species was found to nest in rotting wood in a dry dipterocarp forest.

Pseudomyrmecinae M.R. Smith, 1952

***Tetraponera allaborans* (Walker, 1859)** (Figure 21D–E)

Pseudomyrma allaborans Walker, 1859: 375. Type locality: Sri Lanka. Combination in *Tetraponera*: F. Smith, 1877: 69.

Material examined. Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram

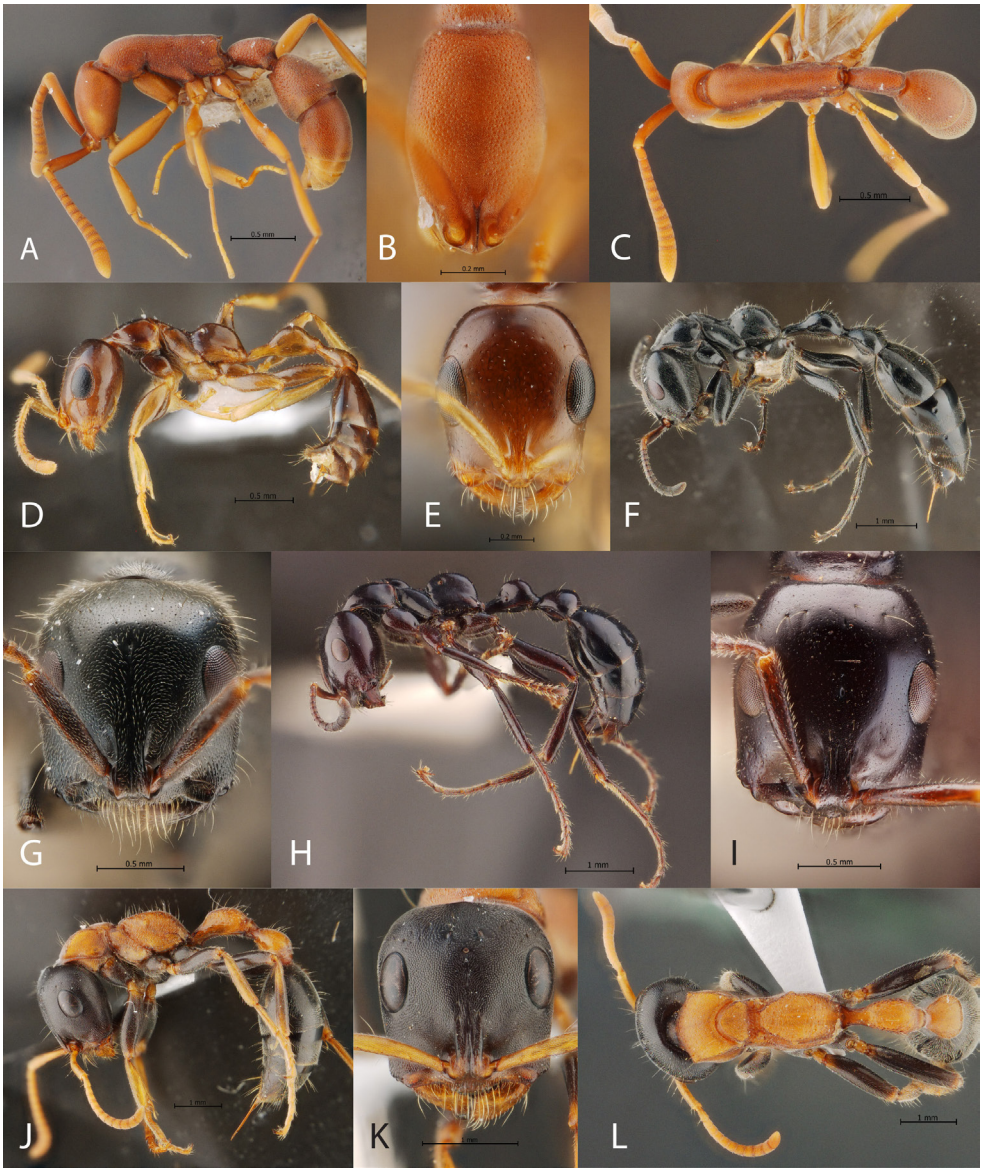

Figure 21. Subfamily Proceratiinae: A–C, *Probolomyrmex longiscapus*. Subfamily Pseudomyrmecina: D–E, *Tetraponera allaborans*: F–G, *Tetraponera attenuata*; H–I, *Tetraponera nitida*; J–L, *Tetraponera rufonigra*.

Subdist., Ban Tha Bo Forest community, 1.VIII.2023, W. Jaitrong leg., TH23-WJT-1664.
Distribution in Songkhram River Basin. S09.
Habitat. This species was found to nest in a dead twig in a dry evergreen forest.

***Tetraponera attenuata* F. Smith, 1877** (Figure 21F–G)
Tetraponera attenuata F. Smith, 1877: 71. Type locality: Borneo. Combination in *Tetraponera*: Wheeler, 1919: 65.
Material examined. Twele workers, 5 wing queen, and 2 wing males, Bueng Kan Prov., Muang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, W. Jaitrong leg.,

WJT221023-17; 3 workers, 7 wing queen, and 1 wing male, same locality, date, and collector, WJT221023-18; 15 workers, Udon Thani Prov., Wang Sam Mo Dist., Pha Suk Subdist., rubber tree plantation, 12.I.2024, W. Jaitrong leg., WJT120124-01; 2 workers, Wang Sam Mo Dist., Pha Suk Subdist., near a temple, general collection.

Distribution in Songkhram River Basin. S43, S44, S45, S54.

Habitat. This species was found to nest in dead twigs in rubber tree plantations and dry dipterocarp forest.

***Tetraponera nitida* (F. Smith, 1860)** (Figure 21H–I)

Pseudomyrma nitida F. Smith, 1860: 106 (w.). Type locality: Indonesia (Batjan I.). Combination in *Tetraponera*: Donisthorpe, 1932: 462.

Material examined. One worker, Udon Thani Prov., Wang Sam Mo Dist., Pha Suk Subdist., near a temple, 11.I.2024, W. Jaitrong leg., general collection.

Distribution in Songkhram River Basin. S43.

Habitat. This species was found to nest in a dead twig in a dry evergreen forest.

***Tetraponera rufonigra* (Jerdon, 1851)** (Figure 21J–L)

Eciton rufonigrum Jerdon, 1851: 111. Type locality: India. Combination in *Tetraponera*: F. Smith, 1877: 68.

Material examined. Four workers, Bueng Kan Prov., Muang Bueng Kan, Khok Kong Subdist., Phu Sing, 22.X.2023, T. Jeenthong leg., JT-BK-221023-06; Nakhon Phanom Prov., Si Songkhram Dist., Si Songkhram Subdist., 31.VII.2023, W. Jaitrong leg., general Collection.

Distribution in Songkhram River Basin. S03, S44.

Habitat. This species can be found in agricultural areas and dry dipterocarp forest. Nests were in dead wood. *Tetraponera rufonigra* has a venomous sting.

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LITERATURE CITED

André, E. 1887. Description de quelques fourmis nouvelles ou imparfaitement connues. *Revue d'Entomologie Caen* 6: 280–298.

AntWeb. 2024. AntWeb. Version v8.103.2. *California Academy of Science*. https://www.antweb.org/ on 29 February 2024.

Barabag, Z. and W. Jaitrong, 2022. A new species of the ant genus *Dolichoderus* Lund, 1831 (Hymenoptera: Formicidae) from Thailand. *Sociobiology* 69(1): e6247. DOI: 10.13102/sociobiology.v69i1.6247

Bingham, C.T. 1903. *The fauna of British India, including Ceylon and Burma. Hymenoptera, Vol. II*. Ants and Cuckoo–wasps. Taylor and Francis, London, 506 pp.

Bharti, H. and R. Kumar. 2013. Five new species of *Dilobocondyla* (Hymenoptera: Formicidae) with a revised key to the known species. *Asian Myrmecology* 5: 29–44.

Bolton, B. 1976. The ant tribe Tetramoriini (Hymenoptera: Formicidae). Constituent genera, review of smaller genera and revision of *Triglyphothrix* Forel. *Bulletin of the British Museum (Natural History) (Entomology)* 34: 281–379. https://doi.org/10.5281/zenodo.26843

Bolton, B. 1985. The ant genus *Triglyphothrix* Forel a synonym of *Tetramorium* Mayr (Hymenoptera: Formicidae). *Journal of Natural History* 19: 243–248.

Bolton, B. 1995. *A New General Catalogue of the Ants of the World*. Cambridge, Harvard University Press, Massachusetts, 504 pp.

Bolton, B. 2000. The ant tribe Dacetini. *Memoirs of the American Entomological Institute* 65: 1–1028.

Bolton, B. 2007. Taxonomy of the dolichoderine ant genus *Technomyrmex* Mayr (Hymenoptera: Formicidae) based on the worker caste. *Contributions of the American Entomological Institute* 35(1): 1–149.

Bolton, B. 2024. *An Online Catalog of the Ants of the World by Barry Bolton*. https://www.antcat.org/ on 29 February 2024.

Camacho, G.P., W. Franco, M.G. Branstetter, M.R. Pie, J.T. Longino, T.R. Schultz and R.M. Feitosa. 2022. UCE phylogenomics resolves major relationships among Ectaheteromorph ants (Hymenoptera: Formicidae: Ectatomminae, Heteroponerinae): A new classification for the subfamilies and the description of a new genus. *Insect Systematics and Diversity* 6(1): 5; 1–20. doi:10.1093/isd/ixab026

Dalla Torre, K.W. von. 1893. *Catalogus Hymenopterorum hucusque descriptorum systematicus et synonymicus*. *Vol. 7. Formicidae (Heterogyna)*. Leipzig: W. Engelmann, 289 pp.

Deyrup, M., L. Davis. and S. Cover. 2000. Exotic ants in Florida. *Transactions of the American Entomological Society* 126: 293–325.

Donisthorpe, H. 1932. On the identity of some ants from Ceylon described by F. Walker. *The Annals and magazine of natural history* 10(9): 574–576.

Donisthorpe, H. 1943. A list of the type-species of the genera and subgenera of the Formicidae. [part]. *The Annals and Magazine of Natural History* 11(10): 617–688.

Eguchi, K. 2001. A revision of the Bornean species of the ant genus *Pheidole* (Insecta: Hymenoptera: Formicidae: Myrmicinae). *Tropics* (Monograph Series) 2: 1–154.

Eguchi, K. 2008. A revision of Northern Vietnamese species of the ant genus *Pheidole* (Insecta: Hymenoptera: Formicidae: Myrmicinae). *Zootaxa* 1902: 1–118. https://doi. org/10.11646/ zootaxa.1902.1.1

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 di Storia Naturale di Genova* 2(5): 427–473. https://doi.org/10.5281/zenodo.25420

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. [continuazione e fine]. *Annali del Museo Civico di Storia Naturale di Genova* 2(5): 528–534. https://doi.org/10.5281/zenodo.11534

Emery, C. 1889. Formiche di Birmania e del Tenasserim raccolte da Leonardo Fea (1885–87). *Annali del Museo Civico di Storia Naturale* 2(7): 485–520.

Emery, C. 1895. 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): 450–483. https://doi.org/10.5962/bhl.part.16764

Emery, C. 1900. Formiche raccolte da Elio Modigliani in Sumatra, Engano e Mentawei. [part]. *Annali del Museo Civico di Storia Naturale di Genova* 2(20): 661–688. https://doi.org/10.5962/bhl.part.9035

Emery, C.1911. Hymenoptera. Fam. Formicidae. Subfam. Ponerinae. *Genera Insectorum* 118: 1–125.

Emery, C. 1925. Hymenoptera. Fam. Formicidae. Subfam. Formicinae. *Genera Insectorum* 183: 1–302. https://doi.org/10.5281/zenodo.25560

Fabricius, J.C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species adiectis synonymis, locis, descriptionibus, observationibus*. Flensburgi et Lipsiae, Korte, 832 pp. https://doi.org/10.5962/bhl.title.36510

Fabricius, J.C. 1793. *Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species, adjectis synonimis, locis observationibus, descriptionibus*. Tome 2. C.G. Proft, Hafniae, 519 pp. https://doi.org/10.5962/bhl.title.122153

Fabricius, J.C. 1804. *Systema Piezatorum secundum ordines, genera, species, adjectis synonymis, locis, observationibus, descriptionibus*. C Reichard, Brunswick, xiv + 15–439 + 30 pp. https://doi.org/10.5962/bhl.title.10490

Fischer, G., F. Azorsa and B.L. Fisher. 2014. The ant genus Carebara Westwood (Hymenoptera, Formicidae): synonymisation of Pheidologeton Mayr under Carebara, establishment and revision

of the C. polita species group. *ZooKeys* 438: 57–112.

Forel, A. 1886. Indian ants of the Indian Museum, Calcutta, No. 2. *Journal and proceedings of the Asiatic Society of Bengal Part* II Nat. Sci. 55: 239–249.

Forel, A. 1892. Les Formicides, In: Grandidier A (Ed.) Histoire physique, naturelle, et politique de Madagascar. Volume XX. Histoire naturelle des *Hyménoptères. Deuxième partie*. Supplèment au 28e fascicule. Hachette & Cie, Paris, 229–280.

Forel, A.1894. Les Formicides de l'Empire des Indes et de Ceylan. Part IV. *Journal of the Bombay Natural History Society* 8: 396–420.

Forel, A.1895. Les Formicidés de l'Empire des Indes et de Ceylan. Part 5. *Journal of the Bombay Natural History Society* 9: 453–472.

Forel, A. 1900. Les Formicidés de l'Empire des Indes et de Ceylan. Part 7. *Journal of the Bombay Natural History Society* 13: 303–332. https://doi.org/10.5281/zenodo.14396

Forel, A. 1902a. Variétés myrmécologiques. *Annales de la Société Entomologique de Belgique* 46: 284–296. https://doi.org/10.5281/zenodo.14504

Forel, A. 1902b. Myrmicinae nouveaux de l'Inde et de Ceylan. *Revue suisse de Zoologie* 10: 165–249.

Forel, A. 1905. Ameisen aus Java. Gesammelt von Prof. Karl Kraepelin (1904). *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten* 22: 1–26. https://doi.org/10.5281/zenodo.14415

Forel, A. 1911. Ameisen aus Ceylon, gesammelt von Prof. K. Escherich (einige von Prof. E. Bugnion). In: Escherich K (Ed) *Termitenleben auf Ceylon*. Gustav Fischer, Jena, 215–228.

Forel, A. 1912a. Descriptions provisoires de genres, sous–genres, et espèces de Formicides des Indes orientales. *Revue Suisse de Zoologie* 20: 761–774. https://doi.org/10.5962/bhl.part.19251

Forel, A. 1912b. Einige neue und interessante Ameisenformen aus Sumatra etc. *Zoologische Jahrbücher Supplement* 15: 51–78.

Guérin–Méneville, F.E. 1844. *Iconographie du règne animal de G. Cuvier, ou representation d'après nature de l'une des espèces les plus remarquables, et souvent non encore figurées, de chaque genre d'animaux. Insectes.* J.B. Baillière, Paris, 576 pp.

Heterick, B.E. and S. Shattuck, 2011. Revision of the ant genus *Iridomyrmex* (Hymenoptera: Formicidae). *Zootaxa* 2845: 1–175. https://doi.org/10.11646/zootaxa.2743.1.1

Hosoishi, S. and K. Ogata. 2009. A taxonomic revision of the Asian endemic subgenus *Physocrema* of the genus *Crematogaster*. *Zootaxa* 2062: 15–36. https://doi.org/10.5281/zenodo.186855

Jaitrong, W., B. Guenard, E.P. Economo, N. Buddhhakala and Sk. Yamane. 2016. A checklist of known ant of Laos (Hymenoptera: Formicidae). *Asian Myrmecology* 8: 17–48. DOI: 10.20362/am.008019.

Jaitrong, W., K. Suwannaphak, Y. Samung and T. Jeenthong. 2020. *Ants of Thailand*. The National Science Museum, Pathum Thani. 528 pp. [in Thai]

Jaitrong, W., P. Pitaktunsakul, and S. Jantarit, 2021a. A new species of the genus *Carebara* westwood, 1840 (Hymenoptera: Formicidae: Myrmecinae) inhabits a cave in Thailand. *Far Eastern Entomologist* 425: 7–20.

Jaitrong, W., S. Waengsothorn and N. Buddhakala, 2022a. A new species of the ant genus *Lepisiota* Santschi, 1926 (Hymenoptera: Formicidae) from Thailand. *Far Eastern Entomologist* 456:1–8.

Jaitrong, W. and Sk. Yamane. 2011. Synopsis of *Aenictus* species groups and revision of the *A. currax* and *A. laeviceps* groups in the eastern Oriental, Indo–Australian, and Australasian regions (Hymenoptera: Formicidae: Aenictinae). *Zootaxa* 3128: 1–46. https://doi.org/10.11646/zootaxa.3128.1.1

Jaitrong, W., Sk. Yamane, and D. Wiwatwitaya, 2021b. A new species and a new record of the ant genus *Ooceraea* roger, 1862 (Hymenoptera: Formicidae: Dorylinae) from Thailand. *Far Eastern Entomologist* 441: 1–10.

Jaitrong. W., Sk. Yamane and N. Chanthalangsy. 2011. The ant genus *Aenictus* from Laos, with description of a new species (Hymenoptera: Formicidae: Aenictinae). *Journal of Asia–Pacific Entomology* 14(3): 317–322. https://doi.org/10.1016/j.aspen.2010.12.012

Jaitrong, W., Sk. Yamane and N. Noon-anant. 2023a. The Thai species of the *Polyrhachis* (*Myrmatopa*) *flavicornis* Smith, 1857 species group, with description of a new species (Hymenoptera, Formicidae, Formicinae). Zootaxa 5249 (4): 446–464. https://doi.org/10.11646/ZOOTAXA.5249.4.3.

Jaitrong, W., Sk. Yamane, Y. Samung, and N. Noon-anant. 2023b. The ant subgenus *Campomyrma* of

the genus *Polyrhachis* Smith, 1857 (Hymenoptera, Formicidae, Formicinae) in Thailand and Laos, with descriptions of two new species. *Zootaxa* 5271 (2): 294–312.

Jaitrong, W. and T. Jeenthong, 2022. A new species of the ant subgenus *Orthonotomyrmex* Ashmead, 1906 in the genus *Camponotus* Mayr, 1861 (Hymenoptera: Formicidae) from Thailand. *The Thailand Natural History Museum Journal* 16(1): 33–39.

Jaitrong, W., Z. Xu and S. Khachonpisitsak. 2022b. A new species of the ant *Platythyrea clypeata* species group (Hymenoptera, Formicidae, Ponerinae) from continental Asia. *ZooKeys* 1115: 151–168. doi: 10.3897/zookeys.1115.86477

Jarernkong, K., M. Kongmee, N. Pinkaew and W. Jaitrong. 2023. Three new species of the ant genus *Lepisiota* Santschi, 1926 (Hymenoptera: Formicidae) from Thailand. *Far Eastern Entomologist* 468: 1–15.

Jeenthong, T., W. Jaitrong and W. Tasen. 2023. A new species of the ant genus *Vombisidris* Bolton, 1991 (Hymenoptera: Formicidae: Myrmicinae) from Thailand. *Tropical Natural History* 23: 105–113.

Jerdon, T.C. 1851. A catalogue of the species of ants found in Southern India. *Madras Journal of Literature and Science* 17: 103–127.

Karavaiev, V. 1935. Neue Ameisen aus dem Indo–Australischen Gebiet, nebst Revision einiger Formen. *Treubia* 15: 57–118.

Khachonpisitsak, S., Sk. Yamane, P. Sriwichai and W. Jaitrong. 2020. An updated checklist of the ants of Thailand (Hymenoptera, Formicidae). *ZooKeys* 998: 1–182.

Latreille, P.A. 1802. *Histoire naturelle générale et particulière des Crustacés et des insectes. Tome 3. Familles naturelles des genres*. F. Dufart, Paris, xii + 467 pp.

Le Guillou, E.J.F. 1842. Catalogue raisonné des insectes hyménoptères recueillis dans le voyage de circumnavigation des corvettes l'Astrolabe et la Zélée. *Annales de la Société Entomologique de France* 10: 311–324. https://doi.org/10.5281/zenodo.25949

Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Impensis Direct*. Laurentii Salvii, Holmiae, 824 pp. https://doi.org/10.5962/bhl.title.542

Mann, W.M. 1921. The ants of the Fiji Islands. *Bulletin of the Museum Comparative Zoology at Harvard College* 64: 401–499.

Mayr, G. 1862. Myrmecologische Studien. *Verhandlungen der k.k. Zoologisch–Botanischen Wien* 12: 649–776.

Mayr, G. 1863. Formicidarum index synonymicus. *Verhandlungen der Zoologisch-Botanischen Gesellschaft Wien* 13: 385–460.

Mayr, G. 1865. *Reise der Österreichischen Fregatte "Novara" um die Erde in den Jahren 1857, 1858, 1859. Unter den befehlen des Commodore B. won Wüllerstorf–Urbair. Zoologischer Theil. Formicidae*. K. Gerold's Sohn, Wien, 119 pp.

Mayr, G. 1870. Neue Formiciden. *Verhandlungen der k.k. Zoologisch–Botanischen Gesellschaft in Wien* 20: 939–996.

Mayr, G. 1879. Beiträge zur Ameisen–Fauna Asiens. *Verhandlungen der k.k. Zoologisch–Botanischen Gesellschaft in Wien* 28: 645–686.

Mayr, G. 1886. Notizen über die Formiciden-Sammlung des British Museum in London. *Verhandlungen der Zoologisch-Botanischen Gesellschaft* 36: 353–368.

Phosrithong, N., K. Rattanachan, L. Satakoune and W. Jaitrong. 2024. Two new species of the ant genus *Plagiolepis* Mayr, 1861 (Hymenoptera: Formicidae: Formicinae) from Indochina. *Far Eastern Entomologist* 492: 1–14.

Roger, J. 1863a. Die neu aufgeführten Gattungen und Arten meines Formiciden–Verzeichnisses nebst Ergänzung einiger früher gegebenen Beschreibungen. *Berliner Entomologische Zeitschrift* 7: 131–214. https://doi.org/10.1002/mmnd.18630070116

Roger, J. 1863b. Verzeichniss der Formiciden-Gattungen und Arten. *Berliner entomologische Zeitschrift* 7: 1–65.

Santschi, F. 1920. Fourmis d'Indo–Chine. *Annales de la Société Entomologique de Belgique* 60: 158–176. https://doi.org/10.5281/zenodo.14364

Santschi, F. 1925. Contribution à la faune myrmécologique de la Chine. *Bulletin de la Société Vaudoise des Science Naturelles* 56: 81–96. https://doi.org/10.5281/zenodo.14459

Santschi, F. 1928. Formicidae (Fourmis). *Insects Samoa* 5: 41-58.

Santschi, F. 1932. Résultats scientifiques du voyage aux Indes orientales néerlandaises de L.L.A.A.R.R. le Prince et la Princesse Léopold de Belgique. Hymenoptera. Formicidae. *Mémoires du Musée Royal d'Histore Naturelle de Belgiue* 4(2): 11–29. https://doi.org/10.5281/zenodo.14467

Schmidt, A.C. and S.O. Shattuck. 2014. The higher classification of the ant subfamily Ponerinae (Hymenoptera: Formicidae), with a review of ponerine ecology and behavior. *Zootaxa* 3817: 1–242. https://doi.org/10.11646/zootaxa.3817.1.1

Shattuck, S.O. 1992. Review of the dolichoderine ant genus *Iridomyrmex* Mayr with descriptions of three new genera (Hymenoptera: Formicidae). *Journal of the Australian Entomological Society* 31: 13–18.

Smith, F. 1853. Monograph of the genus *Cryptocerus*, belonging to the group Cryptoceridae - family Myrmicidae - division Hymenoptera Heterogyna. *Transactions of the Entomological Society of London*. (2) 2: 213–228.

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. https://doi.org/10.1111/j.1096-3642.1857.tb01759.x

Smith, F. 1858. *Catalogue of hymenopterous insects in the collection of the British Museum. Part VI. Formicidae*. British Museum, London, 216 pp.

Smith, F. 1860. Descriptions of new species of hymenopterous insects collected by Mr. A.R. Wallace at Celebes. *Journal of the Proceedings of the Linnean Society of London, Zoology* 5: 57–93. https://doi.org/10.1111/j.1096-3642.1860.tb01021.x

Smith, F. 1861. Catalogue of hymenopterous insects collected by Mr. A. R. Wallace in the islands of Ceram, Celebes, Ternate, and Gilolo. *Journal of the Proceedings of the Linnean Society of London, Zoology* 6: 36–48. https://doi.org/10.1111/j.1096-3642.1861.tb00927.x

Smith, F. 1877. Descriptions of new species of the genera *Pseudomyrma* and *Tetraponera,* belonging to the family Myrmicidae. *Transactions of the Entomological Society of London* 10(4): 57–72. https://doi.org/10.1111/j.1365-2311.1877.tb02901.x

Tang, K.L. and B. Guénard. 2023. Further additions to the knowledge of *Strumigenys* (Formicidae: Myrmicinae) within South East Asia, with the descriptions of 20 new species. *European Journal of Taxonomy* 907: 1–144.

Viehmeyer, H. 1916. Ameisen von Singapore. Beobachtet und gesammelt von H. Overbeck. *Archiv für Naturgeschichte* 81(A.8): 108–168.

Walker, F. 1859. Characters of some apparently undescribed Ceylon insects. *Annals and Magazine of the Natural History* 4(3): 370–376. https://doi.org/10.1080/00222935908697145

Wang, C. and J. Wu. 1994. Second revisionary studies on genus *Camponotus* Mayr of China (Hymenoptera: Formicidae). *Journal of Beijing Forestry University (English Edition)* 3 (1): 23–34. https://doi.org/10.5281/zenodo.24946

Wang, Y.W., G.W.J. Yong and W. Jaitrong. 2021. Revision of the elusive ant genus *Rhopalomastix* (Hymenoptera, Formicidae, Myrmicinae) in Thailand based on morphology and DNA barcodes, with descriptions of three new species. *European Journal of Taxonomy* 739: 117–157.

Ward, P.S. 2001. Taxonomy, phylogeny and biogeography of the ant genus *Tetraponera* (Hymenoptera: Formicidae) in the Oriental and Australian regions. *Invertebrate Systematics* 15: 589–665. https://doi.org/10.1071/IT01001

Ward, P.S., B.B. Blaimer and B.L. Fisher. 2016. A revised phylogenetic classification of the ant subfamily Formicinae (Hymenoptera: Formicidae), with resurrection of the genera *Colobopsis* and *Dinomyrmex*. *Zootaxa* 4072(3): 343–357. https://doi.org/10.11646/zootaxa.4072.3.4

Wetterer, J.K. 2005. Worldwide distribution and potential spread of the long–legged ant, *Anoplolepis gracilipes* (Hymenoptera: Formicidae). *Sociobiology* 45: 77–97.

Wetterer, J.K. 2009. Worldwide spread of the ghost ant, *Tapinoma melanocephalum* (Hymenoptera: Formicidae). *Myrmecological News* 12: 23–33.

Wetterer, J.K. 2010a. Worldwide spread of the flower ant, *Monomorium floricola* (Hymenoptera: Formicidae). *Myrmecological News* 13: 19–27.

Wetterer, J.K. 2010b. Worldwide spread of the pharaoh ant, *Monomorium pharaonis* (Hymenoptera:

Formicidae). *Myrmecological News* 13: 115–129.

Wetterer, J.K. 2011. Worldwide spread of the tropical fire ant, *Solenopsis geminata* (Hymenoptera Formicidae). *Myrmecological News* 14 21-35.

Wetterer, J.K. 2013. Worldwide spread of the difficult white–footed ant, *Technomyrmex difficilis* (Hymenoptera: Formicidae). *Myrmecological News* 18: 93–97. https://doi.org/10.1653/024.097.0231

Wheeler, W.M. 1919. The ants of Borneo. *Bulletin of the Museum Comparative Zoology at Harvard College* 63: 43–147.

Wheeler, W. M. 1921. Chinese ants collected by Prof. C. W. Howard. *Psyche (Camb.)* 28: 110–115.

Wheeler, W.M. 1928. Ants collected by Professor F. Silvestri in China. Bollettino del Laboratorio di Zoologia Generale e agraria del R. *Istituto Superiore agrario de Portic* 22: 96–125. https://doi.org/10.5281/zenodo.25215

World Wide Fund for Nature. 2024. Data of Songkhram River. https://www.wwf.or.th/what_we_do/wetlands_and_production_landscape/songkramriver/ on 29 February 2024. [In Thai]

Xu, Z. and G. Zeng. 2000. Discovery of the worker caste of *Platythyrea clypeata* Forel and a new species of *Probolomyrmex* Mayr in Yunnan, China (Hymenoptera: Formicidae). *Entomologia Sinica* 7(3): 213–217.

Yamane, Sk. and W. Jaitrong. 2011. A first species of *Tetramorium* (Hymenoptera, Formicidae, Myrmicinae) with a polymorphic worker caste. *Insect Matsumurana* 67: 61–74.

Zettel, H., A. Laciny, W. Jaitrong, S. Syakani, A. Kopchinskiy and I.S. Druzhinina. 2018. Evidence of predation in two species of the Colobopsis cylindrical group (Hymenoptera: Formicidae: Camponotini). *Asian Myrmecology* 10, e0100011 (1-11). https://doi: 10.20362/am.010011

Zhou S.Y. and Z.M. Zheng. 1999. Taxonomic study of the ant genus *Pheidole* Westwood from Guangxi, with descriptions of three new species (Hymenoptera: Formicidae). *Acta Zootaxonomica Sinica* 24: 83-88.