Zootaxa 3128: 1–46 (2011)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

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)

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Accepted by J. Longino: 17 Oct. 2011; published: 13 Dec. 2011

Abstract

Twelve species groups are established in the ant genus *Aenictus* of the eastern part of Oriental region, and Indo-Australian and Australasian regions, and the species of the *Aenictus currax* group and *A. laeviceps* group are revised. Nine species (six named and three new species) of the *A. currax* group occurring in this area are: *A. cornutus* Forel, *A. currax* Emery, *A. diclops* Shattuck, *A. glabrinotum* Jaitrong et Yamane, **sp. nov.**, *A. gracilis* Emery, *A. huonicus* Wilson, *A. parahuonicus* Jaitrong et Yamane, **sp. nov.**, *A. pfeifferi* Zettel et Sorger, and *A. wayani* Jaitrong et Yamane, **sp. nov.** Thirteen species (six named and seven new species) are recognized in the *A. laeviceps* group: *A. alticola* Wheeler et Chapman, *A. binghami* Forel, *A. bodongjaya* Jaitrong et Yamane, **sp. nov.**, *A. breviceps* Forel, **stat. nov.**, *A. brevinodus* Jaitrong et Yamane, **sp. nov.**, *A. fulvus* Jaitrong et Yamane, **sp. nov.**, *A. hodgsoni* Forel, *A. laeviceps* (F. Smith), *A. luzoni* Wheeler et Chapman, *A. montivagus* Jaitrong et Yamane, **sp. nov.,** *A. rotundicollis* Jaitrong et Yamane, **sp. nov.**, *A. siamensis* Jaitrong et Yamane, **sp. nov.**, and *A. sonchaengi* Jaitrong et Yamane, **sp. nov.** *A. fergusoni* var. *breviceps* Forel is removed from synonymy with *A. laeviceps* and raised to full species. Lectotypes and paralectotyps are designated for *A. alticola*, *A. binghami*, *A. breviceps*, *A. cornutus*, *A. currax*, *A. gracilis*, *A. laeviceps*, and *A. luzoni*.

Key words: Army ants, taxonomy, new species, Southeast Asia, New Guinea, Australia

Introduction

The genus *Aenictus* Shuckard, 1840 (subfamily Aenictinae) is one of the larger ant genera of the world. Currently 164 valid species and subspecies are listed (Jaitrong & Eguchi, 2010; Bolton, 2011). They are distributed throughout the Old World tropics and subtropics, from Africa through the Middle East (including Arabian Peninsula, Armenia, Turkey, Rhodes Is., Iran and Afghanistan), India, South China, the southernmost part of Japan, various countries in Southeast Asia, to New Guinea and Australia (Arnol′di 1968; Bolton 1994; Gotwald 1995; Aktaç *et al.* 2004; Radchenko & Alipanah 2004; Shattuck 2008; Jaitrong & Yamane 2010). The members of this army ant genus conduct raids using large numbers of workers, mainly attacking other ant genera and more rarely other insects (Gotwald 1976; Gotwald 1995; Hirosawa *et al.* 2000; Shattuck 2008).

Several ant taxonomists have published papers on the *Aenictus* species from Southeast Asia and adjacent areas. The recent papers dealing with species from this region include: Wilson (1964) (Asia and Australia), Terayama (1984) (Taiwan), Xu (1994), Tang *et al*. (1995), Zhou and Chen (1999), Zhou (2001) (China), Terayama and Yamane (1989) (Sumatra, Indonesia), Terayama and Kubota (1993) (Vietnam and Thailand), Yamane and Hashimoto (1999) (Borneo), Shattuck (2008) (Australia), Jaitrong and Eguchi (2010) (Thailand), Jaitrong and Nur-Zati (2010) (Malay Peninsula), Jaitrong and Yamane (2010) (Southeast Asia), Jaitrong *et al*. (2010) (Oriental and Indo-Australian regions), Zettel and Sorger (2010) (Philippines and Borneo), and Jaitrong *et al*. (2011) (Laos). However, only a few have discussed the species groups of *Aenictus*. The first paper evaluating the species groups is Wilson (1964), in which he divided the members of the genus into 7 distinct groups based on certain hypothesized "unique, unreversed" characters. Jaitrong and Yamane (2010) established the *A. silvestrii* group to include three Southeast Asian species with less than 10 antennal segments, and Jaitrong *et al*. (2010) treated seven Oriental and Indo-Australian species which have yellowish and slender bodies with long legs and antennae as belonging to the *A. wroughtonii* group.

In the present paper we establish species groups of *Aenictus*, using the materials collected from Southeast Asia, New Guinea and Australia, which are well defined on the basis of worker morphology. Indian and Sri Lankan species are not treated, but all the species known there belong to these species groups. A key to species groups is provided, and two species groups, the *A. currax* group and *A. laeviceps* group, are revised. Ten species are described as new. We omit the male-based names from the species treatment in this paper, following Wilson (1964).

Materials and methods

This study is mainly based on the materials deposited in the SKY Collection at Kagoshima University (Japan), Ant Museum of Kasetsart University (Thailand) and The Natural History Museum of the National Science Museum (Thailand). Syntypes or paratypes were examined for the fourteen named species of the *Aenictus currax* and *A. laeviceps* groups. The holotype of *A. huonicus* Wilson was also examined.

Most morphological observations were made with a Nikon SMZ1000 stereoscope. Multi-focused montage images were produced using Helicon Focus 4.75 Pro from a series of source images taken by a Nikon EOS Kiss×4 digital camera attached to a Nikon ECLIPSE E600 microscope. Worker measurements were made using an ocular micrometer, recorded to the nearest 0.01 mm.

The abbreviations used for the measurements and indices are as follows:

CI	Cephalic index, HW/HL × 100.
HL	Maximum head length in full-face view, measured from the anterior clypeal margin to the midpoint of a line drawn across the posterior margin of head.
HW	Maximum head width in full-face view.
ML	Mesosomal length measured from the point at which the pronotum meets the cervical shield to the posterior margin of metapleuron in profile.
PL	Petiole length measured from the anterior margin of the peduncle to the posteriormost point of tergite.
SI	Scape index, SL/HW × 100.
SL	Scape length excluding the basal constriction and condylar bulb.
TL	Total length, roughly measured from the anterior margin of head to the tip of gaster in stretched specimens.

Abbreviations of the type depositories are as follows:

AMK	Ant Museum, Faculty of Forestry, Kasetsart University, Thailand.
ANIC	Australian National Insect Collection, Canberra, ACT, Australia.
BMNH	The Natural History Museum, London, U.K.
FRCS	Forest Research Center, Sarawak, Malaysia.
MCZC	Museum of Comparative Zoology, Cambridge, MA, U.S.A.
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland.
MCSN	Museo Civico di Storia Naturale "Giacomo Doria", Genoa, Italy.
MZB	Museun Zoologicum Bogoriense, Cibinong, Indonesia.
NHMW	Naturhistorisches Museum, Wien, Austria.
OXUM	Hope Entomological Collections, University Museum, Oxford, U.K.
SKYC	SKY Collection at Kagoshima University, Japan.
THNHM	Natural History Museum of the National Science Museum, Thailand.
UMS	'BORNEENSIS', Universiti Malaysia Sabah, Sabah, Malaysia.

For general terminology in the worker caste of ants, see Hölldobler and Wilson (1990) and Bolton (1994). Some important characters in the genus *Aenictus* are listed and explained below:

Collar. A well-developed occipital carina that looks like a neck.

Frontal carinae. A pair of longitudinal ridges on the head, located dorsally behind the clypeus and between the antennal sockets. They are variable in length and development, frequently being short and simple but in some groups extending back to halflength of the head.

Parafrontal ridges. Thin, low, bilaterally placed ridges running from the posterior margin of the clypeus longitudinally just laterad to the antennal sockets.

Propodeal junction. The portion where the dorsum and declivity of the propodeum meet (in profile it is the posterodorsal corner of the propodeum).

Typhlatta spots. A pair of yellow patches located on the occipital corners, on upper genae, or overlapping both.

Aenictus Shuckard, 1840

Aenictus Shuckard, 1840: 266. Type-species: *Aenictus ambiguus*, by original designation. Based on the male sex.
Typhlatta Smith, 1857: 79. Type-species: *Typhlatta laeviceps*, by monotypy. Based on the worker caste.
Paraenictus Wheeler, 1929: 27 (as subgenus of *Aenictus*). Type-species: *Aenictus silvestrii*. Based on the worker caste.

Worker diagnosis. For a more extensive description of the worker caste of the genus, see Bolton (1994). Some of the important characteristics are reproduced with slight modification here. Clypeus reduced, narrow from front to back. Antenna 8–10 segmented; antennal socket horizontal, in the plane of transverse axis of head, exposed in full-face view, and located very close to anterior margin of clypeus. Mandible various in shape from triangular, subtriangular to linear. Frontal lobe absent; narrow vertical carinae (sometimes very short) present between the antennal sockets. Eye absent. Promesonotal suture absent; pronotum and mesonotum fused together. Metapleural gland orifice located in lower posterior corner of metapleuron, opening laterally; the orifice concealed behind a ventrally directed cuticular flange. Propodeal lobe present. Metatibial gland present. Waist of two segments, the petiole and postpetiole (= abdominal segments 2 and 3). Petiole sessile to subsessile with tergite and sternite not fused; sternite of petiole with simple posterior margin and simple articulation to postpetiole. Postpetiole with tergosternal fusion; tergite and sternite of the following abdominal segments (= gastral segments 1–4) not fused. Gastral segment 1 with presclerites sharply defined and differentiated from the postsclerites, the former fitting tightly within the narrow posterior end of postpetiole; gastral segment 1 immediately behind the presclerites constricted into a narrow neck. Propodeal spiracle situated high on the side of the sclerite and far forward, not subtended by endophragmal pit or a longitudinal impression; spiracle on side of postpetiole situated at or usually behind the midlength of the segment; gastral spiracles 2–4 (= abdominal spiracles 5–7) shifted backwards, not concealed by the posterior margins of preceding segments and visible without distension of abdomen.

List of species groups found in the Oriental, Indo-Australian and Australasian regions

Aenictus ceylonicus group
Aenictus currax group
Aenictus hottai group
Aenictus inflatus group
Aenictus javanus group
Aenictus laeviceps group
Aenictus leptotyphlatta group
Aenictus pachycerus group
Aenictus philippinensis group
Aenictus piercei group
Aenictus silvestrii group
Aenictus wroughtonii group

Key to *Aenictus* species groups based on the worker caste

1. Antenna 8–9-segmented ..... *A. silvestrii* group
- Antenna 10-segmented 2
2. Anterior clypeal margin with denticles 3
- Anterior clypeal margin lacking denticles. 5
3. Typhlatta spot present; body black, dark brown to reddish brown ..... *A. laeviceps* group
- Typhlatta spot absent; body yellow to yellowish brown. 4
4. Mandible subtriangular; masticatory margin with 3 teeth including large apical tooth. ..... *A. javanus* group
- Mandible triangular; masticatory margin with 9–12 teeth including large apical tooth. ..... *A. wroughtonii* group
5. Anterior clypeal margin concave or almost straight; mandible linear; with mandibles closed a gap present between mandibles and anterior clypeal margin. ..... *A. ceylonicus* group
- Anterior clypeal margin convex; mandible triangular to subtriangular; with mandibles closed a gap absent between mandibles and anterior clypeal margin. 6

6. Typhlatta spot present; head entirely smooth and shiny 7
- Typhlatta spot absent; head sculptured or smooth and shiny 9
7. Head in full-face view with occipital corner convex, with a distinct protuberance on occipital corner, which gives the head a unique "horned" appearance . . . . . *A. currax* group
- Head in full-face view with occipital corner rounded, without lateral protuberance 8
8. Subpetiolar process well developed, subtriangular with its apex directed downward; worker caste completely monomorphic; propodeum normal . . . . . *A. leptotyphlatta* group
- Subpetiolar process weakly developed or almost absent; worker caste polymorphic; propodeum inflated in major and intermediate workers . . . . . *A. inflatus* group
9. Parafrontal ridge essentially absent; head entirely smooth and shiny. . . . . *A. piercei* group
- Parafrontal ridge well developed; head entirely sculptured or rarely smooth. 10
10. First gastral segment micropunctate; subpetiolar process well developed, with posteroventral corner produced posteriad. . . . . *A. hottai* group
- First gastral segment clearly smooth and shiny or weakly shagreened with smooth and shiny interspaces; subpetiolar process weakly developed or almost absent. 11
11. Mesonotum demarcated from mesopleuron by a conspicuous ridge; metanotal groove relatively deep and distinct. . . . . *A. philippinensis* group
- Mesonotum not visibly demarcated from mesopleuron; metanotal groove indistinct. . . . . *A. pachycerus* group

Aenictus ceylonicus group

Diagnosis. Antenna 10-segmented; scape reaching or extending beyond half of head length, but not reaching the occipital corner of head in full-face view. Mandible linear; its basal and lateral margins almost parallel; masticatory margin with large apical tooth followed by medium-sized subapical tooth; between subapical tooth and basal tooth 0–6 small denticles present. With mandibles closed, a gap present between mandibles and anterior margin of clypeus. Anterior clypeal margin weakly concave or almost straight, lacking denticles. Frontal carina short and thin, reaching or slightly extending beyond the level of posterior margin of torulus; anterior curved extension of frontal carina reaching or extending beyond the level of anterior clypeal margin in full-face view; parafrontal ridge absent. Promesonotum usually convex dorsally and sloping gradually to propodeum. Subpetiolar process developed.

Head and first gastral tergite smooth and shiny. Body yellowish, reddish or dark brown; typhlatta spot absent.

Remarks. The *A. ceylonicus* group is a unique group easily separated from the other groups by the following characteristics: mandible linear; a gap present between mandibles and anterior margin of clypeus when mandibles are closed; anterior clypeal margin almost straight or feebly concave, lacking denticles. Our concept roughly agrees with Wilson's (1964) definition of the "*ceylonicus* group", but three species, *A. biroi*, *A. javanus* and *A. piercei*, should be removed from his list since they have triangular mandibles and different conditions of the anterior clypeal margin. All these species belong to three different species groups.

Distribution. India, Sri Lanka, southernmost part of Japan (?), S. China, Taiwan, Vietnam, Thailand, Borneo (Sabah and Sarawak), Philippines, Aru Island, New Guinea (Papua), and Australia (Queensland).

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. acerbus* Shattuck, 2008; *A. ceylonicus* (Mayr, 1866); *A. doryloides* Wilson, 1964; *A. exiguus* Clark, 1934; *A. exilis* Wilson, 1964; *A. fuchuanensis* Zhou, 2001; *A. henanensis* Li et Wang, 2005; *A. nganduensis* Wilson, 1964; *A. orientalis* Karavaiev, 1926; *A. schneirlai* Wilson, 1964; *A. thailandianus* Terayama et Kubota, 1993; *A. turneri* Forel, 1900.

Aenictus currax group

Diagnosis. Head in full-face view with occipital corner convex and with a distinct protuberance, which gives the head a unique "horned" appearance; occipital margin forming a carina. Antenna 10-segmented. Anterior clypeal margin roundly convex, lacking denticles. Mandible subtriangular; its masticatory margin with a large apical tooth followed by a medium-sized subapical tooth, and 4–6 denticles. Frontal carina short, extending a little beyond posterior margin of torulus; parafrontal ridge feeble and incomplete or almost absent. With mesosoma in profile promesonotum convex dorsally and sloping gradually to metanotal groove. Legs slender. Subpetiolar process present; its anteroventral corner always angular, and directed forward and downward.

Head and first gastral segment entirely smooth and shiny. Body black, dark brown to reddish brown; typhlatta spot present, always located at the occipital corner of head.

Remarks. Our concept agrees well with Wilson's (1964) definition of the "*currax* group". This species group is closely related to the *A. leptotyphlatta* group and *A. laeviceps* group, all bearing typhlatta spots on the worker head, and also sharing the black or dark brown to reddish brown body, and entirely smooth and shiny head (Jaitrong & Eguchi 2010). The *A. currax* group is distinguished from the latter two by the following characteristics: anterior clypeal margin roundly convex, lacking denticles; head in full-face view with occipital corner convex and with a distinct protuberance, which gives the head a unique "horned" appearance; in profile "typhlatta spot" always located at occipital corner; subpetiolar process present, triangular with the apex always directed forward and downward.

Distribution. Vietnam, Laos, Myanmar, Thailand, Malay Peninsula (S. Thailand and W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, Brunei, and E. Kalimantan), Sulawesi, New Guinea, and Australia.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. cornutus* Forel, 1900; *A. currax* Emery, 1900; *A. diclops* Shattuck, 2008; *A. glabrinotum* Jaitrong et Yamane, **sp. nov.**; *A. gracilis* Emery, 1893; *A. huonicus* Wilson, 1964; *A. pfeifferi* Zettel et Sorger, 2010; *A. parahuonicus* Jaitrong et Yamane, **sp. nov.**; *A. wayani* Jaitrong et Yamane, **sp. nov.**

Aenictus hottai group

Diagnosis. Antenna long, consisting of 10 segments; scape long, reaching posterolateral corner of head. Anterior clypeal margin roundly convex, lacking denticles. Mandible subtriangular, with very dense punctures; its masticatory margin with a large and sharp apical tooth followed by a medium-sized subapical tooth and 18–20 small inconspicuous denticles. Frontal carina not reaching midlength of head, well developed anteriorly and poorly developed posteriorly; parafrontal ridge present not reaching midlength of head; seen in profile its anteriormost part well developed and raised as a subtriangular process, and poorly developed posteriorly. Occipital margin of head forming a collar or carina. Propodeal junction angular; declivity of propodeum concave, encircled with a rim. Subpetiolar process well developed, posteroventrally produced.

Entire head, mesosoma, petiole and postpetiole very densely puncto-recticulate and opaque. Puncto-reticulation on antennal scape, coxae, femora, tibiae, and basitarsi similarly dense but weaker. First gastral segment with dense but weak and superficial micropunctation, subopaque and slightly shiny. Body dark brown to reddish brown; typhlatta spot absent.

Remarks. This species group is closely related to the *A. pachycerus* group and *A. philippinensis* group in that all have a well-developed frontal carina and parafrontal ridge. The *A. hottai* group can be separated from other groups by the first gastral segment being densely micropunctate, subopaque and slightly shiny, and by the well-developed subpetiolar process which is posteroventrally produced (in the other groups the first gastral segment is smooth and shiny).

Distribution. Malay Peninsula (S. Thailand and W. Malaysia), W. Sumatra, and Borneo (Sarawak).

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. hottai* Terayama et Yamane, 1989; *A. yamanei* Wiwatwitaya et Jaitrong, 2011.

Aenictus inflatus group

Diagnosis. Largest worker. Head in full-face view with occipital corner rounded; occipital margin lacking collar. Antenna long, consisting of 10 segments; antennal scape widened in apical half, reaching posterolateral corner of head in full-face view. Anterior clypeal margin roundly convex, lacking denticles. Mandible triangular; its masticatory margin with a large apical tooth, medium-sized subapical and basal teeth, with 4–5 denticles between subapical and basal teeth. Frontal carina very short, not extending beyond posterior margin of torulus; parafrontal ridge absent. With mesosoma in profile promesonotum convex dorsally and sloping gradually to metanotal groove; propodeum broader than pronotum, distinctly inflated. Legs slender. Subpetiolar process weakly developed or almost absent.

Head and first gastral segment entirely smooth and shiny. Body yellow to yellowish brown; head darker than other parts; typhlatta spot present, located at occipital corner.

Variation. The single species of this group, *A. inflatus* Yamane et Hashimoto, 1999, is clearly polymorphic in the worker caste. Several very small workers were found among the type series and workers of other colonies. They are characterized by a relatively long head, short antennal scape reaching only midlength of head, and normal propodeum. The typhlatta spot is less pronounced in these specimens. Between the largest and smallest workers we have found a series of specimens that are intermediate in the development of propodeum and length of antenna and legs (see also Yamane & Hashimoto 1999).

Remarks. Yamane and Hashimoto (1999) erroneously mentioned that the antenna is 12-segmented when it was in fact 10-segmented. The smallest worker of this group is most similar to the worker of the *A. wroughtonii* group in having a yellowish and slender body, long legs and weakly developed subpetiolar process. But in the former, the anterior clypeal margin is convex, lacking denticles and the antennal scape reaches only the midlength of the head, while in the latter, the anterior clypeal margin is roundly convex with 5–10 denticles and the antennal scape attains or extends beyond posterolateral corner of the head. The inflated propodeum of *A. inflatus* contains a red liquid in living specimens; this liquid dissolves in alcohol.

Distribution. Borneo (Sarawak).

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. inflatus* Yamane et Hashimoto, 1999.

Aenictus javanus group

Diagnosis. Head in full-face view with occipital corner convex; occipital margin lacking collar. Antenna 10-segmented; antennal scape short extending only half length of head. Anterior clypeal margin roundly convex bearing 6–10 denticles. Mandible subtriangular; masticatory margin with 3 teeth including the large apical tooth. Frontal carina short, not extending beyond the level of posterior margin of torulus. Parafrontal ridge absent. Mesosoma in profile with dorsal margin almost flat; dorsal face of mesosoma meeting with lateral face at a right angle; propodeal junction angular; propodeal declivity encircled with a thin rim. Subpetiolar process developed, triangular or subrectangular.

Head and first gastral segment entirely smooth and shiny except the base of gastral tergite I and sternite I that have dense small punctures. Body reddish brown to yellowish brown; typhlatta spot absent.

Remarks. This is a group of relatively small ants measuring 1.38–3.40 mm in total length. It is similar to the *A. piercei* group in terms of body size and coloration, but in the former the anterior clypeal margin has several denticles, while it lacks denticles in the latter.

Though Wilson (1964) treated *Aenictus javanus* as a member of the *A. ceylonicus* group, it has a quite different set of characteristics as mentioned above.

Distribution. Vietnam, Laos, Thailand, and W. Java.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. doydeei* Jaitrong et Yamane, 2011; *A. javanus* Enery, 1896; *A. nishimurai* Terayama et Kubota, 1993.

Aenictus laeviceps group

Diagnosis. Head in full-face view with occipital corner rounded; occipital margin forming a carina. Antenna 10-segmented; antennal scape relatively long, usually attaining posterior corner of head. Anterior clypeal margin roundly convex, bearing 5–12 denticles. Mandible subtriangular; its masticatory margin with a large apical tooth followed by a medium-sized subapical tooth and 5–8 denticles. Frontal carina short, extending slightly beyond posterior margin of torulus; parafrontal ridge feeble and incomplete or almost absent. With mesosoma in profile promesonotum convex dorsally and sloping gradually to metanotal groove. Legs slender; subpetiolar process well developed, triangular; its apex usually directed backward and downward.

Head and first gastral segment entirely smooth and shiny. Body black, dark brown to reddish brown; typhlatta spot present, usually located anterior to occipital corner.

Remarks. Our concept agrees well with Wilson's (1964) definition of the "*laeviceps* group". This group is closely related to the *A. currax* group and *A. leptotyphlatta* group (see under *A. currax* group). The *A. laeviceps* group is distinguished from the latter two by the following characteristics: anterior clypeal margin roundly convex with several denticles; head in full-face view with occipital corner rounded; in profile typhlatta spot usually located anterior to occipital corner; subpetiolar process well developed, with the apex directed downward and backward.

Distribution. India, Vietnam, Cambodia, Thailand, Malay Peninsula (S. Thailand and W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, Brunei, and E. Kalimantan), Java, Philippines, and Sulawesi**.**

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. alticola* Wheeler et Chapman, 1930; *A. binghami* Forel, 1900; *A. bodongjaya* Jaitrong et Yamane, **sp. nov.**; *A. breviceps* Forel, **stat nov.**; *A. brevinodus* Jaitrong et Yamane, **sp. nov.**; *A. fergusoni* Forel, 1900; *A. fulvus* Jaitrong et Yamane, **sp. nov.**; *A. hodgsoni* Forel, 1900; *A. laeviceps* (Smith, 1858); *A. luzoni* Wheeler et Chapman, 1925; *A. montivagus* Jaitrong et Yamane, **sp. nov.**; *A. rotundicollis* Jaitrong et Yamane, **sp. nov.**; *A. siamensis* Jaitrong et Yamane, **sp. nov.**; *A. sonchaengi* Jaitrong et Yamane, **sp. nov.**

Aenictus leptotyphlatta group

Diagnosis. Head in full-face view with occipital corner rounded; occipital margin lacking collar. Antenna 10-segmented; antennal scape short, reaching or extending slightly beyond midlength of head. Anterior margin of clypeus slightly convex medially, lacking denticles. Mandible subtriangular; its masticatory margin with a large apical tooth followed by 4–5 relatively large teeth. Frontal carina short and thin, extending posteriad, not beyond the level of posterior margin of torulus; anterior curved extension of frontal carina reaching or extending beyond the level of anterior clypeal margin. With mesosoma in profile promesonotum weakly convex dorsally and sloping gradually to propodeum. Legs slender. Subpetiolar process well developed, triangular, with its apex directed downward.

Head and first gastral segment entirely smooth and shiny. Body black to dark brown; typhlatta spot present but not clear.

Remarks. This group is closely related to the *A. currax* group and *A. laeviceps* group (see under *A. currax* group). The *A. leptotyphlatta* group exhibits conditions intermediate between the *A. currax* group and *A. laeviceps* group. It has the anterior clypeal margin lacking denticles as in the *A. currax* group, but the occipital corner of the head is similar to that of the *A. laeviceps* group. Furthermore the typhlatta spot is less clearly demarcated from the background, and much paler in coloration than in the other typhlatta-bearing species groups.

Distribution. Thailand.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. leptotyphlatta* Jaitrong et Eguchi, 2010.

Aenictus pachycerus group

Diagnosis. Antenna long, consisting of 10 segments; scape long, reaching or extending beyond posterolateral corner of head. Anterior clypeal margin roundly convex in the middle, lacking denticles. Mandible triangular, with very dense punctures; its masticatory margin with a large and sharp apical tooth followed by 4–12 small inconspicuous denticles, which gradually reduce in size toward basal angle of mandible. Frontal carinae fused at the level of antennal base to form a single carina, and extending less than half length of head, and well developed anteriorly and poorly developed posteriorly; parafrontal ridge present, reaching less than half length of head; seen in profile its anteriormost part well developed and raised as a subtriangular process. Occipital margin forming a collar or carina. Promesonotum distinctly convex or very weakly convex dorsally and sloping gradually to propodeum; propodeal junction angular; declivity of propodeum concave, encircled with a rim. Subpetiolar process weakly developed.

Head entirely sculptured or smooth and shiny. Petiole and postpetiole densely punctate in at least Southeast Asian species. First gastral segment entirely smooth and shiny, or rarely superficially shagreened, except the base of the tergite and sternite that has small, dense punctures. Body black, dark or reddish brown to light or yellowish brown; typhlatta spot absent.

Remarks. The *A. pachycerus* group consists of relatively large species in terms of body size (TL 3.20–4.65 mm). Wilson (1964) pointed out that this group is closely related to the *A. philippinensis* group, but can be distinguished from the latter by the mesonotum not visibly demarcated from the mesopleuron, and the metanotal groove almost absent or indistinct (mesopleuron clearly demarcated from metapleuron by a deep groove and from promesonotum by a distinct carina and metanotal groove relatively deep and distinct in the latter). This species group is also related to the *A. hottai* group in having developed frontal carina and parafrontal ridge. See under the *A. hottai* group.

Distribution. India, Sri Lanka, S. China, Vietnam, Thailand, Malay Peninsula (S. Thailand and W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, Brunei, and E. Kalimantan), Philippines, New Guinea (Papua), and Australia (Queensland).

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. aitkenii* Forel, 1901; *A. aratus* Forel, 1900; *A. bobaiensis* Zhou et Chen, 1999; *A. carolianus* Zettel et Sorger, 2010; *A. chapmani* Wilson, 1964; *A. dentatus* Forel, 1911; *A. levior* (Karavaiev, 1926); *A. nesiotis* Wheeler et Chapman, 1930; *A. pachycerus* (Fr. Smith, 1858); *A. philiporum* Wilson, 1964; *A. powersi* Wheeler et Chapman, 1930; *A. prolixus* Shattuck, 2008; *A. puensis* Forel, 1901; *A. reyesi* Chapman, 1963.

Aenictus philippinensis group

Diagnosis. Antenna 10-segmented; scape not reaching the posterolateral corner of head. Anterior clypeal margin convex in the middle, lacking denticles. Mandible triangular, with very dense punctures; its masticatory margin with a large and sharp apical tooth followed by 6–8 small inconspicuous denticles. Frontal carinae fused at the level of antennal base to form a single carina, extending less than half length of head, and well developed anteriorly and poorly developed posteriorly; parafrontal ridge present, not reaching midlength of head. Occipital margin forming a collar or carina. Mesosoma in profile with promesonotum convex dorsally and sloping gradually to metanotal groove; mesopleuron clearly demarcated from metapleuron by a deep groove and from promesonotum by a distinct carina; metanotal groove relatively deep and distinct; propodeal junction angular; declivity of propodeum concave, encircled with a rim. Subpetiolar process weakly developed.

First gastral segment entirely smooth and shiny except the base of both tergite and sternite which has dense small punctures. Body reddish brown to dark brown; typhlatta spot absent.

Remarks. This group consists of relatively large species measuring 4.05–4.60 mm in total body length, and is closely related to the *A. pachycerus* group and *A. hottai* group. However, the *A. philippinensis* group is separated from these by having the mesonotum demarcated from the mesopleuron by a conspicuous ridge and the metanotal groove being relatively deep and distinct. The sculpture of the head is variable, from entirely smooth to densely puncto-reticulate.

Distribution. Philippines.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. pangantihoni* Zettel et Sorger, 2010; *A. philippinensis* Chapman, 1963; *A. rabori* Chapman, 1963.

Aenictus piercei group

Diagnosis. Head in full-face view with occipital corner convex, and posterior margin almost straight to shallowly and broadly concave; occipital margin lacking collar. Antenna 10-segmented; antennal scape short, reaching only midlength of head. Anterior clypeal margin roundly convex, lacking denticles. Mandible subtriangular; its masticatory margin with a large apical tooth, medium-sized subapical and basal teeth, and 2–6 denticles between them; basal margin of mandible with conspicuous denticles. Frontal carina short; parafrontal ridge absent. With mesosoma in profile promesonotum convex dorsally and sloping gradually to the propodeum; metapleural groove present or absent (mesonotum and propodeum fused); propodeal junction angular. Subpetiolar process well developed, triangular or subrectangular.

Head and first gastral segment entirely smooth and shiny. Body yellowish brown to reddish brown; typhlatta spot absent.

Remarks. This is a group of rather small species, measuring 1.80–3.20 mm in total body length. Wilson (1964) included *A. piercei* in the "*ceylonicus* group", which, he said, is a diverse group and defined arbitrarily to include heterogenous species. Also see under the *A. ceylonicus* group and *A. javanus* group.

Distribution. Southernmost part of Japan, Taiwan, Myanmar, Thailand, Sumatra, and Philippines.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. changmaianus* Terayama et Kubota, 1993; *A. lifuiae* Terayama, 1984; *A. minutulus* Terayama et Yamane, 1989; *A. peguensis* Emery, 1894; *A. piercei* Wheeler et Chapman, 1930.

Aenictus silvestrii group

Diagnosis. Antenna thick, consisting of only 8 or 9 segments; scape somewhat flattened, broadened apically and strongly grooved below. Anterior clypeal margin roundly convex in the middle, without denticles. Mandible triangular, with very dense small punctures; its masticatory margin with inconspicuous denticles in addition to the sharp apical tooth. Frontal carinae fused at the level of antennal base to form a single carina; parafrontal ridge absent. Occipital margin forming a narrow collar. Declivity of propodeum concave, encircled with a rim; subpetiolar process weakly to well developed. Legs relatively short, with apical half of tibia weakly broadened and apical half of femur strongly broadened and somewhat flattened.

Head entirely sculptured but in one species smooth. Gastral segment I entirely smooth and shiny except the base of tergite I and sternite I which has dense small punctures; the punctured area usually dark colored. Head and mesosoma yellowish, reddish or dark brown; gaster paler, usually yellow; typhlatta spot absent.

Remarks. This is a unique group, which has the antenna with less than 10 segments. The groove on the ventral face of the scape, which is strongly flattened, and the enlarged femora of the legs are also useful for recognizing this group.

Distribution. Thailand, Malay Peninsula (W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, and Brunei), and W. Java.

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. glabratus* Jaitrong et Nur-Zati, 2010; *A. jarujini* Jaitrong et Yamane, 2010; *A. latifemoratus* Terayama et Yamane, 1989; *A. silvestrii* Wheeler, 1929.

Aenictus wroughtonii group

Diagnosis. Head narrow; occipital margin lacking collar. Antenna long, consisting of 10 segments, with a strikingly long scape attaining or extending beyond posterolateral corner of head (but in one Vietnamese species the scape shorter, not reaching posterolateral corner of head). Anterior clypeal margin roundly convex with 5–10 denticles. Mandible triangular, with masticatory margin bearing 8–12 minute inconspicuous denticles in addition to large apical tooth with a sharp apex; basal margin of mandible lacking denticles. Frontal carina short; parafrontal ridge feeble and incomplete. Mesosoma narrow and elongate. Legs very slender. Subpetiolar process weakly developed or almost absent.

Head and gaster entirely smooth and shiny. Nearly entire body clear yellow to yellowish brown; typhlatta spot absent.

Remarks. This species-group is separated from the other groups by the following characteristics: yellowish and slender body; antennal scape long, usually attaining or extending beyond posterolateral corner of head; anterior clypeal margin roundly convex with several denticles. In general appearance, the species of the *A. wroughtonii* group are similar to the smallest worker of *A. inflatus*. See under *A. inflatus* group.

Wilson (1964) treated *A. biroi* as a member of the *A. ceylonicus* group, but Jaitrong *et al*. (2010) removed it from this group and transferred it to the *A. wroughtonii* group because of the presence of denticles on the anterior clypeal margin in the worker.

Distribution. India, Sri Lanka, Taiwan, Vietnam, Thailand, Malay Peninsula (W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, and Brunei), and Philippines (Negros and Luzon).

Currently valid names for the Oriental, Indo-Australian, and Australasian forms. *A. artipus* Wilson, 1964; *A. biroi* Forel, 1907; *A. camposi* Wheeler et Chapman, 1925; *A. sagei* Forel, 1901; *A. stenocephalus* Jaitrong et Yamane, 2010; *A. vieti* Jaitrong et Yamane, 2010; *A. wroughtonii* Forel, 1890.

Revision of the *Aenictus currax* group

Checklist of species

A. cornutus Forel, 1900
A. currax Emery, 1900
A. diclops Shattuck, 2008
A. glabrinotum Jaitrong et Yamane, **sp. nov.**
A. gracilis Emery, 1893
= *A. martini* Forel, 1901
= *A. martini* var. *boelianensis* Forel, 1913
A. huonicus Wilson, 1964
A. parahuonicus Jaitrong et Yamane, **sp. nov.**
A. pfeifferi Zettel et Sorger, 2010
A. wayani Jaitrong et Yamane, **sp. nov.**

Key to species based on the worker caste

1.	Southeast Asian species	2
-	New Guinean or Australian species	7
2.	Pronotum anteriorly produced into a pair of horn-like protuberances (Malay Peninsula, Borneo, Sumatra)	*A. cornutus*
-	Pronotum unarmed	3
3.	Head and promesonotum without standing hairs (Borneo)	*A. glabrinotum* **sp. nov.**
-	Head and promesonotum with standing hairs	4
4.	Declivity of propodeum feebly convex, not encircled with a thin rim (Vietnam, Laos, Thailand)	*A. parahuonicus* **sp. nov.**
-	Declivity of propodeum shallowly concave, and encircled with a thin rim	5
5.	Entire propodeum and petiole with dense micropunctures (Thailand, Malay Peninsula, Borneo, Philippines)	*A. gracilis*
-	Propodeal and petiolar dorsum smooth and shiny	6
6.	Head with 2 long standing hairs on vertex; pronotal hairs relatively short (0.23–0.25 mm); antenna relatively short (SI 75–85) (Borneo)	*A. pfeifferi*
-	Head with some shorter standing hairs in addition to two long hairs on vertex; pronotal hairs relatively long (0.38–0.40 mm); antenna relatively long (SI 97–100) (Sulawesi)	*A. wayani* **sp. nov.**
7.	Propodeum and petiole entirely sculptured (Australia)	*A. diclops*
-	Propodeal and petiolar dorsa smooth and shiny (New Guinea)	8
8.	Concolorous dark reddish brown; antennal scape shorter than head width (SI 87–94)	*A. huonicus*
-	Concolorous brownish yellow except for dark brown vertex; antennal scape as long as or slightly longer than head width (SI 100–104)	*A. currax*

Aenictus cornutus Forel

(Figs. 1–2)

Aenictus cornutus Forel, 1900: 75; Wilson, 1964: 457, figs. 21–22; Bolton, 1995: 59.

Types. Four syntype workers (two on each of the two pins) from Borneo, Sarawak (MHNG, examined). One worker among them (bottom on a pin) is selected as the lectotype, the others as paralectotypes.

Measurements. Worker lectotype and paralectotypes (n = 4): TL 4.00–4.45 mm; HL 0.83–0.88 mm; HW 0.73–0.78 mm; SL 0.80–0.88 mm; ML 1.48–1.55 mm; PL 0.35–0.38 mm; CI 86–89; SI 107–114.

Redescription of worker (lectotype and paralectotypes). Head in full-face view clearly longer than broad, with sides slightly convex and posterior margin sinuate; occipital margin bearing a narrow collar. Antenna relatively thick; scape not reaching posterolateral corner of head; antennal segments II–VI slightly longer than broad, of approximately same length; VII–IX thicker and slightly longer; X slightly longer than VIII+IX. Frontal carina short, slightly extending beyond the level of posterior margin of torulus and well developed anteriorlly. Parafrontal ridge short and bluntly pointed at apex. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 5–6 denticles; basal margin of mandible lacking denticles.

Mesosoma slender; pronotum anteriorly armed with large bilateral horn-like protuberances, a unique character within the species group. Propodeum in profile with weakly convex dorsal outline; propodeal junction angular; declivity of propodeum shallowly concave, and encircled with a thin rim. Petiole distinctly longer than high, with its dorsal outline elevated posteriorlly; subpetiolar process low, with its anteroventral corner angulate, and ventral margin almost straight, sometimes with lamellate lower portion. Postpetiole distinctly longer than high, with its dorsal outline convex.

FIGURES 1–4. Workers of *Aenictus currax* group. 1, 2, *A. cornutus*, lectotype; 3, 4, *A. gracilis*, lectotype. 1, 3, Head in full-face view; 2, 4, habitus in profile.

Head entirely smooth and shiny. Mandible very finely striate except for masticatory and outer zones. Antennal scape punctate. Pronotum smooth and shiny except for the anteriormost portion and pronotal horns which are punctate; mesothorax, metapleuron, and propodeum with dense punctures and bearing several longitudinal rugulae. Petiole and postpetiole densely punctate as are metathorax and propodeum. Legs densely punctate.

Head and mesosoma dorsally with relatively sparse long standing hairs mixed with dense short hairs; longest pronotal hair 0.35 mm long. Entire body dark reddish-brown. Typhlatta spot located at the occipital corner.

Non-type material examined. MALAYSIA: W. Malaysia, Ulu Gombak, VII–IX 1992, F. Ito leg., MG445 (SKYC); Sabah, Kinabalu, Poring, 8 V 1997, H. Hirosawa leg. (SKYC); Sabah, same loc., 23 XI 1996, K. Eguchi leg., Eg96-BOR-295 (SKYC, THNHM); Sabah, Gunong Rara, Tawau, 19 II 1997, K. Eguchi leg., Eg97-BOR-540 (SKYC, THNHM); Sarawak, Mulu, 13 XII 1993, Sk. Yamane leg. (SKYC, THNHM); Sarawak, Ng. Mabau, 2 XI 1993, Het leg. (SKYC); Sarawak, Miri, T. Matsumoto leg., GAAP5HC23. **INDONESIA:** W. Sumatra, Lubuk Gadang, 21–23 VIII 1985, Sk. Yamane leg. (SKYC, THNHM).

Distribution. Malay Peninsula (W. Malaysia), Sumatra, and Borneo (Sabah and Sarawak) (Fig. 23).

Bionomics. *Aenictus cornutus* is very probably restricted to Sundaland. All colonies of this species were collected from lowland rainforests. Rościszewski and Maschwitz (1994) reported that in the Pasoh Forest Reserve, Malaysia, *A. cornutus* foraged on the ground and fed on ants of the genera *Polyrhachis* and *Technomyrmex*.

Remarks. This species is easily distinguished from the other members of the group as follows: pronotum armed with large bilateral horn-like protuberances; antennal scape, legs and postpetiole distinctly punctate.

FIGURES 5–10. Workers of *Aenictus currax* group. 5–7, *A. glabrinotum* **sp. nov.**, non-type specimen from E Kalimantan, Sungai Wain, WJT99-ID01; 8–10, *A. pfeifferi*, non-type specimen from Borneo, Sarawak, Lambir National Park, 17 VIII 1995. 5, 9, Head in full-face view; 6, 10, habitus in profile; 7, 8, dorsal view of body.

Aenictus currax Emery

(Figs. 11–12)

Aenictus currax Emery, 1900: 310, pl. 8, fig. 1; Wilson, 1964: 459, figs. 23, 86; Bolton, 1995: 59.

Types. One syntype worker from NE New Guinea, Astrolabe Bay, Erima (MCSN) was examined and selected as the lectotype.

Measurements. Worker lectotype: TL 4.15 mm; HL 0.88 mm; HW 0.70 mm; SL 0.73 mm; ML 1.33 mm; PL 0.30 mm; CI 80; SI 104.

Redescription of worker (lectotype and non-type specimens). Head in full-face view distinctly longer than broad, with sides slightly convex and posterior margin feebly concave; occipital margin bearing a distinct carina. Antenna relatively thick; scape not reaching posterolateral corner of head; antennal segments II–X each longer than broad, but V–VIII rather short; II slightly longer than each of III–VI. Frontal carina short, slightly extending beyond the level of posterior margin of torulus. Parafrontal ridge short. Masticatory margin of mandible with a

large apical tooth followed by a medium-sized subapical tooth and 4–6 denticles; basal margin of mandible sinuate with 3–4 ill-defined denticles. Mesosoma elongate; promesosoma in profile convex dorsally and sloping gradually to metanotal groove; mesopleuron clearly demarcated from metapleuron by a groove. Propodeum in profile with moderately convex (in smaller specimens almost flat) dorsal outline; propodeal junction obtusely angulate; declivity of propodeum shallowly concave and encircled with a thin rim; area below propodeal spiracle distinctly impressed; distance between propodeal spiracle and metapleural gland bulla almost as long as spiracular diameter; the spiracle clearly circular, in diameter about 2.5 times as long as postpetiolar spiracle. Petiole distinctly longer than high, with its dorsal outline convex; subpetiolar process reduced, low, anteriorly right-angulate. Postpetiole round, almost as long as high.

FIGURES 11–16. Workers of *Aenictus currax* group. 11, 12, *A. currax*, lectotype; 13, 14, *A. huonicus*, holotype; 15, 16, *A. diclops*, paratype. 11, 13, 15, Head in full-face view; 12, 14, 16, habitus in profile.

Head including mandible and antennal scape extensively smooth and shiny; basal 1/3 of scape superficially sculptured. Pronotum smooth and shiny except for the anteriormost portion which is punctate; mesonotum smooth and shiny; mesopleuron macroreticulate, with several short longitudinal rugulae; propodeum bearing scattered, thin, straight longitudinal rugae, whose interspaces are smooth and shiny. Petiole smooth and shiny dorsally, its

anterior portion, lateral faces and posterior portion punctate. Postpetiole entirely smooth and shiny except for anteriormost portion which is punctate. Legs smooth and shiny.

Body with relatively sparse standing hairs; longest pronotal hair 0.23–0.25 mm long. Entire body brownish-yellow except for a much darker median area from upper frons to vertex between large typhlatta spots occupying the occipital corner; basal 1/3 of antennal scape also darker.

Non-type material examined. Papua New Guinea: Madang, Haya Village, 26 II 2009, H. O. Tanaka leg. (SKYC, THNHM).

Distribution. Papua New Guinea.

Bionomics. Wilson (1964) reported that a colony of *A. currax* was found in Karima, Papua New Guinea, the morning of March 1955, on the open floor of a virgin lowland rainforest. It consisted of a packed mass of workers, which must have numbered at least 100,000. The workers extended up the tree trunk to about 1 m. The colony was apparently entirely above ground, and the workers were carrying bodies of adult workers and males of the ant genus *Crematogaster.* This species is very probably restricted to New Guinea.

Remarks. *Aenictus currax* is very similar in general appearance to *A. diclops*, *A. huonicus*, *A. pfeifferi*, *A. parahuonicus*, and *A. wayani*. Among these this species is more closely related to *A. diclops* and *A. wayani* than to the others in having a slender mesosoma and relatively long antennal scape (SI 97–104, while SI is less than 95 in *A. pfeifferi*, *A. huonicus*, and *A. parahuonicus*). *Aenictus currax* can be separated from *A. diclops* by having the propodeal and petiolar dorsa smooth and shiny (entirely sculptured in *A. diclops*), and it is easily distunguished from *A. wayani* as follows: antennal scape relatively longer (SI 104 in *A. currax*, 97–100 in *A. wayani*); basal margin of mandible sinuate with 3–4 ill-defined denticles in *A. currax* (denticles absent in *A. wayani*). All the species mentioned above are completely allpatric, but *A. gracilis* is sympatric with *A. pfeifferi* in Borneo and *A. parahuonicus* in Thailand etc.

The workers from Haya Village, Madang, Papua New Guinea are on average smaller than the lectotype from Astrolabe Bay.

Aenictus diclops Shattuck

(Figs. 15–16)

Aenictus diclops Shattuck, 2008: 8, figs. 9–10, 26.

Types. Holotype and 29 paratype workers from Queensland, Cape York, Jardine River, Telegraph Line, G. Monteith, 15–17 VI 1969, (ANIC, ANIC32-023689). Three paratypes were examined.

Measurements. Worker paratypes (n = 3): TL 4.80–4.95 mm; HL 0.90–0.95 mm; HW 0.75–0.83 mm; SL 0.78–0.83 mm; ML 1.53–1.58 mm; PL 0.33–0.35 mm; CI 83–89; SI 97–103.

Redescription of worker (paratypes)**.** Head in full-face view clearly longer than broad, with sides convex and posterior margin almost straight; occipital margin bearing a distinct carina. Antennal scape extending beyond 2/3 of head length, but not reaching occipital corner of head. Frontal carina short, slightly extending beyond the level of posterior margin of torulus. Parafrontal ridge absent (although a sharp angle is present immediately posterior to the lateral clypeal margin). Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 4-ca. 10 ill-defined crenulations. Promesonotum in profile convex dorsally and sloping gradually to metanotal groove. Propodeum in profile with convex dorsal outline; declivity of propodeum short, shallowly concave, and encircled with a thin rim. Petiole slightly longer than high, with its dorsal outline convex; subpetiolar process absent or at most a thin carina. Postpetiole almost as long as petiole, but rounder than petiole.
Head including mandible entirely smooth and shiny; antennal scape superficially shagreened, partly smooth and shiny. Posterior pronotum smooth, anterior pronotum and entire mesonotum with weak, fine punctations; mesopleuron with longitudinal rugae; propodeum similar to mesonotum but sculpturing less well developed, especially anteriorly. Petiole smooth and shiny dorsally, its anterior and posterior portions punctate, lateral face microreticulate or shagreened with smooth and shiny bottoms. Postpetiole entirely smooth and shiny. Entire body dark reddish-brown, with a relatively small typhlatta spot on each occipital corner.

Distribution. Australia (Queensland).

Bionomics. Shattuck (2008) reported that this species is one of the rarest Australian *Aenictus*, being known from only two collections on northern Cape York Peninsula.

Remarks. This species is most similar to *A. currax*. See under *A. currax* for details.

Aenictus glabrinotum sp. nov.
(Figs. 5–7)

Types. Holotype. Worker from Borneo, Sabah, Danum Valley, 29 IV 2000, C. Brühl leg. CB-00-05 (UMS). Five paratype workers, same data as holotype (SKYC, THNHM).

Measurements. Holotype and paratype workers (n = 6): TL 3.10–4.05 mm; HL 0.75–0.90 mm; HW 0.62–0.83 mm; SL 0.43–0.70 mm; ML 1.00–1.37 mm; PL 0.28–0.33 mm; CI 83–94; SI 68–85.

Description of worker (holotype and paratypes)**.** Head in full-face view slightly longer than broad, with sides slightly convex and posterior margin concave; occipital carina complete, not interrupted medially. Antennal scape relatively short, extending slightly beyond midlength of head; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina very short, not extending beyond the level of posterior margin of torulus. Parafrontal ridge absent. Anterior margin of clypeus lacking denticles; median portion of clypeal margin almost straight or feebly concave. Masticatory margin of mandible with a large apical tooth followed by a small subapical tooth and 3–4 denticles, which are only slightly smaller than subapical teeth; basal margin bearing 3–4 denticles. Promesonotum in profile weakly convex dorsally and sloping to metanotal groove. Propodeum in profile with almost striagth or feebly convex dorsal outline; propodeal junction rounded; declivity of propodeum shallowly concave, and encircled with a thin rim; area below propodeal spiracle distinctly impressed; opening of propodeal spiracle clearly circular with its diameter about 1.6 times as long as diameter of postpetiolar spiracle. Petiole clearly longer than high, with its dorsal outline convex; subpetiolar process relatively low, with its ventral outline straight or weakly convex, and anteroventral corner bluntly produced or roundly angled. Postpetiole almost as long as petiole and clearly longer than high.

Head entirely smooth and shiny; mandible extensively smooth, without fine striation; antennal scape dorsally smooth and ventrally superficially sculptured. Pronotum smooth and shiny except the anterior portion punctate; mesonotum smooth and shiny; mesopleuron finely and densely punctate; metapleuron and lateral face of propodeum with fine rugulae and very minute sculpture but partly smooth; dorsum of propodeum smooth and shiny. Petiole with dorsal surface smooth and shiny, and anterior and lateral faces finely punctate. Postpetiole entirely smooth and shiny. Legs smooth and shiny.

Head with one or two long hairs on vertex (often completely hairless); ventral surface of head also with few (often no) standing hairs. Dorsum of mesosoma usually without standing hairs. Petiole and postpetiole each with only a pair of standing hairs. Hairs on hind femur very short, never overlapping each other; mid and hind tibiae with short appressed hairs only. Entire body dark reddish-brown, with a relatively large typhlatta spot on occipital corner; anterior border of the spot diluted into ground color.

Non-type material examined. Malaysia: Sarawak, Miri, Lambir N.P., 21 I 1993, Rahman leg. (SKYC, THNHM). **INDONESIA:** E. Kalimantan, Sungai Wain, WJT99-ID01 (AMK, THNHM).

Etymology. The specific name is a noun meaning the (promeso)notum without standing hairs.

Distribution. Borneo (Sabah, Sarawak, and E. Kalimantan) (Fig. 25).

Bionomics. This species is very probably sympatric with *A. pfeifferi*. The type series and non-type material examined were collected from lowland rainforests.

Remarks. *A. glabrinotum* is a distinct species of the species group in having very few standing hairs on the head and promesonotum.

Aenictus gracilis Emery
(Figs. 3–4)

Aenictus gracilis Emery, 1893: 187, pl. 8, fig. 1; Wilson, 1964: 463, figs. 56, 57, 89; Bolton, 1995: 59.

Aenictus martini Forel, 1901: 473. Type localities: Malaya, Malacca (Pahang and Perak) and Burma, Moulmein. (Synonymy by Wilson, 1964.)

Aenictus martini var. *boelianensis* Forel, 1913: 20. Type locality: Sumatra, Bah Boelian and Bah Soemboe. (Synonymy by Wilson, 1964.)

Types. *Aenictus* (*Typhlatta*) *gracilis*. Seven syntype workers on three pins (one on a pin, three on another, three on the other) from Sarawak (MCSN, examined). The single specimen mounted on the first pin is selected as the lectotype, the others as paralectotypes. We also examined two syntypes of *A. martini* from Malacca and three syntypes of *A. martini* var. *boelianensis* (both in MHNG); these specimens well agreed with *A. gracilis*.

Measurements. Worker lectotype and paralectotypes (n =7): TL 3.60–3.80 mm; HL 0.70–0.78 mm; HW 0.63–0.68 mm; SL 0.52–0.65 mm; ML 1.20–1.30 mm; PL 0.25–0.30 mm; CI 80–90; SI 84–104.

Redescription of worker (lectotype and paralectotypes). Head in full-face view clearly longer than broad, with sides convex and posterior margin almost straight and weakly sinuate; occipital carina distinct. Antenna relatively long; scape almost reaching posterolaterial corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina extending beyond the level of posterior margin of torulus, well developed anteriorly and gradually becoming evanescent posteriorlly. Parafrontal ridge short and bluntly pointed at apex. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 6–8 denticles; basal margin lacking denticles. Mesosoma slender; promesonotum in profile weakly convex dorsally and sloping gradually to metanotal groove; mesothorax almost cylindrical and demarcated from propodeum by a groove laterally, and by a shallow metanotal groove dorsally. Propodeum in profile with weakly convex dorsal outline; propodeal junction angulate; declivity of propodeum shallowly concave, and encircled with a thin rim; opening of propodeal spiracle clearly circular with its diameter about 1.5–2.0 times as long as diameter of postpetiolar spiracle. Petiole distinctly longer than high, with its dorsal outline weakly convex; subpetiolar process weakly developed, low but often triangular anteriorly, with its ventral outline almost straight, and anteroventral corner angulate. Postpetiole slightly longer than high, with its dorsal outline elevated posteriorlly.

Head including mandible and antennal scape extensively smooth and shiny; basal 1/3 of scape finely sculptured. Pronotum and mesonotum smooth and shiny except for the anteriormost portion of pronotum which is punctate; mesopleuron and propodeum with dense punctures. In addition, propodeum bearing several thin, straight, longitudinal rugae. Petiole with dense punctures, while postpetiole dorsally smooth and shiny, on occasion laterally superficially sculptured. Legs smooth and shiny.

Head and mesosoma dorsally with relatively sparse long standing hairs mixed with sparse short hairs; longest pronotal hair 0.40 mm long. Entire body dark reddish-brown. Typhlatta spot located at occipital corner.

Non-type material examined. THAILAND: W. Thailand, Kanchanaburi Prov., Maeklong Watershed Research Station, 29 XI 2003, Sk. Yamane leg., TH03-SKY-143 (AMK, SKYC, THNHM); S. Thailand, Ranong Prov., Khlong Naka, 31 XII 2000, W. Jaitrong leg., WJT00-KNK01 (AMK, SKYC, THNHM); S. Thailand, Satun Prov., Tarutao, Ludu waterfall, 200 m alt., 6 III 2008, N. Noon-anant leg., NW08-TH (SKYC, THNHM); S. Thailand, Songkhla Prov., Khao Nam Khang, 25 VII 1997, H. Okido leg., TH97-HO-177 (SKYC, THNHM); S. Thailand, Narathiwat Prov., Tao Dang, peat swamp forest, 7 IX 1998, N. Noon-anant leg., WJT98-NW01 (SKYC, THNHM). **MALAYSIA:** Selangor, Ulu Gombak, VII-IX 1992, F. Ito leg., MG355 (SKYC, THNHM); same loc., 26 VII 1998, F. Ito leg., FI98-190 (SKYC, THNHM); Sabah, Tawau Hills N.P., 9 VII 1996, K. Eguchi leg. Eg96-BOR-017 (SKYC, THNHM); same loc., 3 II 1993, T. Kikuta leg (SKYC); Sabah, Danum Valley, 4 XI 1996, K. Eguchi leg., Eg96-BOR-174 (SKYC, THNHM); Sabah, Sepilok forest, 23 I 1997, K. Eguchi leg., Eg97-BOR-454 (SKYC, THNHM); Sabah, Poring, Kinabalu, 450–500 m alt., 21 I 1996, K. Eguchi leg., Eg96-BOR-262 (SKYC, THNHM); same loc., 26 IV 1997, H. Hirosawa leg. (SKYC, THNHM); Sabah, Mahua, 13 X 2009, T. Yamasaki leg., BN09-TY01 (SKYC, THNHM); Sarawak, Miri, Lambir N.P., 31 XI 1997, Sk. Yamane leg. (SKYC, THNHM); same loc., 1 I 1998, Sk. Yamane leg. (SKYC, THNHM); same loc., 16 I 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 18 IV 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 2 VII 2004, Sk. Yamane leg., SR04-SKY-46 (SKYC, THNHM); same loc., 16 XII 1993, Sk. Yamane leg. (SKYC, THNHM); Sarawak, Bako N.P., 21-22 IV 1993, Sk. Yamane leg. (SKYC, THNHM); Sarawak, Bt. Lanjak, Engkari, 25 IV 1994, K. Het leg. (SKYC); Sarawak, Mulu, 14 XII 1993, Sk. Yamane leg. (SKYC). **BRUNEI:** Tasek Merimbun, 14 VIII 1999, K. Eguchi leg., Eg99-BOR-558 (SKYC, THNHM). **INDONESIA:** Sumatra, Sitlung, 1-5 I 1993, F. Ito leg., FI-93-250 (SKYC, THNHM); Sumatra, Ulu Gadut, 17 VIII 1996 (SKYC); Sumatra, Mentawai Is., Pulau Sipora, Tuapejat, 25 II 2007, Sk. Yamane leg., SU07-SKY-109 (SKYC, THNHM); E. Kalimantan, Kutai N.P., 7 VIII 1992, Sk. Yamane leg. (SKYC, THNHM). **PHILIPPINES:** Luzon, Los Baños, Mt. Makiling, 12 VII 1997, Sk. Yamane leg. (SKYC, THNHM); Negros Oriental, near Dumaguete, Valencia, Apolong, 27 XII 1998, Sk. Yamane leg., PH98-SKY-08 (SKYC, THNHM).

Distribution. Myanmar, Thailand (western part), Malay Peninsula (S. Thailand and W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, Brunei, and E. Kalimantan), and Philippines (Fig. 24).

Bionomics. *A. gracilis* is widespread and dominant in the rainforests of Southeast Asia (Gotwald 1995). The material examined was mainly collected from Sundaland; only two colonies were from the Philippines (Luzon and Nergros islands), and a single colony from western Thailand. Most of these were collected from lowland primary rainforests (less than 500 m alt.). Rościszewski and Maschwitz (1994) studied this species in lowland rainforests in Pasoh Forest Reserve, Peninsular Malaysia. Hirosawa *et al*. (2000) followed many colonies of this species between 600 and 800 m alt. in Sabah, Borneo during his ecological survey on army ants. Schneirla and Reyes (1966) also found many colonies of *A. gracilis* in open areas around 800 m alt. both day and night in the Philippines. Thus, this species probably ranges from lowland up to 800 m and inhabits both primary and disturbed forests.

Schneirla and Reyes (1966) conducted an ecological study of *A. gracilis* and *A. laeviceps* in the Philippines and briefly reported that their food habits are similar to each other, commomnly hunting ant species of the genera *Polyrhachis*, *Camponotus*, *Crematogaster*, and *Pheidole*, although booty size is generally smaller in *A. gracilis*. In contrast Rościszewski and Maschwitz (1994) found that sympatric species of *Aenictus* in Pasoh Forest Reserve, Peninsular Malaysia, reduced competition for the same resources by differentially preferring specific taxa, by foraging in different strata or by favoring a particular prey size. The food habits were remarkably different between *A. gracilis* and *A. laeviceps*. Their results were supported by Hirosawa *et al*. (2000), who found *A. gracilis* forages more frequently on trees and in their canopies than *A. laeviceps*, which usually forages on the forest floor. Thus, the main prey are arboreal ants in *A. gracilis* and ground ants in *A. laeviceps*. Hirosawa *et al*. (2000) reported that dominant prey genera were *Technomyrmex* (52.1%), *Nylanderia* and/or *Paraparatrechina* (referred to as *Paratrechina*) (22.4%) and *Crematogaster* (11.9%) in the vicinity of Poring, Sabah, Borneo at altitudes of 600–800 m. J. W. Chapman (cited in Wilson 1964) observed that *A. gracilis* preyed on other ants such as *Anoplolepis gracilipes* (referred to as *longipes*), *Camponotus leonardi*, *Camponotus* sp., *Crematogaster* sp., *Leptogenys* sp., *Paratrechina longicornis*, *Pheidole* sp., *Polyrhachis dives*, *Polyrhachis* sp., and also on the social wasp, *Ropalidia flavopicta*. Chapman (1964) found this species feeding on myriapods, termites, and small staphylinid beetles. Rościszewski and Maschwitz (1994) recorded ants of the genera *Acropyga*, *Nylanderia* and/or *Paraparatrechina* (as *Paratrechina*), *Technomyrmex*, and *Prenolepis* as the prey of *A. gracilis*.

Remarks. *A. gracilis* is most similar to *A. cornutus* in colouration and structure, both sharing the entirely sculptured mesopleuron, metapleuron, propodeum, and petiole. However, this species is distinguished from the latter by the following characteristics: pronotum without horns (pronotum armed with large bilateral horn-like protuberances in *A. cornutus*); antennal scape, postpetiole, and legs smooth and shiny (entirely punctate in *A. cornutus*); petiole with dense fine punctures (with dense punctures and bearing longitudinal ridges or rugae in *A. cornutus*). These two species are sympatric in Borneo, Sumatra and Malay Peninsula.

Aenictus huonicus Wilson

(Figs. 13–14)

Aenictus huonicus Wilson, 1964: 465, figs. 24–25; Bolton, 1995: 59.

Types. Holotype and three paratype workers from New Guinea, Huon Peninsula, Mongi-Mape Watershed, Wamuki, 800 m alt., 19–20 IV 1955. E. O. Wilson leg. (MCZC, examined).

Measurements. Worker holotype and paratypes (n = 4): TL 4.20–4.25 mm; HL 0.90–0.95 mm; HW 0.75–0.80 mm; SL 0.70–0.73 mm; ML 1.38–1.53 mm; PL 0.35–0.38 mm; CI 81–86; SI 87–94.

Redescription of worker (holotype and paratypes). Head in full-face view clearly longer than broad, with sides slightly convex and posterior margin almost straight or feebly concave; occipital margin bearing a narrow collar. Antennal scape extending 2/3 of head length; antennal segments II–VI each longer than broad and of approximately same length; VII–IX thicker and slightly longer; X longer than VIII+IX. Frontal carina short, not extending beyond the level of posterior margin of torulus. Parafrontal ridge essentially absent. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 6–7 denticles. Mesosoma slender; promesonotum in profile convex dorsally and sloping gradually to metanotal groove; mesopleuron clearly demarcated from metapleuron by a groove. Propodeum in profile with convex dorsal outline; propodeal junction marked by a distinct carina; declivity of propodeum short, shallowly concave, and encircled with a thin rim;

metapleural gland bulla large, raised; distance between propodeal spiracle and the bulla less than spiracular diameter; opening of the spiracle clearly circular, about 2.7 times as long as diameter of postpetiolar spiracle. Petiole slightly longer than high, with its dorsal outline convex; subpetiolar process low, with its anteroventral corner angular and ventral margin almost straight or feebly convex. Postpetiole slightly shorter than petiole and almost as long as high, with its dorsal outline convex.

Head including mandible and antennal scape entirely smooth and shiny. Pronotum smooth and shiny except for the anteriormost portion punctate; mesonotum smooth and shiny; mesopleuron sculptured, anepisternum wrinkled while katepisternum macroreticulate; mesopleuron with several irregular longitudinal ridges; matpleural gland bulla almost smooth; propodeal dorsum smooth and shiny; lateral face of propodeum with several irregular longitudinal ridges, but shiny. Petiole smooth and shiny dorsally, its anterior and posterior portion punctate, lateral face microreticulate or shagreened with smooth and shiny bottoms. Postpetiole entirely smooth and shiny. Legs entirely smooth and shiny.

Head with some shorter standing hairs in addition to two long hairs on vertex; mesosoma with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.35–0.40 mm long. Entire body dark reddish-brown, with a relatively small typhlatta spot on each occipital corner.

Distribution. New Guinea.

Bionomics. Little is known about the bionomics of *A. huonicus*. In Wamuki, New Guinea workers were found on a bright sunny morning, running in file over a log at the edge of a native trail in open secondary rainforest (Wilson 1964).

Remarks. *A. huonicus* is very similar in general appearance to *A. currax*, *A. diclops*, *A. pfeifferi*, *A. parahuonicus*, and *A. wayani*. Among them this species is closely related to *A. pfeifferi* and *A. parahuonicus* more than the others, the former two sharing a shorter antennal scape with SI 75–94 (more than 96 in *A. currax*, *A. diclops*, and *A. wayani*). However *A. huonicus* is easily separated from *A. pfeifferi* by the head having some shorter standing hairs in addition to two long hairs on vertex (only 2 long standing hairs present on vertex in *A. pfeifferi*) and the longest pronotal hair (0.35–0.40 mm) being longer than in *A. pfeifferi* (0.23–0.25 mm). *A. huonicus* differs from *A. parahuonicus* in having the declivity of the propodeum encircled with a thin rim (declivity not encircled with a rim in the latter).

Aenictus parahuonicus sp. nov.

(Figs. 17–19)

Types. Holotype. Worker from S. Thailand, Trang Prov., Yan Takhao Dist., Thung Khai Botanical Garden, 9 VIII 2009, W. Jaitrong leg., WJT09-TH2007 (THNHM). Thirty-five paratype workers, same data as holotype (AMK, BMNH, MCZC, MHNG, SKYC, THNHM).

Measurements. Holotype and paratype workers (n = 8): TL 3.85–4.25 mm; HL 0.80–0.93 mm; HW 0.70–0.85 mm; SL 0.60–0.73 mm; ML 1.27–1.73 mm; PL 0.30–0.35mm; CI 86–92; SI 83–87.

Description of worker (holotype and paratypes)**.** Head in full-face view subrectangular, slightly longer than broad, with sides feebly convex and posterior margin almost straight; occipital carina often evanescent medially. Antennal scape relatively short, extending only 2/3 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina short, slightly extending beyond the level of posterior margin of torulus. Parafrontal ridge essentially absent. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 6 denticles; basal margin sinuate with a series of ill-defined denticles. Mesosoma relatively elongate and stout; promesonotum in profile convex dorsally and sloping gradually to metanotal groove. Propodeum in profile with feebly convex dorsal outline; propodeal junction rounded; declivity of propodeum feebly convex, with blunt lateral carinae but not demarcated basally by a transverse carina; area below propodeal spiracle distinctly impressed; opening of propodeal spiracle clearly circular with its diameter about 2.5 times as long as diameter of postpetiolar spiracle. Petiole clearly longer than high, with its dorsal outline convex; subpetiolar process well developed, triangular or roundly produced anteriorly, with its ventral outline feebly convex. Postpetiole shorter than petiole and almost as long as high, with its dorsal outline convex.

Head including mandible entirely smooth and shiny; antennal scape dorsally smooth but ventrally sculptured. Pronotum smooth and shiny except for the anterior portion which is punctate; mesonotum smooth and shiny; mesopleuron wrinkled and macroreticulate; metapleuron and propodeum punctate but the punctation weaker than

in mesopleuron. Petiole with dense micropunctures except for a small area on dorsal surface which is smooth and shiny. Postpetiole smooth and shiny except for anterior and lateral portions which are punctate. Legs smooth and shiny.

Head with some short standing hairs in addition to two long hairs on vertex; mesosoma with relatively sparse standing hairs mixed with sparse suberect short hairs over the surface; length of the longest pronotal hair 0.35–0.40 mm. Entire body dark reddish-brown, with a relatively large typhlatta spot on occipital corner.

FIGURES 17–22. Workers of *Aenictus currax* group. 17–19, *A. parahuonicus* **sp. nov.**, holotype; 20–22, *A. wayani* sp. nov, holotype. 17, 21, Head in full-face view; 18, 22, habitus in profile; 19, 20, dorsal view of body.

Non-type material examined. VIETNAM: Ninh Binh, Cuc Phuong N.P., 9 VI 2005, K. Eguchi leg., Eg09vi05-01 (SKYC); same loc., 11 VIII 1998, H. Okido leg. (SKYC); Vinh-Phuc Prov., Tam Dao N.P., 900 m alt., 10 XI 1999, H. Okido leg., VN99-HO-057 (SKYC); Nghe An Prov., Que Phong Dist., Thong-Thu com., Ban loc, 9 IV 1999, T. V. Bui leg. (SKYC, THNHM); An Prov., Pu Hoat, Nghe, VI 1999, T. V. Bui leg., VN9902 (SKYC, THNHM). **LAOS:** Vientiane, Naxaythong Dist., Sivilay Village, Plantation, 9 VI 2010, W. Jaitrong leg., WJT10-LAS10 (THNHM); **THAILAND:** NE. Thailand, Chaiyaphum Prov., Phu Kheao, 11 VII 1998, W. Jaitrong leg., WJT98-TH052 (AMK, THNHM); same loc., 27 III 1999, W. Jaitrong leg., WJT99-TH054 (AMK, THNHM); NE. Thailand, Nakhon Ratchasima Prov., Khao Yai, 31 V 2000, Sk. Yamane leg. (SKYC); E. Thailand, Chachoengsao Prov., Khao Ang Reu Nai, 26 X 2002, W. Jaitrong leg., THNHM-I02-3488 (SKYC, THNHM); same loc., 17 I

2004, W. Jaitrong leg., WJT04-CS009 (SKYC, THNHM); E. Thailand, Chanthaburi Prov., Khao Soi Dao, 19 VII 1997, Sk. Yamane leg., TA970719-01 (SKYC, THNHM).

Etymology. The specific name is based on the close affinity of this species to *A. huonicus*.

Distribution. Vietnam, Laos, Thailand, and Malay Peninsula (S. Thailand) (Fig. 23).

Bionomics. *A. parahuonicus* is widespread, distributed from northern Vietnam to southern Thailand (Sundaland). This species carries out its raids and emigrations on the surface in highly varied situations, from open areas, plantation, and light cover to deep forest during the day as well as at night. We observed this species preying on ants of the genera *Pheidologeton* and *Dolichoderus* (Thailand, TA970719-01) and also on termites (type series, WJT09-TH2007).

Remarks. *A. parahuonicus* is very similar in general appearance to *A. currax*, *A. diclops*, *A. huonicus*, *A. pfeifferi*, and *A. wayani*. However, it is easily distinguished from the other species of this group by having the declivity of propodeum not demarcated from dorsum by a carina (bluntly margined laterally), while in the others it is encircled with a distinct rim.

All the Thai specimens cited as *A. huonicus* in Jaitrong and Nabhitabhata (2005) were reidentified as *A. parahuonicus*. *Aenictus* sp. 28 in Yamane *et al.* (2003) is also *A. parahuonicus*.

Aenictus pfeifferi Zettel et Sorger
(Figs. 8–10)

Aenictus pfeifferi Zettel and Sorger, 2010: 116, figs. 1–3.

Types. The holotype and 74 paratype workers (NHMW) from Borneo, Sarawak, Gunung Mulu N.P. (four paratypes were examined, SKYC and THNHM).

Measurements (n = 10 including the four paratypes): TL 4.35–5.20 mm; HL 0.93–1.13 mm; HW 0.80–1.03 mm; SL 0.60–0.88 mm; ML 1.35–1.75 mm; PL 0.33–0.38 mm; CI 86–93; SI 75–85.

Redescription of worker (Paratype and non-type workers)**.** Head in full-face view slightly longer than broad, with sides slightly convex and posterior margin almost straight or feebly concave; occipital carina complete, not interrupted medially. Antennal scape extending only 2/3 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina very short, not extending beyond the level of posterior margin of torulus. Parafrontal ridge almost absent. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 5–6 denticles; basal margin with a series of ill-defined denticles. Mesosoma relatively elongate and stout; promesonotum in profile convex dorsally and sloping gradually to metanotal groove; mesopleuron clearly demarcated from metapleuron by a groove. Propodeum in profile with weakly convex dorsal outline; propodeal junction rounded; declivity of propodeum shallowly concave, and encircled with a thin rim; area below propodeal spiracle distinctly impressed; opening of propodeal spiracle clearly circular with its diameter about 2.4–2.5 times as long as diameter of postpetiolar spiracle. Petiole slightly longer than high, with its dorsal outline convex; subpetiolar process weakly developed and triangular, with its ventral outline feebly convex, and anteroventral corner roundly angulate or produced. Postpetiole almost as long as petiole, with its dorsal outline convex.

Head entirely smooth and shiny; mandible finely striate in basal 1/2 to 2/3, and smooth in apical and peripheral parts; antennal scape dorsally smooth but ventrally sculptured. Pronotum smooth and shiny except for the anteriormost portion punctate; mesonotum smooth and shiny; mesopleuron macroreticulate, bearing several longitudinal rugae; metapleuron superficially sculptured and shiny. Propodeum dorsally entirely smooth and shiny; lateral face of propodeum wrinkled but shiny. Petiole and postpetiole entirely smooth and shiny. Legs smooth and shiny.

Vertex with a pair of long standing hairs; mesosoma dorsally with relatively sparse standing hairs mixed with sparse short decumbent hairs; longest pronotal hair 0.23–0.25 mm long. Hairs on legs generally short and appressed to surface; mid- and hind tibiae without outstanding long hairs on outer face; hairs on fore femur also short and decumbent. Entire body light brown to brown, with a rather large typhlatta spot on the occipital corner.

Non-type Material. MALAYSIA: Borneo, Sarawak, Miri, Lambir Hills N. P., Bukit Pantu, 13 VIII 1995, Sk. Yamane leg. (SKYC, THNHM); same loc., 17 VIII 1995, Sk. Yamane & H. Okido leg. (SKYC, THNHM); same

loc. (8 ha Plot), 30 VI 2004, Sk. Yamane leg., SR04-SKY-34 (SKYC, THNHM); Borneo, Sabah, Danum Valley, 29 VIII 1995, Sk. Yamane leg. (SKYC); Borneo, Sabah, Poring (600–700 m alt), 8 I 1998, F. Yamane leg. (SKYC).

Distribution. Borneo (Sabah and Sarawak) (Fig. 25).

Bionomics. So far *A. pfeifferi* is known only from Borneo. It inhabits primary rainforests from 40 to 700 m elevation.

Remarks. This species is very similar to *A. currax*, *A. diclops*, *A. huonicus*, *A. parahuonicus*, and *A. wayani*. However, it is easily separated from them by the head having only 2 standing hairs on the vertex (in the others the head with some shorter standing hairs in addition to two long hairs on vertex) and long pronotal hairs shortest (0.23–0.25 mm) among the members of this group (except in *A. glabrinotum* that has no hairs on promesonotum) (see under *A. huonicus*). We examined another series of specimens from Lambir N.P., Sarawak (8 ha plot, 30 VI 2004, Sk. Yamane leg.). In these specimens hairs on tibiae are suberect, but still much shorter than those in the type specimens of *A. pfeifferi*; mid and hind tibiae never have outstanding long hairs on the outer face as in the latter. The head is relatively short, with CI 86–93. However, we tentatively treat this series as belonging to *A. pfeifferi*.

Aenictus wayani sp. nov.

(Figs. 20–22)

Types. Holotype. Worker from Indonesia, Sulawesi, Gorontalo, Mt. Tilongkabila, 800 m alt., 30 I 2010, Sk. Yamane leg. CE10-SKY-64 (MZB). One hundred paratype workers, same data as holotype (BMNH, MCZC, MHMG, MZB, SKYC, THNHM).

Measurements. Holotype and paratype workers (n = 10): TL 3.90–4.05 mm; HL 0.83–0.88 mm; HW 0.70–0.78 mm; SL 0.70–0.78mm; ML 1.33–1.45 mm; PL 0.30–0.33 mm; CI 85–91; SI 97–100.

Description of worker (holotype and paratypes)**.** Head in full-face view longer than broad, with sides slightly convex and posterior margin almost straight; occipital carina narrow but complete. Antennal scape relatively long, extending much beyond 2/3 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina short, slightly extending beyond the level of posterior margin of torulus. Parafrontal ridge almost absent. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth and 4–5 denticles; basal margin lacking denticles. Mesosoma slender; promesonotum in profile convex dorsally and sloping gradually to metanotal groove. Propodeum in profile with weakly convex dorsal outline; propodeal junction rounded; declivity of propodeum shallowly concave, and encircled with a thin rim; area below propodeal spiracle distinctly impressed; opening of propodeal spiracle clearly circular with its diameter about 2.5 times as long as diameter of postpetiolar spiracle. Petiole clearly longer than high, with its dorsal outline convex; subpetiolar process weakly developed, triangular, with its ventral outline feebly convex or straight, and anteroventral corner angulate. Postpetiole almost as long as petiole, with its node almost as long as high and dorsal outline convex.

Head including mandible entirely smooth and shiny; antennal scape dorsally smooth but ventrally sculptured. Pronotum smooth and shiny except for the anteriormost portion punctate; mesonotum smooth and shiny; mesopleuron macroreticulate, bearing several longitudinal rugae; metapleuron irregularly sculptured. Propodeal dorsum entirely smooth and shiny; lateral face of propodeum wrinkled but shiny. Petiole punctate. Postpetiole entirely smooth and shiny. Legs smooth and shiny.

Head and mesosoma with sparse obliquely standing hairs; longest pronotal hair 0.38–0.40 mm long. Entire body reddish-brown, with a relatively large typhlatta spot on occipital corner.

Non-type material examined. INDONESIA: SE. Sulawesi, Pangalulu, Wolaki, 150 m alt., 12 X 1999, K. Ogata & K. Masaoka leg. (SKYC, THNHM).

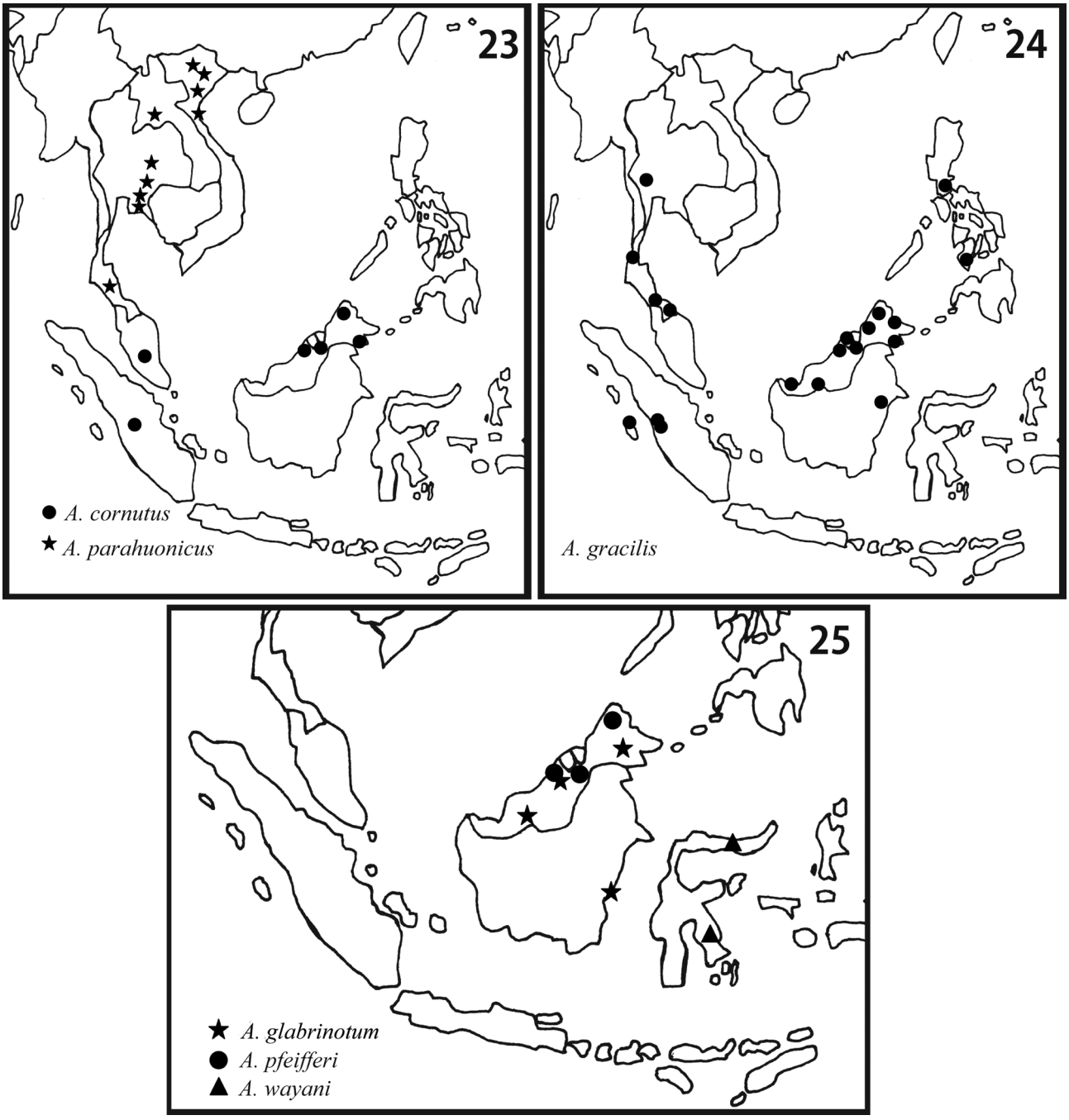
Etymology. The specific name is dedicated to Mr. I. Wayan Kertayasa, the leader of the climbing club Mapala Tarantula, Gorontalo University, Sulawesi.

Distribution. Sulawesi (Fig. 25).

Bionomics. So far *A. wayani* has been known only from Sulawesi. It inhabits primary forests in lowlands (Pangalulu, Wolaki, ca. 150 m alt.) and highlands (type series, CE10-SKY-64, ca. 800 m alt.). The type series was collected at night.

Remarks. *A. wayani* is very similar to *A. currax*, *A. diclops*, *A. huonicus*, *A. pfeifferi*, and *A. parahuonicus*. Among these this species is more closely related to *A. currax* and *A. diclops* than to the others in having a slender

mesosoma and relatively long antennal scape (SI 97–104; less than 95 in *A. pfeifferi*, *A. huonicus*, and *A. parahuonicus*). However, *A. wayani* is separated from *A. diclops* by its propodeal and petiolar dorsa being smooth and shiny (entirely sculptured in *A. diclops*), and is easily distinguished from *A. currax* as follows: antennal scape relatively shorter (SI 97–100 in *A. wayani*; 104 in *A. currax*); basal margin of mandible lacking denticles in *A. wayani* (it is sinuate with 3–4 ill-defined denticles in *A. currax*).



FIGURES 23–25. Distribution of *Aenictus currax* group. 23, *A. cornutus* and *A. parahuonicus* **sp. nov.**; 24, *A. gracilis*; 25, *A. glabrinotum* **sp. nov.**, *A. pfeifferi*, and *A. wayani* **sp. nov.**

Checklist of species

A. alticola Wheeler et Chapman, 1930
A. binghami Forel, 1900
= *Aenictus* (*Typhlatta*) *binghami* var. *gatesi* Wheeler, 1927
A. bodongjaya Jaitrong et Yamane, **sp. nov.**
A. breviceps Forel, **stat. nov.**
A. brevinodus Jaitrong et Yamane, **sp. nov.**
A. fulvus Jaitrong et Yamane, **sp. nov.**
A. hodgsoni Forel, 1901
A. laeviceps (F. Smith, 1857)
= *Eciton* (*Aenictus*) *fergusoni* var. *sundaica* Karavaiev, 1927
A. luzoni Wheeler et Chapman, 1925
A. montivagus Jaitrong et Yamane, **sp. nov.**
A. rotundicollis Jaitrong et Yamane, **sp. nov.**
A. siamensis Jaitrong et Yamane, **sp. nov.**
A. sonchaengi Jaitrong et Yamane, **sp. nov.**

Key to species based on the worker caste

1. Pronotum extensively sculptured, the sculpture may be very superficial or represented by dense punctation 2
- Pronotum largely smooth and shiny, only anteriormost portion finely punctate 3
2. Entire ponotum finely and densely recticulate and opaque; larger species (HW 0.90–0.95) (Vietnam, Laos, and Thailand). . . . . *A. binghami*
- Pronotum very superficially reticulate and somewhat shiny (dorsum almost smooth); smaller species (HW 0.63–0.70) (Thailand). . . . . *A. siamensis* **sp. nov.**
3. Vertex with only two long standing hairs 4
- Vertex with some shorter standing hairs in addition to two long hairs 7
4. Promesonotum with more than 4 standing hairs mixed with short hairs over the surface; dorsum of propodeum with several short hairs (Thailand, Borneo) . . . . . *A. sonchaengi* **sp. nov.**
- Promesonotum with 0–4 standing hairs; dorsum of propodeum without hairs. 5
5. Propodeum entirely or partly smooth, or very superficially sculptured, and shiny (Java). . . . . *A. breviceps*
- Propodeum entirely sculptured 6
6. Petiole shorter than high or almost as long as high (Brunei, Sarawak and Sabah). . . . . *A. rotundicollis* **sp. nov.**
- Petiole distinctly longer than high (Peninsular Malaysia, Thailand, Sarawak, Sabah, Brunei, Sumatra, Java, and Philippines). . . . . *A. laeviceps*
7. Propodeum entirely sculptured, or rarely with a small smooth area near spiracle (Sabah). . . . . *A. montivagus* **sp. nov.**
- Propodeum extensively smooth and shiny; at most the dorsum superficially sculptured and rather shiny. 8
8. Mesopleuron in at least lower portion smooth and shiny. 9
- Mesopleuron entirely densely sculptured. 11
9. Subpetiolar process low, without anterior angle, ventrally with a spiniform appendage directed downward and backward (Malay Peninsula, Borneo) . . . . . *A. fulvus* **sp. nov.**
- Subpetiolar process low and anteriorly angulate; the ventral appendage not spiniform. 10
10. Larger species (HW 0.80–0.85 mm); ventral appendage of subpetiolar process high, subtriangular; scape index: 100–106 (Philippines) . . . . . *A. alticola*
- Smaller species (HW 0.78 mm); ventral appendage of subpetiolar process rudimentary, with highest point at anterior portion; scape index: 94–97 (Philippines) . . . . . *A. luzoni*
11. Femora entirely smooth and shiny (Sumatra) . . . . . *A. bodongjaya* **sp. nov.**
- Femora partly shagreened 12
12. Petiole shorter than high and slightly smaller than postpetiole (Sulawesi). . . . . *A. brevinodus* **sp. nov.**
- Petiole distinctly longer than high and slightly larger than postpetiole (Vietnam, Myanmar, Laos, Cambodia, Thailand, Bali, Lombok) . . . . . *A. hodgsoni*

Aenictus alticola Wheeler et Chapman
(Figs. 26–27)

Aenictus alticola Wheeler and Chapman, in Wheeler, 1930: 205, fig. 5; Bolton, 1995: 58.
Aenictus alticolus: Wilson, 1964: 445, Fig. 18.

Types. Twenty-one syntype workers on three pins (two on a pin, eight on another, eleven on the other) from Philippines, Luzon, Bontoc, Polis Pass, 1,800 m (MCZC, examined). One worker among them (top on the first pin) is selected as the lectotype, the others as paralectotypes.

Measurements. Worker lectotype and paralectotypes (n = 6): TL 4.35–4.75 mm; HL 0.90–1.00 mm; HW 0.80–0.85 mm; SL 0.78–0.88 mm; ML 1.43–1.50 mm; PL 0.30–0.35 mm; CI 84–87; SI 100–106.

Redescription of worker (lectotype and paralectotypes). Head in full-face view clearly longer than broad, with sides slightly convex and posterior margin convex; occipital margin bearing a narrow collar. Antennal scape extending beyond midlength of head, but not reaching the posterolateral corner of head; antennal segments II–X each longer than broad; II slightly longer than each of III–VI; VII, VIII and IX combined almost as long as terminal segment (X). Frontal carina short, not reaching the level of the posterior margin of torulus. Parafrontal ridge short and ill defined, or absent. Anterior margin of clypeus convex and bearing 6–7 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 5–6 denticles, and a medium-sized basal tooth; basal margin sinuate with a series of 2–3 ill-defined denticles. Mesosoma rather elongate and stout; promesonotum in profile strongly convex dorsally and sloping to metanotal groove; metanotal groove very weak. Propodeal junction evenly rounded; declivity not margined dorsally and laterally. Petiole subsessile and short, its node almost as long as high and rounded dorsally; subpetiolar process well developed, triangular, its apex directed downward. Postpetiole shorter than petiole, with globular node.

Head entirely smooth and shiny. Mandible very finely striate except along masticatory and outer margins. Antennal scape almost smooth and shiny. Mososoma extensively smooth and shiny; upper portion of mesopleuron and metapleuron provided with about 10 longitudinal, irregular rugulae; dorsa of mesonotum and propodeum superficially sculptured; metanotal groove bearing short longitudinal rugulae; propodeal dorsum with several short longitudinal rugae in front of the junction. Petiole and postpetiole entirely smooth and shiny. Legs entirely smooth and shiny.

Head and mesosoma with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.20–0.25 mm long. Entire body reddish-brown except for vertex of head darker than other parts of body; ventral surface of antennal segments VII–X pale yellow. Typhlatta spot located anterior to occipital corner.

Distribution. Philippines (Luzon) (Fig. 63).

Bionomics. No biological information is available for *A. alticola*. However, judging from the type locality this species inhabits highlands.

Remarks. *A. alticola* is most similar to *A. luzoni* in having the subpetiolar process low and anteriorly angulate; the ventral appendage not spiniform. However, this species is distinctly larger than the latter (HW 0.80–0.85 in *A. alticola*; 0.78 in *A. luzoni*). The ventral appendage of the subpetiolar process is high and subtriangular in *A. alticola*, but rudimentary, with the highest point at anterior portion in *A. luzoni*. Antennal scape is almost as long as or longer than head width in *A. alticola* (SI 100–106), while it is shorter than head width in *A. luzoni* (SI 97).

Aenictus binghami Forel
(Figs. 33–34)

Aenictus binghaniri (sic) Forel, 1900: 76.
Aenictus binghami Forel: Bingham, 1903: 19; Wilson, 1964: 450, Figs 69–71; Bolton, 1995: 59; Jaitrong and Nabhitabhata, 2005: 11.
Aenictus (*Typhlatta*) *binghami* var. *gatesi* Wheeler, 1927: 42 (synonymized by Wilson, 1964: 450).

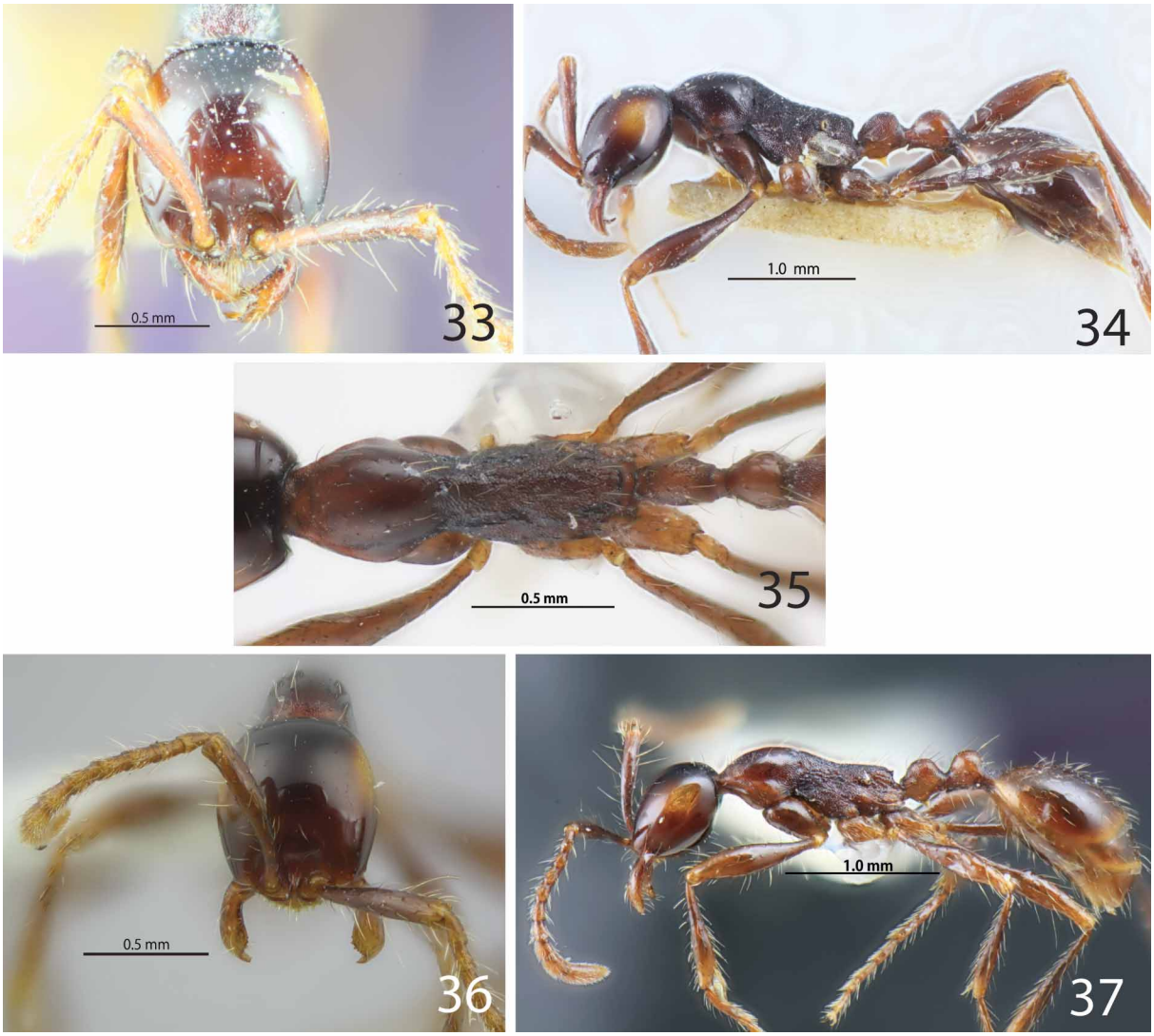
Types. *Aenictus binghami*: Six syntype workers (two pins, three workers on each) from Burma, Assam (MHNG, examined). One worker among them (top on a pin) is selected as the lectotype, the others as paralectotypes.

FIGURES 26–32. Workers of *Aenictus laeviceps* group. 26, 27, *A. alticola*, lectotype; 28–30, *A. fulvus* **sp. nov.**, holotype; 31, 32, *A. luzoni*, lectotype. 26, 28, 31, Head in full-face view; 27, 29, 32, habitus in profile; 30, dorsal view of body.

Measurements. Worker lectotype and paralectotypes (n = 6): TL 4.85–5.05 mm; HL 0.98–1.03 mm; HW 0.90–0.95 mm; SL 0.93–0.95 mm; ML 1.63–1.73 mm; PL 0.35–0.38 mm; CI 88–95; SI 100–105.

Redescription of worker (lectotype and paralectotypes). Head in full-face view slightly longer than broad, with sides convex and posterior margin almost straight; occipital margin bearing a carina. Antennal scape relatively long, but not reaching the posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–IV. Frontal carina short, a little extending beyond the level of the posterior margin of torulus.

Parafrontal ridge almost absent or very weak. Anterior margin of clypeus convex, bearing 6–7 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 6–7 denticles, and a medium-sized basal tooth; basal margin sinuate with a series of 3–4 ill-defined denticles. Promesonotum in profile convex dosally and sloping gradually to metanotal groove; propodeum in profile with its dorsal outline almost straight or feebly convex; propodeal junction obtusely angular; declivity of propodeum shallowly concave, encircled with a rim. Petiole distinctly longer than high, elevated posteriorly; subpetiolar process well developed and triangular, its apex directed downward and backward; postpetiole almost as long as petiole, with its node convex dorsally.



FIGURES 33–37. Workers of *Aenictus laeviceps* group. 33–34, *A. binghami*, lectotype; 35–37, *A. siamensis* **sp. nov.**, holotype. 33, 36, Head in full-face view; 34, 37, habitus in profile; 35, dorsal view of body.

Head entirely smooth and shiny. Antennal scape microreticulate and subopaque, slightly shiny. Mesosoma entirely microreticulate and opaque, except for a very small patch on pronotum which is feebly shiny; reticular diameters on pronotum larger than elsewhere. In addition, mesonotum bearing a few irregular longitudinal rugae. Petiole punctate and opaque; postpetiolar dorsum smooth and shiny; lateral face shagreened with smooth and shiny interspaces. Femora entirely microreticulate except for basal portion micropunctate; tibiae microreticulate.

Head with some short standing hairs in addition to two long hairs on vertex; mesosoma with relatively sparse standing hairs mixed with sparse suberect short hairs over the surface; length of the longest pronotal hair 0.35-0.40 mm. Entire body dark reddish-brown, with a relatively large typhlatta spot on occipital corner.

Non-type material examined. VIETNAM: Ninh Binh Prov., Nho Quan Dist., Cuc Phuong N.P. 11 VIII 1998, Sk. Yamane leg., VN98-SKY-24 (SKYC, THNHM); Ha Ta Prov., Ba Vi N.P., 13 XI 1999, K. Eguchi leg., Eg99-

VN-134 (SKYC, THNHM); same loc., 800 m alt., 21 IV 2002, K. Eguchi leg., Eg02-VN-068 (SKYC, THNHM); Ban Om, Pu Hoat, M. Nghe An, 400 m alt. 22 XI 1999, T. V. Bui leg., code-012 (SKYC, THNHM); same loc., 750 m alt. 2 XII 1999, T. V. Bui leg., code-015 (SKYC, THNHM); Nghe An, Pu Mat N.P., Khe Kem, 200–350 m alt. 17 III 2006, K. Eguchi leg., Eg17iii06-21 (SKYC); Lao Cai Prov., Van Ban Dist., Liem Phu, 300–650 m alt., 29 IX 2006, K. Eguchi leg., Eg29ix06-20 (SKYC). **LAOS:** Vientiane, Pak Ngum dist., Phang Dang Village, MDF., 248 m alt., 12 VI 2010, W. Jaitrong leg., WJT10-LAO15 (THNHM); same loc., 467 m alt., 13 VI 2010, W. Jaitrong leg., WJT10-LAO18 (SKYC, THNHM). **THAILAND:** N. Thailand, Chiang Mai Prov., Doi Ang Khang, 17 VIII 2001, R. Phoonjampa leg. THNHM-I2002-3277 (THNHM); N. Thailand, Chiang Mai Prov., Doi Suthep-Pui, Secondary forest, Pitfall trap, VII 2008, S. Sonthichai leg., WJT08-10 (AMK, SKYC, THNHM); N. Thailand, Chiang Mai, Doi Inthanon, 750 m alt., 20 VIII 1998, Sk., Yamane leg., TH98-SKY-26 (SKYC); N. Thailand, Chiang Mai Prov., Mae Tang Dist., Haui Prachao, HEF, 6 IX 2000, W. Jaitrong leg., WJT00-HPC01 (AMK, SKYC, THNHM); N. Thailand, Chiang Mai Prov., Doi Chiang Dao, 9 VI 2001, K. Eguchi leg., Eg01-TH-149 (SKYC); same loc., 3-IV-2005, Sk. Yamane leg., TH05-SKY-71 (SKYC); N. Thailand, Nan Prov., Sri Nan, MDF, 30 XI 2006. N. Chantarasawat leg., THNHM-I2007-1858 (THNHM); N. Thailand, Tak Prov., near Myanmar border, Thung Yai, 4 I 1999, W. Jaitrong leg. (AMK, SKYC, THNHM); N. Thailand, Pitsanulok Prov., Thung Salang Luang, 17 IX 1997, W. Jaitrong leg., WJT97-TSLL02 (AMK, SKYC, THNHM); same loc., Savanna forest, 15 X 1998, W. Jaitrong leg., THNHM-I2002-3278 (AMK, THNHM); W. Thailand, Kanchanaburi Prov., Maeklong Watershed Research Station, 29 XI 2003, Sk., Yamane leg., TH03-SKY-144 (SKYC); NE. Thailand, Loei Prov., Phu Luang, 14 V 2007, S. Hasin leg., SH07-TH-35 (AMK, SKYC, THNHM); same loc., 11 IV 2008, W. Jaitrong leg., WJT08-PL03 (AMK, SKYC, THNHM); NE. Thailand, Chaiyaphum Prov., Phu Kheao, 30 I 1999, W. Jaitrong leg., WJT99-TH069 (AMK, SKYC, THNHM); same loc., Agriculture Area, 30 I 1999, W. Jaitrong leg., WJT99-TH050 (AMK, SKYC, THNHM); NE. Thailand, Nakhon Ratchasima Prov., Sakhaerat, 17 IV 2001, W. Jaitrong leg., WJT01-DC01 (AMK, SKYC, THNHM); same loc., 15 IX 2001, W. Jaitrong leg., WJT01-TH29 (AMK, SKYC, THNHM); same loc., 13 IX 2000, W. Jaitrong leg., WJT00-SKR01 (AMK, SKYC, THNHM); NE. Thailand, Nakhon Ratchasima Prov., Wang Nam Kheao Dist., 16 VIII 2009, W. Jaitrong leg., WJT09-TH2211 (AMK, SKYC, THNHM); E. Thailand, Chanthaburi Prov., Pheao, EF, 22 XI 2003, S. Hasin leg., WJT03-21 (AMK, SKYC, THNHM); E. Thailand, Chachoengsao Prov., Khao Ang Reu Nai, 19 XI 2003, W. Jaitrong leg., WJT03-TH300 (SKYC, THNHM); same loc., 26 XI 2004, W. Jaitrong leg., WJT04-TH299 (AMK, SKYC, THNHM); same loc., DEF, 20 VIII 2003, W. Jaitrong leg., WJT03-TH-02 (AMK, SKYC, THNHM); same loc., Lumchangwat, 27 X 2002, W. Jaitrong leg., THNHM-I03-3431 (AMK, SKYC, THNHM); same loc., 20 VIII 2003, W. Jaitrong leg., THNHM-I03-3567 (THNHM); same loc., 27 X 2002, W. Jaitrong leg., THNHM-I03-3494 (AMK, SKYC, THNHM); same loc., 28 VI 2003, W. Jaitrong leg., THNHM-I03-3296 (SKYC, THNHM); same loc., Khao Takrup, 29 VI 2003, W. Jaitrong leg., THNHM-I03-3401 (THNHM); E. Thailand, Sakhao Prov., Pang Sida, 23 VIII 2006, W. Jaitrong leg., WJT06-11 (SKYC, THNHM); same loc., 30-V-2006, W. Jaitrong leg., WJT06-E381 (THNHM); E. Thailand, Chanthaburi Prov., Khao Soi Dao, 4 VI 2001, K. Eguchi leg., Eg01-TH-061 (SKYC); E. Thailand, Chonburi Prov., Muang Dist., Khao Kheao, Chan Tatean Waterfall , 4 VIII 2009, W. Jaitrong leg., WJT09-TH2000 (AMK, THNHM); S. Thailand, Nakhon Si Thammarat Prov., Khao Nan, Khlong Khai, 26 XI 2006, W. Jaitrong leg., WJT06-TH641 (AMK, SKYC, THNHM); S. Thailand, Trang Prov., Palian Dist., Rubber plantation, 29 XI 1999, W. Jaitrong leg., WJT99-TH45 (AMK, SKYC, THNHM).

Distribution. Vietnam, Laos, Myanmar, and Thailand (Fig. 63).

Bionomics. Wilson (1964), based on Dr Schneirla's notes, reported that *A. binghami* was found in dry tropical evergreen forest with moderate sub-humus moisture, under moderate cover. According to our observations, it inhabits highly varied habitats such as primary seasonal forest (hill evergreen forest, dry evergreen forest, mixed deciduous forest, and savanna), secondary forest, and open areas and plantations near the forest edge. A bivouac, including a foundress queen, was found under a stone during night in Cuc Phuong National Park, Vietnam (VN98-SKY-24).

We observed this species preying on other ants such as *Anoplolepis* (Thailand, WJT06-E381, WJT09-TH2000), *Camponotus* (Vietnam, Eg99-VN-134; Thailand, WJT06-E381, TH01-SKY-39, WJT03-TH300, THNHM-I03-3401), *Cerapachys* (Thailand, TH98-SKY-26), *Leptogenys* (Thailand, WJT99-TH45), and *Polyrhachis* (Laos, WJT10-LAO15; Thailand, TH05-SKY-71, WJT06-E381, THNHM-I03-3401, THNHM-I03-3567).

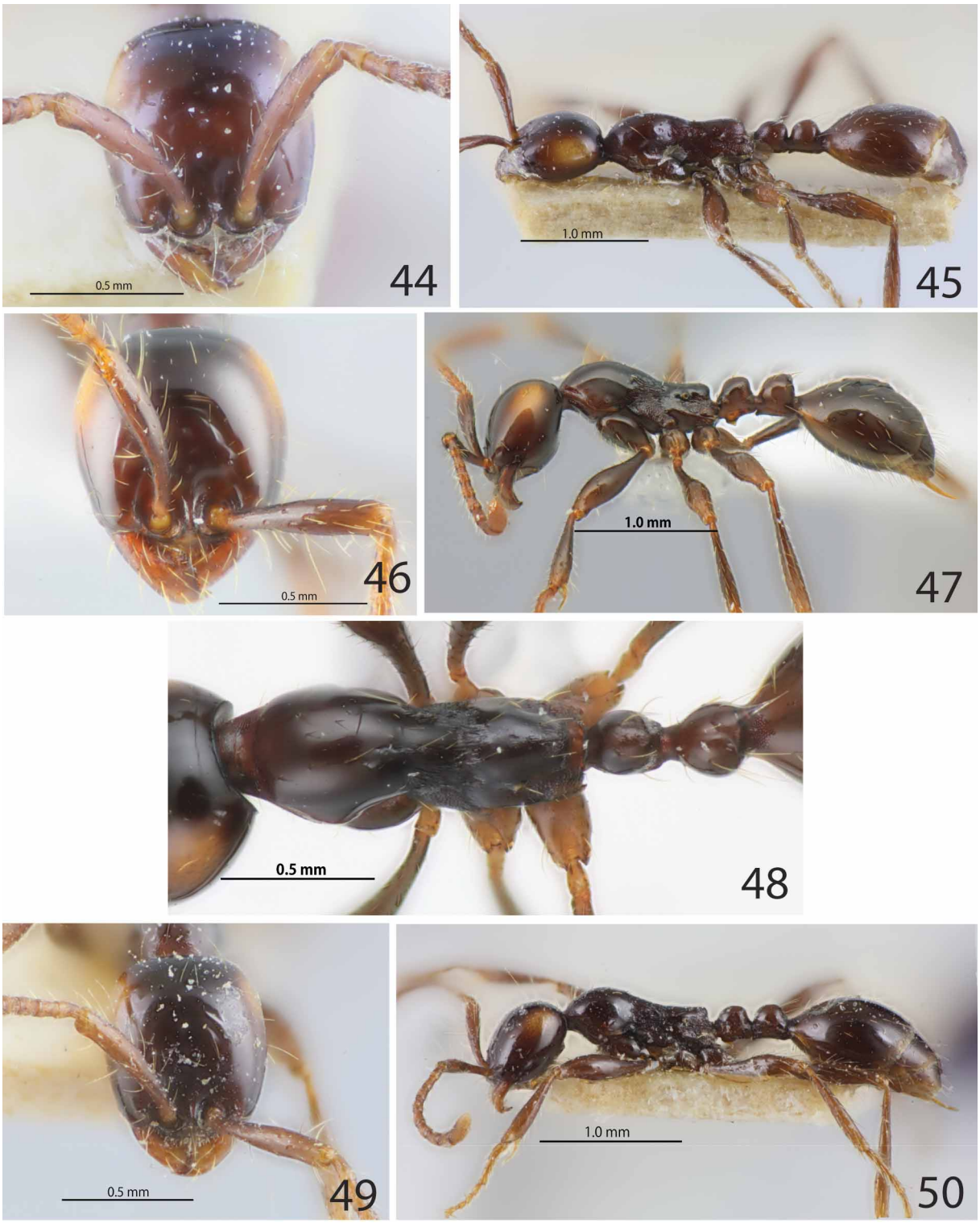
Remarks. *A. binghami* is similar to *A. siamensis* in having an entirely sculptured mesosoma but is consirerably larger than the latter (HW 0.90–0.95 mm vs. 0.63–0.70 mm). The entire pronotum is finely and densely reticulate

and opaque in *A. binghami*, while it is very superficially reticulate and somewhat shiny in *A. siamensis*. Femora of all legs are rather smooth in *A. siamensis*, but microreticulate in *A. binghami*.

The specimens collected from Vietnam, and the northern, western, and southern parts of Thailand agree well with the type series from Myanmar, but those collected from Laos, and northeastern and eastern parts of Thailand differ slightly from the type series in the postpetiole being more distinctly microreticulate than in the latter. We did not examine the type series of *Aenictus* (*Typhlatta*) *binghami* var. *gatesi* Wheeler from Myanmar. According to Wilson (1964) they are slightly smaller than typical workers of *A. binghami*. As we need more material to settle the status of this form, at this moment we follow Wilson (1964), who synonymized it with *A. binghami*.

According to the collecting sites and previous literature (Zhou & Chen, 1999; Zhou, 2001 for South China; Yamane *et al*., 2003; Eguchi *et al*., 2005 for N. Vietnam), *A. binghami* is mainly distributed in continental Southeast Asia north of the Isthmus of Kra (Vietnam, Laos, Myanmar, and Thailand), and is rarely found in Sundaland (southern Thailand, south of the Isthmus of Kra). So far the southernmost latitude of the range of this species is at Trang Province (ca. 400 km south of the Isthmus of Kra) (Jaitrong & Ting-Nga, 2005).

FIGURES 38–43. Workers of *Aenictus laeviceps* group. 38–40, *A. sonchaengi* **sp. nov.**, holotype; 41–43, *A. rotundicollis* **sp. nov.**, holotype. 38, 42, Head in full-face view; 39, 43, habitus in profile; 40, 41, dorsal view of body.



FIGURES 44–50. Workers of *Aenictus laeviceps* group. 44, 45, *A. breviceps*, lectotype; 46–48, *A. brevinodus* **sp. nov.**, holotype; 49, 50, *A. hodgsoni*, lectotype. 44, 46, 49, Head in full-face view; 45, 47, 50, habitus in profile; 48, dorsal view of body.

***Aenictus bodongjaya* sp. nov.**
(Figs. 51–53)

Types. Holotype worker from Indonesia, S. Sumatra, Lampung Barat, Sumberjaya, Bodong Jaya, 18 IX 2007, Sk. Yamane leg., SU07-SKY-189 (MZB). Sixteen paratype workers, same data as holotype (BMNH, MZB, SKYC, THNHM).

Measurements. Worker holotype and paratypes (n = 7): TL 2.90–3.20 mm; HL 0.68–0.80 mm; HW 0.53–0.65 mm; SL 0.48–0.58 mm; ML 0.90–1.10 mm; PL 0.20–0.25 mm; CI 78–81; SI 91–100.

Description of worker (holotype and paratypes). Head in full-face view distinctly longer than broad, with sides slightly convex and posterior margin almost straight or feebly concave; occipital carina very weak but complete. Antennal scape relatively short, extending only 2/3 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina short, not extending beyond the level of posterior margin of torulus; parafrontal ridge absent. Anterior margin of clypeus bearing 5–7 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 5–6 denticles, and a small basal tooth; basal margin bearing 3–4 small teeth. Promesonotum in profile weakly convex dosally; propodeum only slightly lower than promesonotum, with its dorsal outline almost straight; propodeal junction roundly angulate; declivity of propodeum shallowly concave and encircled by an indistinct rim. Petiole distinctly longer than high, in profile its dorsum flat to weakly convex; subpetiolar process well developed and hook-like, its apex directed downward and backward; postpetiolar node distinctly shorter than and slightly higher than petiolar node.

Head including mandible and antennal scape entirely smooth and shiny. Pronotum, majority of mesonotum, dorsum of propodeum and upper portion of metapleuron smooth and shiny; remainder of mesosoma punctate. Petiole and postpetiole smooth and shiny. Legs entirely smooth and shiny.

FIGURES 51–56. Workers of *Aenictus laeviceps* group. 51–53, *A. bodongjaya* **sp. nov.**, holotype; 54–56, *A. montivagus* **sp. nov.**, holotype. 51, 55, Head in full-face view; 52, 56, habitus in profile; 53, 54, dorsal view of body.

Head and mesosoma dorsally with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.25 mm long. Entire body dark reddish-brown. Typhlatta spot located anterior to occipital corner.

Etymology. The specific name is after the type locality, Bodong Jaya in southern Sumatra.

Distribution. Sumatra (Fig. 64).

Bionimics. So far this species is only known from the type locality in a coffee plantation at an elevation of ca. 800–900 m alt.

Remarks. *A. bodongjaya* is most similar to *A. hodgsoni* but can be separated from the latter by the smooth and shiny legs (in the latter femora extensively superficially reticulate and shiny; tibiae very finely reticulate) and the relatively shorter head (CI 78–81 vs. 83–87). This species is also similar to *A. brevinodus*, but has denser hairs on the mososomal dorsum (more than 15 hairs in *A. bodongjaya*, less than 10 hairs in *A. brevinodus*) and a relatively shorter petiole (clearly longer than high in the former, clearly shorter than high in the latter).

Aenictus breviceps Forel, stat. nov.

(Figs. 44–45)

Aenictus fergusoni var. *breviceps* Forel, 1912: 105.
Aenictus laeviceps: Wilson, 1964: 467 (part); Bolton, 1995: 59 (part).

Types. *Aenictus fergusoni* var. *breviceps*: Seven syntype workers on three pins (one on a pin, three on another, three on the other) from Java, Gunung Gedeh (BMNH, examined). One worker among them (middle on a pin) is selected as the lectotype, the others as paralectotypes.

Measurements. Worker lectotype and paralectotypes (n = 7): TL 3.75–3.95 mm; HL 0.80–0.85 mm; HW 0.70–0.75 mm; SL 0.70–0.73 mm; ML 1.25–1.27 mm; PL 0.25–0.28 mm; CI 85–94; SI 96–103.

Redescription of worker (lectotype and paralectotypes). Head in full-face view slightly longer than broad, with sides and posterior margin slightly convex; occipital margin carinate, but not forming a collar. Antenna long; scape relatively long, almost reaching the posterolateral corner of head; antennal segments II–X each longer than broad, II almost as long as each of III and IV. Frontal carina short, not extending beyond the posterior margin of torulus; parafrontal ridge absent. Anterior margin of clypeus bearing 7–8 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4–6 denticles and a medium-sized basal tooth; basal margin bearing 1–2 denticles. Promesonotum in profile convex dosally; propodeum distinctly lower than promesonotum, and in profile its dorsal outline almost straight; propodeal junction angulate; with propodeum in profile declivity straight. Petiole almost as long as high, in profile its dorsal outline weakly convex; subpetiolar process well developed, its lobe surmounted by a thin, acute flange that is directed downward and backward; postpetiole almost as long as petiole, with its node strongly convex dorsally.

Head entirely smooth and shiny. Mandible punctate except on masticatory and outer margins. Antennal scape shagreened with smooth and shiny interspaces. Pronotum smooth and shiny, its anteriormost portion punctate, and lateral face irregularly sculptured in anterior portion; mesopleuron sculptured; anepisternum with several irregular longitudinal rugulae, while katepisternum with dense punctures; metapleuron almost smooth and shiny except for posterior portion punctate; propodeal dorsum almost smooth and shiny except for areas in front of propodeal junction which is macroreticulate with smooth and shiny bottoms; area below propodeal spiracle punctate. Petiole shagreened with smooth and shiny interspaces. Postpetiole entirely very superficially microsculptured and shiny.

Head with a pair of standing hairs on vertex; mesosoma with 2–3 standing hairs on promesonotum. Entire body dark reddish-brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. INDONESIA: W. Java, Kabandungan, 7 X 2009, K. Nakamura leg., BG09-KEI-041 (SKYC, THNHM); W. Java, Halimun N.P., 5 IX 1996, F. Ito leg., FI96-323 (SKYC, THNHM); W. Java, nr. Bogor, Jasinga 5 XI 1985, Sk. Yamane leg. (SKYC, THNHM).

Distribution. Java (Fig. 64).

Bionomics. *Aenictus breviceps* is known from the type series from Gunung Gedeh, Java (Forel 1912), and additional material collected from West Java. This species is very probably restricted to Java. Mr Keisuke Nakamura collected a spider, *Myrmarachne* sp., from a foraging column of this specis (BG09-KEI-041).

Remarks. This species has been confused with the closely related *A. leaviceps*, and has been synonymized with it in the past. However, it can be distinguished from the latter as follows: mesonotum, metanotum, and propodeum partly smooth and shiny in *A. breviceps* (entirely punctate in *A. laeviceps*); propodeal junction rounder than in *A. laeviceps*; pronotum with 2–4 hairs (without hairs in *A. laeviceps*, but in 2 colonies, SU07-SKY-199 and SU08-Kei282, from Sumatra pronotum with 2 standing hairs). *A. breviceps* is also quite similar to *A. sonchaengi* and *A. rotundicollis*, all sharing the same number of standing hairs (2) on the vertex. However, this species is separated from *A. sonchaengi* by the condition of hairs on the pronotum (2–4 standing hairs in *A. breviceps*; more than 4 hairs in *A. sonchaengi*). *A. breviceps* and *A. rotundicollis* share the pronotum with 2–4 standing hairs, but the promesonotum in profile is much more weakly convex in *A. breviceps* than in *A. rotundicollis* and *A. sonchaengi*. *Aenictus laeviceps* occurs from eastern Thailand to the Philippines except on Java, and sympatric with *A. sonchaengi* in southern Thailand and Borneo, and with *A. rotundicollis* in Borneo. *Aenictus breviceps*, on the other hand, is confined to Java.

Aenictus brevinodus sp. nov.

(Figs. 46–48)

Types. Holotype worker from Indonesia, S. Sulawasi, Laiya, Labbang, 24 I 2010, Sk. Yamane leg., CE10-SKY-15 (MZB). Fourty-five paratype workers, same data as holotype (AMK, BMNH, SKYC, THNHM).

Measurements. Holotype and paratypes (n = 7): TL 3.65–3.75 mm; HL 0.78–0.83 mm; HW 0.70–0.73 mm; SL 0.65–0.70 mm; ML 1.15–1.20 mm; PL 0.23–0.25 mm; CI 88–91; SI 93–97.

Description of worker (holotype and paratypes)**.** Head in full-face view rather oval, slightly longer than broad, with sides distinctly convex and posterior margin almost straight or weakly convex; occipital carina weak but complete. Antennal scape relatively short, in full-face view not reaching posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–V; terminal segment (X) almost as long as VII+VIII+IX. Frontal carina short, slightly extending beyond posterior margin of torulus; parafrontal ridge absent. Anterior margin of clypeus slightly convex, bearing 8 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 3–4 denticles, a medium-sized subbasal tooth and a smaller basal tooth (the latter two widely separated from each other); basal margin lacking denticles. Promesonotum in profile strongly convex and forming a dome, mesonotum sloping to metanotal groove; propodeum distinctly lower than promesonotum, with its dorsal outline almost straight; propodeal junction rather sharply to roundly angulate; declivity of propodeum seen in profile vertical, almost straight or feebly concave, irregularly sculptured, without a distinct rim separating the declivity from other parts. Petiole subsessile and rather short, its node slightly shorter than high; subpetiolar process hook-like, variable in size, with apex directed downward and backward; postpetiole distinctly larger than petiole.

Entire head including antennal scape smooth and shiny. Mandible very finely striate except along masticatory margin and near base. Pronotum entirely smooth and shiny except for anteriormost portion punctate; dorsa of both mesothorax and propodeum extensively smooth; small posterior portions of mesothorax and propodeum, and lower part of metapleuron irregularly punctate or rugulose. Petiole and postpetiole entirely smooth and shiny. Legs entirely smooth and shiny.

Vertex with a pair of long standing hairs and very sparse short hairs. Mesosoma dorsally with relatively sparse standing hairs mixed with very sparse short hairs over the surface; longest pronotal hair 0.20–0.23 mm long. Entire body dark reddish-brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. Indonesia: S. Sulawesi, Mt. Kaleakan (1,080–1,140 m alt.), Tana Traja, 17 X 1999, K. Ogata and K. Masaoka leg. (SKYC, THNHM).

Etymology. The specific name means the short petiole.

Distribution. Sulawesi (Fig. 64).

Bionomics. This species occurs in lowland and highland forests. We found workers of the type series raiding on low vegetation along a road.

Remarks. *A. brevinodus* is quite similar to *A. hodgsoni*. However, it has fewer standing hairs on the mesosomal dorsum (less than 10 hairs in *A. brevinodus*; more than 20 in *A. hodgsoni*); the petiolar node is clearly shorter than high (almost as long as high or slightly longer than high in *A. hodgsoni*); and the legs are entirely smooth and shiny (femora extensively superficially reticulate and shiny, and tibiae very finely reticulate in the latter).

***Aenictus fulvus* sp. nov.**
(Figs. 28–30)

Types. Holotype worker from S. Thailand, Nakhon Si Thammarat Prov., Khao Nan, rubber tree plantation, 28 IX 2008, W. Jaitrong leg., WJT08-S1101 (THNHM). One hundred and thirty-seven paratype workers, same data as holotype (AMK, BMNH, MCZC, MHNG, SKYC, THNHM, UMS).

Measurements. Holotype and paratypes (n = 10): TL 2.95–3.10 mm; HL 0.63–0.75 mm; HW 0.53–0.65 mm; SL 0.48–0.60 mm; ML 0.90–1.05 mm; PL 0.23–0.25 mm; CI 84–87; SI 90–92.

Description of worker (holotype and paratypes). Head in full-face view subrectangular, much longer than broad, with sides rather parallel or feebly convex and posterior margin almost striaght; occipital carina complete. Antennal scape relatively short, not reaching posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–VII. Frontal carina very short, not extending beyond posterior margin of torulus. Anterior margin of clypeus feebly convex, bearing 4–6 denticles. Masticatory margin of mandible with a large apical tooth followed by a small subapical tooth, 3–4 denticles and a medium-sized basal tooth; basal margin bearing 2–3 small teeth. Mesosoma relatively slender; promesonotum in profile weakly convex dorsally and sloping gradually to metanotal groove; propodeum with dorsal outline almost straight; propodeal junction roundly angulate; declivity not margined dorsally and laterally. Petiole subsessile, almost as long as high; subpetiolar process well developed and hook-like, its apex directed downward and backward; postpetiole almost as long as petiole, only slightly higher than the latter.

Head including mandible and antennal scape entirely smooth and shiny. Mesosoma extensively smooth and shiny; area of metanotal groove striate; upper portion of metapleuron with about 10 irregular longitudinal rugae. Petiole and postpetiole entirely smooth and shiny. Legs entirely smooth and shiny.

Head and mesosoma dorsally with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.25–0.30 mm long. Body reddish-brown to yellowish-brown; dorsum of head darker. Typhlatta spot located anterior to occipital corner.

Non-type material examined. MALAYSIA: W. Malaysia, Selangor, Ulu Gombak, ca. 25 m alt., 19 X 1999, V. Witte leg., VW-03 (SKYC, THNHM); same loc., VII-X 1992, F. Ito leg., FI92MG-651 (SKYC, THNHM); same loc., ca. 25 m alt., 10 IX 1999, V. Witte leg., VW-04 (SKYC, THNHM); same loc., ca. 25 m alt., 3 XII 2005, AT1086 (SKYC, THNHM); Sabah, Danum Valley, 3 XI 1996, K. Eguchi leg., Eg96-BOR-152 (SKYC); same loc., 29 IV 2000, C. Brühl leg. (SKYC); Sabah, Tawau Hills, Gunong Rara, 18 II 1997, K. Eguchi leg., Eg97-BOR-518 (SKYC, THNHM); same loc., 8 VII 1996, Sk. Yamane leg., SB96-SKY-11 (SKYC, THNHM); Sarawak, Miri, Lambir N.P., 14 I 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 26 VI 2004, Sk. Yamane leg., SR04-SKY-12 (SKYC, THNHM); Sarawak, Niah N.P., 9 I 1993, Sk. Yamane leg. (SKYC, THNHM). **BRUNEI:** Temburong, Kuala Belalong field studies centre, 19 II 1999, K. Eguchi leg., Eg99-BOR-224. **INDONESIA:** E. Kalimantan, Rainforest, Sungai Wain Protection Area, 13 III 2001, G. Fredriksson leg. (SKYC).

Etymology. The specific name pertains to the pale body colour**.**

Distribution. Malay Peninsula (S. Thailand and W. Malaysia), and Borneo (Sabah, Sarawak, Brunei, and E. Kalimantan) (Fig. 63).

Bionomics. *Aenictus fulvus* is probably a Sundaland species. We found a colony in a rubber tree plantation in southern Thailand (type series). Elsewhere it has been collected mostly in lowland primary rainforests. The type series was found under a large rotting log during the wet season; no worker activity was seen around the log and no immatures were found in the bivouac. We found this species preying on the ant genus *Crematogaster* (type series).

Remarks. *A. fulvus* is quite similar to *A. alticola* and *A. luzoni* in having a slender body with the surface almost smooth and shiny. Compared with these species, *A. fulvus* is much smaller (HW 0.53–0.65 mm in *A. fulvus*; 0.80–0.85 mm in *A. alticola*; 0.78 mm in *A. luzoni*) and has a low subpetiolar process without anterior angle, and ventrally with a spiniform appendage directed downward and backward (in *A. alticola* and *A. luzoni* the subpetiolar process is low and anteriorly angulate with the ventral appendage not spiniform).

The workers of three colonies from Ulu Gombak, Malay Peninsula (FI92MG-651, VW-04, and VW-03) are brighter than in the type series from Khao Nan National Park, southern Thailand. The size variation occurs among individuals from single colonies.

***Aenictus hodgsoni* Forel**
(Figs.49–50)

Aenictus fergusoni var. *hodgsoni* Forel, 1901: 474.
Aenictus fergusoni: Wilson, 1964: 462 (part); Bolton, 1995: 59 (part).
Aenictus hodgsoni: Jaitrong *et al*., 2011: 321 (raised to species status).

Types. *Aenictus fergusoni* var. *hodgsoni*: Lectotype and five paralectotype workers from Burma [Myanmar], Moulmain (MHNG, examined).

Measurements. Worker lectotype and paralectotypes (n = 6): TL 3.50–3.70 mm; HL 0.75–0.78 mm; HW 0.63–0.68 mm; SL 0.60–0.65 mm; ML 1.05–1.13 mm; PL 0.23–0.25 mm; CI 83–87; SI 96–100.

Redescription of worker (lectotype and paralectotypes). Head in full-face view slightly longer than broad, with its sides slightly convex and posterior margin almost straight; occipital margin bearing a narrow carina. Antennal scape relatively short, not reaching posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina short, not extending beyond the level of posterior margin of torulus. Anterior margin of clypeus bearing several denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4–5 denticles, and a medium-sized basal tooth; basal margin lacking denticles. Promesonotum in profile convex dorsally; propodeum in profile with its dorsal outline almost straight; propodeal junction angulate, right-angled; area behind propodeal spiracle and above metapleural gland bulla impressed; declivity not distinctly margined dorsally and laterally, seen from back tapering above. Petiole almost as long as high, in profile its dorsal outline strongly convex; subpetiolar process well developed and triangular, its apex directed downward and backward; postpetiole almost as long as petiole.

Head entirely smooth and shiny. Mandible very finely striate except along masticatory margin. Antennal scape entirely microrecticulate. Pronotum smooth and shiny, its anteriormost portion punctate; mesothorax, metapleuron and lateral face of propodeum with dense punctures and several longitudinal rugae; dorsal face of propodeum essentially smooth and shiny. Petiole entirely smooth and shiny except for anteriormost portion punctate; postpetiole entirely smooth and shiny. Femora extensively superficially reticulate and shiny; tibiae very finely reticulate.

Head and mesosoma dorsally with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hairs 0.30–0.33 mm long. Entire body dark reddish brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. CHINA: Guangxi, Xing An County, Gao Zhai (300 m alt.), 15 IX 2000, K. Eguchi leg., Eg00-GNGX-010. **HONG KONG:** New Territory, Taipo Kau, X 2000, G. Barretto leg. (SKYC, THNHM). **VIETNAM:** Vinh-phuc Prov., Tam Dao N.P., 900 m alt., 9 XI 1999, K. Eguchi leg., Eg99-VN-061 (SKYC, THNHM); Ha Tai Prov., Ba Vi N.P., 400–600 m alt., 11 XI 1999, K. Eguchi leg., Eg99-VN-082 (SKYC, THNHM); same loc., 400 m alt., 11 XI 1999, K. Eguchi leg., Eg99-VN-080 (SKYC, THNHM); same loc., 600 m alt., 20-21 III 2005, T. V. Bui leg. (SKYC); Ninh Binh Prov., Nho Quan Dist., Cuc Phuong N.P., 11 VIII 1998, H. Okido leg., VN98-HO-024 (SKYC); Thai Ngugen, Na Hau Village, My Yen Comm. Forest, 8 XI 2001, Sk. Yamane leg., VN01-SKY-30 (SKYC, THNHM); Nghe An Prov., Pu Hoat, V 1999, T. V. Bui leg., VN9902 (SKYC, THNHM); Nghe An Prov., Que Phong Dist., Thong-Thu Com., Ban Loc, 9 IV 1999, B.T. Viet leg. (SKYC, THNHM); same loc., 700 m alt., 16 IV 1999, T. V. Bui leg. (SKYC, THNHM); M. Nghe An Pu Hoat, Primary forest, 750 m alt., 22 XI 1999, T. V. Bui leg., code 012 (SKYC, THNHM); Nghe An Prov., Pu Mat N.P., Near Forest Station, Pha Lai, 26 III 2006, K. Eguchi leg., Eg26iii06-20 (SKYC, THNHM). **LAOS:** Vientiane, Naxaythong Dist., Sivilay Village, Open Area, 9 VI 2010, W. Jaitrong leg., WJT10-LAO11 (AMK, THNHM). **CAMBODIA:** Ratanakin Prov., Viachey N.P., 6 X 2007, S. De Greef leg., SDG358 (SKYC). **THAILAND:** N. Thailand, Chiang Mai Prov., Doi Phahom Pok, 27 V 2008, W. Jaitrong leg., WJT08-N16 (AMK, SKYC, THNHM); N. Thailand, Chiang Mai Prov., Doi Ang Khang, 21 VIII 1998, Sk. Yamane leg., TH99-SKY-31 (SKYC, THNHM); N. Thailand, Tak Prov., Thung Yai, DEF, 4 I 1999, W. Jaitrong leg. (AMK, SKYC, THNHM); same loc., 25 V 2000, W. Jaitrong leg., WJT00-TY10 (AMK, SKYC, THNHM); N. Thailand, Pitsanulok Prov., Thung Salang Luang, 10 X 1999, W. Jaitrong leg., WJT99-TH70 (AMK, SKYC, THNHM); same loc., 17 IX 1997, W. Jaitrong leg., WJT97-TSLL01 (AMK, SKYC, THNHM); N. Thailand, Nan Prov., Doi Phuka, 800 m alt., 30 V 2004, W. Jaitrong leg., WJT04-N037 (AMK, SKYC, THNHM); same loc., HEF, 29 V 2004, W. Jaitrong leg., WJT04-N001 (AMK, SKYC, THNHM); NE. Thailand, Loei Prov., Phu Luang, 11 IV 2008, W. Jaitrong leg., WJT08-PL01 (AMK, SKYC, THNHM); NE. Thailand, Chaiyaphum Prov., Phu Kheao, 30 I 1999, W. Jaitrong leg., WJT99-AG01

(AMK, SKYC, THNHM); NE. Thailand, Nakhon Ratchasima Prov., Khao Yai, 700 m alt., 29 V 2000, Sk. Yamane leg., TH00-SKY-07 (SKYC, THNHM); same loc., 27 X 2000, W. Jaitrong leg., WJT00-KY01 (AMK, SKYC, THNHM); C. Thailand, Uthai Thani Prov., Ban Rai Dist., Kan Ma Kud Village, 18 VI 2010, W. Jaitrong leg., HKK10-60-02 (AMK, THNHM); E. Thailand, Sakhao Prov., Pang Sida, 29 V 2006, W. Jaitrong leg., WJT06-E379 (AMK, SKYC, THNHM); same loc., 29 V 2006, W. Jaitrong leg., WJT06-E380 (AMK, THNHM); E. Thailand, Chachoengsao Prov., Khao Ang Reu Nai, 29 V 2003, W. Jaitrong leg., WJT03-E380 (AMK, SKYC, THNHM); same loc., Thatakiab Dist., 25 IV 2003, W. Jaitrong leg., WJT03-TH35 (AMK, SKYC, THNHM); same loc., Sampran, 27 II 2003, W. Jaitrong leg., THNHM-I03-3045 (AMK, SKYC, THNHM); same loc., DEF, Lumchangwad, 29 VII 2005, W. Jaitrong leg., WJT05-E210 (AMK, SKYC, THNHM); E. Thailand, Chanthaburi Prov., Khao Soi Dao, Sk. Yamane leg. TH90-SKY-02 (SKYC); E. Thailand, Chanthaburi Prov., Pong Nam Ron Dist., Khlong Tab Mak waterfall, 18 V 2008, W. Jaitrong leg., WJT08-E172 (AMK, SKYC, THNHM); E. Thailand, Chanthaburi Prov., Pong Nam Ron Dist., Tabsai, Khao Kuar, 19 V 2008, W. Jaitrong leg., WJT08-E202 (AMK, SKYC, THNHM); E. Thailand, Rayong Prov., Klaeng Dist., Khao Chamao-Khao Wong, 20 V 2008, W. Jaitrong leg., WJT08-E217 (AMK, SKYC, THNHM); S. Thailand, Trang Prov., Palian Dist., plantation, 31 XI 1999, W. Jaitrong leg., WJT99-TH68 (AMK, SKYC, THNHM); S. Thailand, Songkhla Prov., Khao Nam Khang, 25 VII 1997, Sk. Yamane leg. (SKYC, THNHM). **INDONESIA:** W. Bali, Jelati Mendaya, Dusun PK, 6 V 1998, K. Eguchi leg., Eg98-BALI-737 (SKYC, THNHM); W. Lombok, nr Semaya, Kopi house, 29 X 1998, K. Eguchi leg., Eg98-LMB-1068 (SKYC, THNHM).

Distribution. South China, Hong Kong, Vietnam, Laos, Cambodia, Myanmar, Thailand, Malay Peninsula (S. Thailand), Java, Bali, and Lombok (Fig. 65).

Bionomics. *A. hodgsoni* is dominant in continental Southeast Asia, distributed from lowland to highland in varied forest types (hill evergreen forest, dry evergreen forest, evergreen rainforest, mixed deciduous forest, and savanna). This species is active both day and night. We found it preying on other ant species such as *Anoplolepis gracilipes* (Thailand, WJT05-E210), *Camponotus rufoglaucus* (Thailand, WJT06-379), *Camponotus* sp. (Vietnam, VN01-SKY-23), *Iridomyrmex anceps* (Thailand, WJT06-380), *Technomyrmex* sp. (*bicolor* group) (Vietnam, Eg14vi05-08), and also on cockroaches (Thailand, WJT06-379).

Remarks. Jaitrong *et al*. (2011) removed this species from synonymy with the closely related *A. fergusoni* based on the following characteristics: propodeum partly smooth and shiny in *A. hodgsoni* (entirely punctate in *A. fergusoni*); propodeum in profile almost straight dorsally in *A. hodgsoni* (slightly convex in *A. fergusoni*); declivity of propodeum above without transverse carina in *A. hodgsoni* (with a distinct transverse carina in *A. fergusoni*). *A. brevinodus* and *A. bodongjaya* are also very similar to this species in having sparse standing hairs mixed with sparse short hairs on the head and promesonotum, and the mesopleuron being entirely densely sculptured. *A. hodgsoni* can be distinguished from *A. bodongjaya* by the femora being extensively superficially reticulate and shiny, the tibiae very finely reticulate (legs entirely smooth and shiny in *A. bodongjaya*), and it can be separated from *A. brevinodus* by having the petiole slightly longer than high (clearly shorter than high in *A. brevinodus*).

The specimens collected from Vietnam, Laos, Cambodia, and Thailand agree well with the type series from Myanmar, but in the single colony from Lombok, Indonesia, the workers have smooth and shiny femora, and the petiole is slightly smaller than in the type series. In the single colony from Bali, Indonesia, the workers have a reticulated petiole (entirely smooth and shiny in the type series).

All Thai and Vietnamese specimens cited as *A. fergusoni* in Yamane *et al*. (2003), and Eguchi *et al*. (2005), and Jaitrong and Nabhitabhata (2005) were reidentified as *A. hodgsoni* in the present study. *A. laeviceps* recorded from Vietnam by Radchenko (1993) is possibly *A. hodgsoni* (cf. Yamane *et al*. 2003).

Aenictus laeviceps (F. Smith)

(Figs. 57–62)

Typhlatta laeviceps F. Smith, 1857: 79.
Aenictus (*Typhlatta*) *laeviceps*: Wheeler, 1930: 199 (in key), 200–203 (queen).
Aenictus laeviceps: Wilson, 1964: 467, Figs. 15–17, 88 (part); Bolton, 1995: 60 (part).
Eciton (*Aenictus*) *fergusoni* var. *sundaica* Karavaiev, 1927: 7 (synonymized with *A. laeviceps* by Wilson, 1964: 467). Type locality: Prinsen I. [Panaitan I.], Sunda Strait, nr Java.

Types. *Typhlatta laeviceps*: Three syntype workers from Borneo, Sarawak (BMNH and OXUM, examined). A syntype in BMNH is selected as the lectotype, others as paralectotypes.

Measurements. A worker lectotype: TL 4.15 mm; HL 0.93 mm; HW 0.80 mm; SL 0.83 mm; ML 1.35 mm; PL 0.33 mm; CI 86; SI 103. Non-type workers (n = 9): TL 3.90–4.15 mm; HL 0.88–0.92 mm; HW 0.70–0.82 mm; SL 0.73–0.87 mm; ML 1.30–1.40 mm; PL 0.28–0.33 mm; CI 86–92; SI 103–113.

FIGURES 57–62. Workers of *A. laeviceps*. 57–58, lectotype from Sarawak; 59, 60, specimen from Thailand; 61, 62, specimen from Sumatra. 57, 59, 61, Head in full-face view; 58, 60, 62, habitus in profile.

Redescription of worker (lectotype and non-type material from Borneo). Head in full-face view clearly longer than broad, with sides and posterior margin strongly convex; occipital margin bearing a carina. Antenna relatively long, scape almost reaching the posterolateral corner of head; antennal segments II–X each longer than broad. Frontal carina short, slightly extending beyond the level of the posterior margin of torulus. Anterior margin of clypeus convex, bearing 6–8 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4–5 denticles, and a medium-sized basal tooth; basal margin lacking denticles. Promesonotum in profile convex dorsally; propodeum much lower than promesonotum, and in profile its dorsal outline almost straight; propodeal junction right-angled; declivity of propodeum weakly concave, encircled with an indistinct rim. Mesopleuron demarcated from metapleuron by a shallow groove. Petiole longer than high, in profile

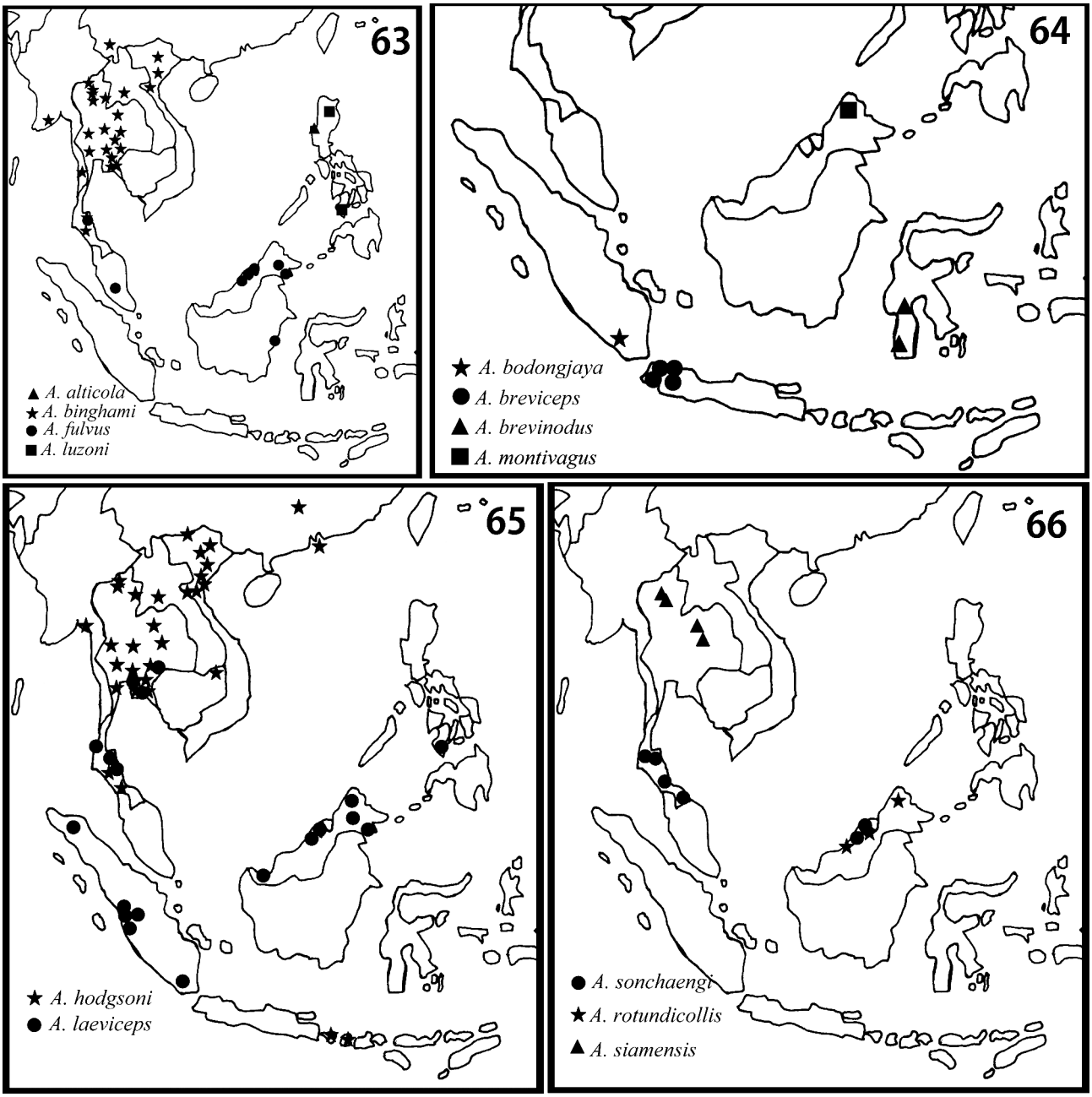
its dorsal outline almost straight or weakly convex in posterior portion; subpetiolar process well developed, its lobe surmounted by a thin, acute flange that is directed downward and backward; postpetiole slightly shorter than petiole, in dorsal view scarcely longer than broad.

Head entirely smooth and shiny. Antennal scape microrecticulate and subopaque, slightly shiny. Mandible finely microsculptured and feebly shiny. Pronotum smooth and shiny, its anteriormost portion punctate; mesothorax, metapleuron and propodeum with dense punctures; upper portion of mesopleuron and metapleuron with 15-20 irregular longitudinal rugulae; propodeum with about 40 densely packed, nearly straight, fine rugulae; interrugal spaces irregulary microrecticulate and opaque to feebly shiny. Petiole with dense punctures; postpetiole entirely smooth and shiny. Femora extensively but superficially reticulate and shiny; tibiae very finely reticulate.

Head with a pair of standing hairs on vertex; mesosoma devoid of pilosity. Entire body dark reddish brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. THAILAND: E. Thailand, Sakhao Prov., Pang Sida, 29 V 2006, W. Jaitrong leg., WJT06-E382 (AMK, SKYC, THNHM); E. Thailand, Chachoengsao Prov., Ang Reu Nai, Baw Thong, Khao 29 X 2005, W. Jaitrong leg., THNHM-I05-3401 (AMK, SKYC, THNHM); E. Thailand, Chanthaburi Prov., Nam Tok Pheao, Nam Tok Troknong Waterfall, EF, 23 XI 2003, D. Wiwatwitaya leg. (AMK); same loc., 29 XI 2003, W. Jaitrong leg., WJT02-TH492 (AMK, SKYC, THNHM); same loc., 300–500 m alt. 23 XI 2003, Sk. Yamane leg., TH03-SKY-134 (SKYC, THNHM); E. Thailand, Chanthaburi Prov., Khao Soi Dao, 19 VII 1997, Sk. Yamane leg., TH99-SKY-04 (SKYC, THNHM); S. Thailand, Phang Nga Prov., Khao Lak Lam Loo, EF, 3 VI 2000, W. Jaitrong leg., WJT00-KL01 (AMK, SKYC, THNHM); S. Thailand, Ranong Prov., Khlong Naka, EF, 12 VIII 2009, W. Jaitrong leg., WJT09-TH2049 (AMK, SKYC, THNHM); S. Thailand, Nakhon Si Thammarat Prov., Khao Nan, 11 XII 2007, W. Jaitrong leg., WJT07-KN02 (AMK, SKYC, THNHM); same loc., San Yen, 1,095 m alt., 8 IV 2007, W. Jaitrong leg., WJT07-TH682 (AMK, SKYC, THNHM); S. Thailand, Trang Prov., Khao Chong Botanical Garden, 29 X 2007, P. Kosolpanyapiwat leg., PPK07-4 (AMK, SKYC, THNHM); same loc., EF, 10 VIII 2009, W. Jaitrong leg., WJT09-TH2028 (AMK, SKYC, THNHM); same loc., 25 V 2005, D. Lohman leg., KC-A007-01 (SKYC, THNHM); S. Thailand, Trang Prov., Yantakhao Dist., Thung Khai B.G., 9 VIII 2009, W. Jaitrong leg., WJT09-TH2011 (AMK, SKYC, THNHM); same loc., DEF, 10 VIII 2009, W. Jaitrong leg., WJT09-TH2016 (AMK, SKYC, THNHM). **MALAYSIA:** Borneo, Sarawak, Miri, Lambir N.P., 22 VIII 1995, Sk. Yamane leg. (SKYC, THNHM); same loc., 7 VIII 1995, Sk. Yamane leg. (SKYC, THNHM); same loc., 7 I 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., Bt. Pantu, 16 I 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 12 I 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 15 VII 1993, Sk. Yamane leg. (SKYC, THNHM); same loc., 20 I 1993, Sk. Yamane leg (SKYC, THNHM); same loc., 14 VIII 1997, Sk. Yamane leg. (SKYC, THNHM); same loc., 30 VI 2004, Sk. Yamane leg., SR04-SKY-37 (SKYC, THNHM); same loc., 16 VIII 1997, Sk. Yamane leg., SA9701816-03 (SKYC, THNHM); Sarawak, Semangoh N.P., 18 IV1993, Sk. Yamane leg. (SKYC, THNHM); Sarawak, Bako N.P., 21–22 IV 1993, Sk. Yamane leg. (SKYC, THNHM); Sabah, Kinabalu N.P., Poring, 20 V 1997, H. Hirosawa leg. (SKYC); same loc., 600 m alt., 8 X 1997, T. Kikuta leg., 43A (SKYC); same loc., 700–800 m alt., 15 III 1995, Sk. Yamane leg. (SKYC, THNHM); same loc., 15 III 1995, Y. Hashimota leg. (SKYC); same loc., 500–600 m alt., 17 III 1995, Sk. Yamane leg. (SKYC, THNHM); Sabah, Danum Valley, 29 VIII 1995, Sk. Yamane leg. (SKYC, THNHM); same loc., 9 XI 1996, K. Eguchi leg., Eg96-BOR-249 (SKYC). **BRUNEI:** Tasek Merimbun, 15 II 1999, E. Eguchi leg., Eg99-BOR-121 (SKYC). **PHILIPPINES:** Negros Oriental, Valencia near Dumaguete, Apolong, 30 XII 1998, Sk. Yamane leg., PH98-SKY-26 (SKYC, THNHM). **INDONESIA:** N. Sumatra, G. Leuser N.P., Bt. Lawang, 17 VIII 2002, Sk. Yamane leg., SU02-SKY-50 (SKYC, THNHM); W. Sumatra, Lubuk Gadang, 21–23 VIII 1985, Sk. Yamane leg. (SKYC, THNHM); W. Sumatra, Maninjau, 7–9 VIII 1985, So. & Sk. Yamane leg. (SKYC); W. Sumatra, nr Padang, Ulu Gadut, 24 VIII 1989, E. Suzuki leg. (SKYC); same loc., Pinang-pinang, 20 III 1997, F. Ito leg., FI97-321 (SKYC); same loc., Pinang-pinang, 18 XI 2008, K. Nakamura leg., SU08-Kei295 (SKYC, THNHM); W. Sumatra, Paykunbuh, Gunung Bungsu, 12 XI 2008, K. Nakamura leg., SU08-Kei145 (SKYC, THNHM); same loc., Buluh Kasap, 14 XI 2008, K. Nakamura leg., SU08-Kei282 (SKYC, THNHM); same loc., Gunung Sagou, 13 XI 2008, K. Nakamura leg., SU08-Kei146 (SKYC, THNHM); same loc., Mt. Sago, 13 XI 2008, K. Nakamura leg., SU08-Kei27 (SKYC, THNHM); W. Sumatra, Andalas University, 21 X 2008, K. Nakamura leg., SU08-Kei27 (SKYC); S. Sumatra, Lampung Barat, Sumberjaya, Bodong Jaya, SF, 18 IX 2007, Sk. Yamane leg., SU07-SKY-199 (SKYC, THNHM).

Distribution. E. Thailand, Malay Peninsula (S. Thailand and W. Malaysia), Sumatra, Borneo (Sabah, Sarawak, and Brunei), and Philippines (Fig. 65).



FIGURES 63–66. Distribution of *Aenictus laeviceps* group. 63, *A. alticola*, *A. binghami*, and *A. fulvus* **sp. nov.**, *A. luzoni*; 64, *A. bodongjaya* **sp. nov.**, *A. breviceps*, *A. brevinodus* **sp. nov.**, and *A. montivagus* **sp. nov.**; 65, *A. hodgsoni*, and *A. laeviceps*; 66, *A. sonchaengi* **sp. nov.**, *A. rotundicollis* **sp. nov.**, and *A. siamensis* **sp. nov.**

Bionomics. *A. laeviceps* is widespread and dominant in rainforests of Southeast Asia (Gotwald 1995). We found it foraging in lowland seasonal forests (dry evergreen forest) in eastern Thailand. Elsewhere it was collected from tropical rainforests generally at less than 1,000 m alt. A single colony may contain as many as 60,000 to 110,000 workers (Schneirla & Reyes 1966).

This species forages mainly on the ground (Hirosawa *et al*. 2000) but sometimes climbs up trees. We observed this species preying on other ants such as *Anoplolepis gracilipes* (Philippines, PH98-SKY-26; Thailand, WJT09-TH2016), *Camponotus* (Sumatra, SU08-Kei295; Thailand, WJT09-TH2028), *Euprenolepis* (Thailand, WJT09-TH2028), *Polyrhachis* (Borneo, SA970816-03), *Pseudolasius* (Borneo, SR04-SKY-37), and also on grasshoppers (Thailand, WJT09-TH2016). Wilson (1964) mentioned that *A. laeviceps* preyed on other ant species such as *Camponotus* (*Tanaemyrmex*) *carin*, *Diacamma* sp., *Echinopla* sp., *Hypoclinea* sp. [*Dolichoderus* sp.], *Myrmicaria* sp., *Pristomyrmex* sp., *Paratrechina longicornis*, *Polyrhachis* (*Polyrhachis*) *bellicosa*, *Polyrhachis* (*Myrmhopla*) sp.,

and *Polyrhachis* (*Myrma*) sp., *Ponera* sp., *Vollenhovia* sp., and also on the social wasp, *Ropalidia flavopicta*. Chapman (1964) found this species feeding on myriapods, termites, small staphylinid beetles, while Rościszewski and Maschwitz (1994) mentioned that ants of the genera *Crematogaster, Paratrechina, Pheidole, Polyrhachis*, and *Prenolepis* were the prey of *A. laeviceps.* Hirosawa *et al*. (2000) reported that dominant prey genera were *Camponotus* (48.2%), *Pseudolasius* (20.8%) and *Polyrhachis* (15.2%) in the vicinity of Poring, Sabah, Borneo at altitudes of 600–800 m.

Remarks. *A. laeviceps* is closely related to *A. breviceps*, *A. sonchaengi*, and *A. rotundicollis* in having only 2 standing hairs on the vertex of the head. It has a more weakly convex promesonotum in profile than the last two (promesonotum strongly convex in *A. sonchaengi* and *A. rotundicollis*). It is also separated from them by the absence of standing hairs on the pronotum (more than 4 hairs present in *A. sonchaengi*; 2–4 hairs in *A. rotundicollis*). Another character separating *A. laeviceps* from *A. rotundicollis* is the relative length of the petiole, which is longer than high in the former but shorter than high in the latter. For the differences between *A. laeviceps* and *A. breviceps*, see 'Remarks' for *A. breviceps*.

The specimens collected from southern Thailand, Sumatra, and Borneo (Sarawak, Sabah, and Brunei) agree well with the lectotype from Sarawak, except in 2 colonies (SU07-SKY-199 and SU08-Kei282) from Sumatra in which the workers have 1–2 standing hairs on the pronotum. In the single colony (PH98-SKY-26) from the Philippines the propodeal junction of the worker is rounder than in the lectotype, and also the body size is slightly smaller.

Zhou (2001) cited Guangxi, southern China as a locality of *A. laeviceps*, but according to Figs. 76–77 and the distribution range of this species the identification is doubtful.

Aenictus luzoni Wheeler et Chapman

(Figs. 31–32)

Aenictus luzoni Wheeler and Chapman, 1925: 48, pl. 1, figs. 1–2; Wilson, 1964: 470, figs., 19–20; Bolton, 1995: 60.

Types. Two syntype workers from Philippines, Luzon, Ilocos Norte Prov., Bangui (MCZC, examined). One worker is selected as the lectotype, the other as paralectotype.

Measurements. Worker lectotype and paralectotype (n = 2): TL 3.95– 4.00 mm; HL 0.85–0.88 mm; HW 0.78 mm; SL 0.73–0.75 mm; ML 1.38–1.43 mm; PL 0.33 mm; CI 89–91; SI 94–97.

Redescription of worker (lectotype and paralectotype). Head in full-face view slightly longer than broad, with sides and posterior margin feebly convex; occipital margin bearing a carina. Antennal scape relatively short and thin, not reaching the posterolateral corner of head; antennal segments II–X each longer than broad; II slightly longer than each of III–VII. Frontal carina short, slightly extending beyond the posterior margin of torulus. Anterior margin of clypeus convex, bearing several denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4 denticles, and a medium-sized basal tooth; basal margin lacking denticles. Mesosoma relatively slender; promesonotum in profile convex dorsally and sloping gradually to metanotal groove; dorsal outline of propodeum almost straight; area between propodeal spiracle and metanotal gland bulla impressed; propodeal junction rounded; declivity feebly concave, not margined dorsally and laterally. Petiole relatively short, almost as long as high; its node in dorsal outline strongly convex; subpetiolar process weakly developed, triangular, apex directed downward and forward; postpetiole almost as long as petiole.

Entire head including antennal scape smooth and shiny. Mandible very finely striate except along masticatory margin. Mesosoma entirely smooth and shiny, except for metapleuron and metanotal groove that have irregular longitudinal rugae; propodeal dorsum with about 3–5 short longitudinal rugae. Petiole and postpetiole entirely smooth and shiny. Legs entirely smooth and shiny.

Head and mesosoma dorsally with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.20 mm long. Entire body reddish-brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. PHILIPPINES: Luzon, Ilocos Norte Prov., Bangui, 27 V 1913, C.S. Banks leg. (MCZC).

Distribution. Philippines (Luzon and Negros) (Fig. 63).

Bionomics. Nothing is mentioned about the bionomics of *A. luzoni* by Wheeler and Chapman (1925) and Wilson (1964). So far this species has been known only from the Philippines.

Remarks. *A. luzoni* is most similar to *A. alticola* in having the subpetiolar process low and anteriorly angulate. See under *A. alticola*.

Aenictus montivagus sp. nov.

(Figs. 54–56)

Types. Holotype worker from Borneo, Sabah, Taman Kinabalu, 1,500 m alt., 7 I 1998, Sk. Yamane leg., SB98-SKY-05 (UMS). Eight paratype workers, same data as holotype (BMNH, SKYC, THNHM) and 12 paratype workers from Borneo, Sabah, Kinabalu Park, 1,600 m alt., 6 II 2001, Sk. Yamane leg., SB01-SKY-03 (SKYC, THNHM).

Measurements. Worker holotype and paratypes (n = 9): TL 3.70–4.00 mm; HL 0.73–0.78 mm; HW 0.63–0.68 mm; SL 0.60–0.68 mm; ML 1.13–1.20 mm; PL 0.28–0.30 mm; CI 87–90; SI 92–100.

Description of worker (holotype and paratypes). Head in full-face view longer than broad, with sides and posterior margin slightly convex; occipital carina complete. Antennal scape relatively short, extending only slightly beyond 2/3 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina very short, not extending beyond the level of posterior margin of torulus. Anterior margin of clypeus bearing 6–7 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4 denticles and a medium-sized basal tooth; basal margin bearing 3–4 smaller teeth. Promesonotum in profile convex dosally; propodeum slightly lower than promesonotum, and its dorsal outline almost straight; propodeal junction roundly angulate; declivity of propodeum shallowly concave, encircled with a very thin rim. Petiole distinctly longer than high, dorsally weakly convex; subpetiolar process weakly developed and low, its apex directed downward; postpetiole distinctly shorter than petiole.

Head including mandible and antennal scape entirely smooth and shiny. Pronotum smooth and shiny, with its anteriormost portion punctate; mesothorax, metapleuron and propodeum entirely sculptured, the sculpture comprising ca. 20 fine longitudinal rugulae, but often with dense punctures; a small smooth area present near spiracle. Petiole and postpetiole entirely smooth. Legs entirely smooth and shiny.

Hairs on dorsa of head and pronotum more abundant than in other species; mesonotum and propodeum dorsally with several standing hairs; longest pronotal hair 0.23–0.25 mm long. Entire body dark reddish-brown. Typhlatta spot smaller than in other species, located anterior to occipital corner.

Etymology. The specific name is an adjective pertaining wondering in the mountain.

Distribution. Borneo (Sabah) (Fig. 64).

Bionimics. Judging from the type series and non-type material examined this species inhabits highland forests (1000–1600 m alt.). Most colonies were encountered in the daytime.

Remarks. This species is most similar to *A. hodgsoni* in body shape but can be distinguished from it as follows: mesopleuron, metapleuron and propodeum entirely sculptured, with about 20 fine longitudinal rugulae, except for a small smooth area above the propodeal spiracle (dorsal face of propodeum more extensively smooth and shiny in the latter); subpetiolar process weakly developed and low (well developed and triangular in the latter); declivity of propodeum encircled with a very thin rim (declivity without a rim and seen from back tapering above in the latter); legs entirely smooth and shiny (femora extensively superficially reticulate and shiny, and tibiae very finely reticulate in the latter).

Aenictus rotundicollis sp. nov.

(Figs. 41–43)

Types. Holotype worker from Malaysia, Sarawak, Niah N.P., 28 I 1993, Sk. Yamane leg (FRCS). Twenty-one paratype workers, same data as holotype (BMNH, MCZC, SKYC, THNHM, UMS).

Measurements. Holotype and paratypes (n = 10): TL 4.15–4.25 mm; HL 0.85–0.90 mm; HW 0.80–0.85 mm; SL 0.68–0.73 mm; ML 1.30–1.35 mm; PL 0.28–0.30 mm, CI 94–95; SI 84–85.

Description of worker (holotype and paratypes)**.** Head in full-face view rounded, almost as long as broad, with sides strongly convex and posterior margin almost straight or weakly convex; occipital carina complete. Antennal scape relatively short, not reaching posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–V; terminal segment (X) almost as long as VII+VIII+IX. Frontal carina short, extending slightly beyond posterior margin of torulus. Anterior margin of clypeus slightly convex, bearing 5–6 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 4 denticles, and a small basal tooth; basal margin bearing 2–3 small teeth. Mesosoma relatively stout; promesonotum in profile strongly convex and forming a dome, mesonotum sloping to metanotal groove; propodeum distinctly lower than promesonotum, with its dorsal outline almost straight; propodeal junction roundly angulate; declivity in profile vertical and almost straight, without any trace of dorsal and lateral carinae. Petiole relatively short, almost as long as high and slightly shorter than postpetiole; subpetiolar process well developed and subtriangular, its apex directed downward and backward; postpetiole almost as long as high, dorsum of node more rounded than in petiole.

Entire head smooth and shiny. Sculpture of mandible very fine, not typically striate as seen in other species; the sculpture also covering outer zone, and only apical and masticatory zones smooth. Antennal scape superficially reticulate and shiny. Pronotum smooth and shiny, with its anteriormost portion punctate; mesonotum longitudinally rugulose; mesopleuron, metapleuron and propodeum entirely punctate. Petiole densely punctate; postpetiole shagreened with smooth and shiny interspaces.

Head with a pair of standing hairs on vertex; promesonotum with 2–3 standing hairs. Entire body dark reddish-brown. Typhlatta spot well developed, located anterior to occipital corner.

Non-type material examined. MALAYSIA: Sabah, Poring, Kinabalu N.P., 800 m alt., 17 III 1995, T. Kikuta leg. (SKYC, THNHM). **BRUNEI:** Tasek Merinbun, 13 II 1999, K. Eguchi leg., Eg99-BOR-079 (SKYC, THNHM).

Etymology. The specific name is a noun describing the roundly raised promesonotum.

Distribution. Borneo (Sabah, Sarawak, and Brunei) (Fig. 66).

Bionomics. *A. rotundicollis* is very probably sympatric with the closely related *A. sonchaengi* and inhabits lowland rainforests. So far it is known only from Borneo.

Remarks. This species is very similar to *A. sonchaengi* in having only 2 long standing hairs on the vertex of the head and the dorsally strongly convex promesonotum which forms a high dome. See under *A. sonchaengi* and also 'Remarks' for *A. breviceps* and *A. laeviceps*.

Aenictus siamensis sp. nov.

(Figs. 35–37)

Types. Holotype worker from NE. Thailand, Chaiyaphum Prov., Phu Kheao Dist., Hill evergreen forest, 27 III 1999, W. Jaitrong leg., WJT99-TH55 (THNHM). Eighteen paratype workers, same data as holotype (AMK, BMNH, MCZC, MHNG, SKYC, THNHM).

Measurements. Holotype and paratypes (n = 10): TL 3.75–3.90 mm; HL 0.78–0.85 mm; HW 0.63–0.70 mm; SL 0.68–0.75 mm; ML 1.18–1.25 mm; PL 0.25–0.28 mm; CI 81–82; SI 107–108.

Description of worker (holotype and paratypes). Head in full-face view distinctly longer than broad, with sides convex and posterior margin almost straight; occipital carina complete. Antennal scape relatively long, reaching the posterolateral corner of head; antennal segments II–X each longer than broad; II almost as long as each of III–VI. Frontal carina very short, not extending beyond the level of posterior margin of torulus. Anterior margin of clypeus convex, bearing 8–9 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 6–7 denticles, and often 1 or 2 small basal teeth; basal margin lacking denticles. Mesosoma relatively slender; promesonotum in profile weakly convex dorsally and sloping gradually to metanotal groove; dorsal outline of propodeum feebly convex; propodeal junction angulate; declivity shallowly concave, encircled by a thin rim. Petiole subsessile, its node almost as long as high with strongly convex dorsal outline; subpetiolar process well developed and triangular with apex directed downward; postpetiole almost as long as petiole, the node similar to that of petiole in shape.

Entire head smooth and shiny. Mandible very finely striate except along masticatory and outer margins. Anten-

nal scape superficially sculptured and shiny. Pronotum dorsally almost smooth and shiny; lateral face superficially reticulate and weakly shiny; mesothorax, metapleuron and propodeum densely punctate; mesothorax and propodeum often with ill-defined longitudinal rugulae on lateral faces. Petiole with dense small punctures; postpetiole entirely smooth and shiny. Legs extensively smooth and shiny.

Head and mesosoma dorsally with relatively sparse standing hairs mixed with sparse short hairs over the surface; longest pronotal hair 0.23–0.27 mm long. Entire body dark reddish brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. THAILAND: N. Thailand, Chiang Mai Prov., Mae Tang Dist., Haui Prachao, HEF, 6 IX 2000, W. Jaitrong leg., WJT00-HPC05 (AMK, SKYC, THNHM); N. Thailand, Chiang Mai Prov., Doi Suthep-Pui, SF, V 2008, S. Sonthichai leg., WJT08-11 (AMK, THNHM); NE. Thailand, Chaiyaphum Prov., Phu Kheao, DEF, 10 I 1997, D. Wiwatwitaya leg. (AMK); NE. Thailand, Loei Prov., Phu Ruea Dist., 11 IV 2008, W. Jaitrong & Sk. Yamane leg., WJT08-TH801/TH08-SKY-17 (SKYC, THNHM).

Etymology. The specific name is an adjective meaning 'of Siam (old name of Thailand)'.

Distribution. Thailand (Fig. 66).

Bionomics. *A. siamensis* is found in highland (700–900 m alt.) seasonal forests (hill evergreen forest and dry evergreen forest) and open areas. The colony from Loei Province (WJT08-TH801) was collected at night, a colony from Chiang Mai Province (WJT00-HPC05) during the day. The type series (WJT99-TH55) and the colony from Doi Suthep-Pui National Park, Chiang Mai Province (WJT08-11) were collected using pitfall traps.

Remarks. *A. siamensis* is similar to *A. binghami* in having the mesosoma extensively sculptured, but is much smaller than the latter. Furthermore the pronotal sculpture is much weaker (dorsum almost smooth) in the latter. See under *A. binghami*.

***Aenictus sonchaengi* sp. nov.**
(Figs. 38–40)

Types. Holotype worker from S. Thailand, Nakon Si Thammarat Prov., Khao Nan, 12 XII 2007, W. Jaitrong leg. (THNHM). Fourteen paratype workers, same data as holotype (BMNH, SKYC, THNHM).

Measurements. Holotype and paratypes (n = 10): TL 4.20–4.35 mm; HL 0.85–0.95 mm; HW 0.83–0.85 mm; SL 0.68–0.73 mm; ML 1.33–1.35 mm; PL 0.30–0.33 mm; CI 89–97; SI 82–85.

Description of worker (holotype and paratypes)**.** Head in full-face view subrectangular, slightly longer than broad, with sides convex and posterior margin almost straight; occipital carina complete. Antennal scape relatively short, only reaching 3/4 of head length; antennal segments II–X each longer than broad; II almost as long as each of III–V; terminal segment (X) slightly shorter than VII+VIII+IX. Frontal carina short, slightly extending beyond posterior margin of torulus. Anterior margin of clypeus slightly convex, bearing 5–6 denticles. Masticatory margin of mandible with a large apical tooth followed by a medium-sized subapical tooth, 5 denticles, and a medium-sized basal tooth; basal margin bearing 2–3 denticles. Mesosoma rather stout; promesonotum in profile strongly convex and forming a dome, mesonotum sloping to metanotal groove; propodeum distinctly lower than promesonotum, with its dorsal outline almost straight; propodeal junction round or weakly angulate; declivity seen in profile almost vertical, not margined dorsally and laterally with a carina. Petiole relatively short, globular, almost as long as high; subpetiolar process well developed and triangular, its apex directed downward and backward; postpetiole slightly larger than petiole.

Entire head smooth and shiny. Mandible very finely striate except along masticatory and outer margins. Antennal scape superficially sculptured and shiny. Pronotum entirely smooth and shiny except for its anteriormost portion being punctate; mesonotum and upper portion of mesopleuron longitudinally rugulose; remainder of mesopleuron, metapleuron and lateral face of propodeum punctate; dorsal surface of propodeum smooth and shiny. Petiole densely reticulate; postpetiole dorsally smooth and shiny, its lateral face weakly reticulate. Legs entirely smooth and shiny.

Vertex with a pair of standing hairs; promesonotum with relatively sparse standing hairs; longest pronotal hair 0.20–0.23 mm long; propodeum with a pair of standing hairs near posterolateral corners. Entire body dark reddish-brown. Typhlatta spot located anterior to occipital corner.

Non-type material examined. THAILAND: S. Thailand, Nakhon Si Thammarat Prov., Khao Nan, 12 XII

2007, W. Jaitrong leg., WJT07-KN01 (AMK, SKYC, THNHM); same loc., Yod Nam, 28 IX 2008, W. Jaitrong leg., WJT08-S1100 (AMK, SKYC, THNHM); S. Thailand, Surat Thani Prov., Ratchaprapa Dam, SF, 21 VI 2010, S. Hasin leg., SH10-TH01 (AMK, SKYC, THNHM); S. Thailand, Songkhla Prov., Khao Kor Hong, 25 IX 2008, W. Jaitrong leg., WJT08-S1022; S. Thailand, Narathiwat Prov., Bala Hala, EF, 26 IX 2001, C. Bourmas leg. (AMK, THNHM). **MALAYSIA:** Sarawak, Miri, Lambir N.P., 24 I 1993, Sk. Yamane leg. (SKYC, THNHM, FRCS); same loc., 10 VIII 1995, Sk. Yamane leg (SKYC, THNHM). **BRUNEI:** Tasek Merinbun, 12 II 1999, K. Eguchi leg., Eg99-BOR-051 (SKYC, THNHM).

Etymology. The specific name is dedicated to Dr. Pichai Sonchaeng, the president of the National Science Museum, Thailand.

Distribution. Malay Peninsula (S. Thailand) and Borneo (Sarawak and Brunei) (Fig. 66).

Bionomics. All material examined of this species was collected from lowland primary rainforests, except for the single colony from Surat Thani Province (southern Thailand, SH10-TH01) which was collected from a disturbed forest. Two colonies from Khao Nan National Park, southern Thailand (WJT07-KN02 and WJT08-S1100) were found during the night**,** while a colony from Songkhla Province (southern Thailand, WJT08-S1022) was found in early morning. This species is probably sympatric with *A. rotundicollis* in at least Borneo.

Remarks. This species is closely related to *A. rotundicollis* in having only 2 long standing hairs on the vertex of the head and the promesonotum which is, seen in profile, strongly convex dorsally and forming a high dome. However, it is easily separated from *A. rotundicollis* as follows: promesonotum with 2–4 standing hairs (more than 4 hairs in *A. rotundicollis*); dorsal surface of propodeum smooth and shiny (propodeum entirely sculptured in *A. rotundicollis*); pronotal dorsum superficially shagreened and shiny and somewhat wrinkled (smooth and shiny in *A. rotundicollis*). See also 'Remarks' for *A. breviceps* and *A. laeviceps*.

The specimens collected from southern Thailand, including the type series, have the pronotum smoother than in the Bornean specimens.

Acknowledgments

We would like to express our deep gratitude to Dr. Stefan P. Cover (Museum of Comparative Zoology, Harvard University, USA), Dr. James E. Hogan (Oxford University Museum of Natural History), Dr. Bernhard Merz (Muséum d'Histoire Naturelle Geneva, Switzerland), Dr. Fabio Penati (Museo Civico di Storia Naturale, Italia), Ms. Suzanne Ryder (Natural History Museum, London), and Dr. Herbert Zettel (Natural History Museum Vienna, Austria) for their kindness in lending us type materials of various species of *Aenictus*. We are also grateful to Ms. Wara Asfiya (Museum Zoologicum Bogoriense, Indonesia), Mr. Tuah Bin Atar (Brunei Museum), Dr. Carsten Brühl (Univesity of Koblenz-Landau, Germany), Dr. Tuan Viet Bui (Institute of Ecology and Biology Resources, Vietnam), Ms. Chamaiporn Buormas (Kasetsart University, Thaialnd), Dr. Katsuyuki Eguchi (Nagasaki University, Japan), Dr. John Fellowes (Kadoorie Farm, Hong Kong), Dr. Rosli Hashim (University of Malaya, Malaysia), Dr. Yoshiaki Hashimoto (Hyogo Prefectural Museum, Japan), Ms. Sasitorn Hasin (Kasetsart University), Dr. Henny Herwina (Andalas University, Indonesia), Prof. Fuminori Ito (Kagawa University, Japan), Mr. I. Wayan Kertayasa (Mapala Tarantula, Gorontaro University, Indonesia), Dr. Munetoshi Maruyama (Kyushu University Museum, Japan), Prof. Maryati Mohamed (Malaysia Sabah University), Dr. Nawee Noon-anant (Prince of Songkhla University, Thailand), Prof. Kazuo Ogata (Kyushu University, Japan), Prof. Emeritus Nobuo Ohbayashi (Ehime University, Japan), Dr. Hirofumi Okido (Fukuoka-shi, Japan), Dr. Martin Pfeiffer (National University of Mongolia, Mongolia), Dr. Aziz Salam (Hasanuddin University, Indonesia), Dr. Ven Samarita (Philippine National Museum), Dr. Saowapa Sonthichai (Chiangmai University, Thailand), Dr. FX Susilo (Lampung University, Indonesia), Dr. Syaukani (Syiah Kuala University, Indonesia), Dr. Keizo Takasuka (Ehime University, Japan), Dr. Hiroshi O. Tanaka (Kyoto University, Japan), Dr. Roshicon Ubaidillah (Museum Zoologicum Bogoriense, Indonesia), Dr. Suparoek Watanasit (Prince of Songkhla University), Dr. Decha Wiwatwitaya (Kasetsart University), Dr. Bakhtiar Effendi Yahya (Malaysia Sabah University), Mr. Takeshi Yamasaki (Kagoshima University, Japan), and other friends for their help in collecting specimens. This work was partly supported by Grants-in Aid (JSPS-DGHE) for 1985 (Leader: Shunzo Kawamura), Grants-in Aid (Monbusho, Japan) Field Research [#04041065] for 1992–1993 (Leader: Shigeru Azuma), Grants-in Aid (Monbusho, Japan) Field Research [#04041067] for 1992–1993 (Leader: Tamiji Inoue), Grants-in Aid (Monbusho, Japan) Field Research [#06041013] for 1994–1996 (Leader: Tamiji

Inoue), Grants-in Aid (Monbusho, Japan) Field Research [#07041145] for 1995–1996 (Leader: Seiki Yamane), Grants-in Aid (JSPS) Kiban A2 [#10041169] for 1998–2000 (Leader: Isamu Shimizu), DIVER (JSPS) [#09NP1501] for 1998–2002 (Leader: Hiroya Kawanabe), Grants-in Aid (JSPS) Kiban A2 [#17255001] for 2005–2007 (Leader: Osamu Yata), Grants-in Aid (JSPS) Kiban A2 [#17405009] for 2007–2009 (Leader: Seiki Yamane), Grants-in Aid (JSPS) Kiban A2 [#20251004] for 2008–2010 (Leader: Katsuya Osozawa).

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