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THREE NEW SPECIES OF THE ANT GENUS *LEPISIOTA* SANTSCHI, 1926 (HYMENOPTERA: FORMICIDAE) FROM THAILAND

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Summary. Ninety-nine valid species and forty-four valid subspecies of the genus *Lepisiota* Santschi, 1926 have been known from the Palaearctic, Afrotropical, southern Indo-Malayan, and Indo-Australian realms. Among them, two species are known from Thailand. In this paper, three additional new species are described from the country: *Lepisiota bicolor* Jarernkong et Jaitrong, **sp. n.** (based on the worker caste); *Lepisiota siamensis* Jarernkong et Jaitrong, **sp. n.** (based on the worker caste); and *Lepisiota theptheapae* Jarernkong et Jaitrong, **sp. n.** (based on the worker caste and dealate queen). A key to the Thai species of based on the worker caste is provided. All of the new species were collected from soil.

Key words: ant, Formicinae, *Lepisiota*, taxonomy, new species, key, SE Asia.

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Резюме. Род *Lepisiota* Santschi, 1926 включает 99 видов и 44 подвида, распространенных в палеарктической, афротропической, ориентальной и австралийской областях; из них лишь два вида ранее были отмечены из Таиланда. В этой статье из Таиланда описаны 3 новых вида: *Lepisiota bicolor* Jarernkong et Jaitrong, **sp. n.** (по рабочим); *Lepisiota siamensis* Jarernkong et Jaitrong, **sp. n.** (по рабочим) и *Lepisiota thepthevae* Jarernkong et Jaitrong, **sp. n.** (по рабочим и бескрылой самке). Приведена определительная таблица тайландских видов (по рабочим). Все новые виды были собраны на почве.

INTRODUCTION

The genus *Lepisiota* Santschi, 1926 is one of the large ant genera in the subfamily Formicinae. This genus is distributed in the Palearctic, Afrotropical, southern Indo-Malayan, and Indo-Australian realms (Antweb, 2022; Antwiki, 2022). Members of the genus are found in grasslands, savannahs, or woodlands (Hita Garcia *et al.*, 2013; Wachkoo *et al.*, 2021). Currently, 99 valid species and 44 valid subspecies of the genus have been known (Bolton, 2022). Recently, several taxonomic papers dealing with Asian species of this genus have been published (Xu, 1994; Wu & Wang, 1995; Collingwood & Agosti, 1996, 2011; Terayama, 2009; Sharaf & Monks, 2016; Sharaf & Hita Garcia, 2020; Wachkoo *et al.*, 2021; Jaitrong *et al.*, 2022; Harshana & Dey, 2022).

The genus was poorly known from Thailand. Only two species: *L. rothneyi* (Forel, 1894) and *L. chutimae* Jaitrong, Waengsothorn et Buddhakala, 2022 were recorded from the country (Khachonpisitsak *et al.*, 2020; Jaitrong *et al.*, 2022). A recent examination of *Lepisiota* specimens collected from Thailand revealed the presence of three new species. In the present paper, we describe these new species. A key to the Thai species based on the worker caste is also provided.

MATERIAL AND METHODS

The holotypes and paratypes of the three new species are point-mounted dry specimens and deposited in the Natural History Museum of the National Science Museum, Thailand (THNHM). The new species were compared with images of the type specimens of closely related species, *Lepisiota pulchella* (Forel, 1892) and *L. lunaris* (Emery, 1893), available on Antweb (2022). Images of the holotypes of *L. acuta* Xu, 1994 and *L. reticulata* Xu, 1994 taken by Professor Xu Zhenghui were also examined. Most morphological observations were made with a ZEISS Stemi 305 stereoscope.

Multi-focused montage images were produced using NISElements-D from a series of source images taken by a Nikon Digital Sight-R11 camera attached to a Nikon AZ100M stereoscope. The holotypes and paratypes of the new species were measured using a micrometer. All measurements are given in millimeters and to the second decimal place.

The abbreviations used for the measurements and indices are as follows: **HL** Head length. Length of head proper, excluding mandibles, measured in straight line

from anterior clypeal margin to mid-point of a line drawn across posterior margin of head; **HW** Head width. Maximum width of head capsule measured in full-face view, excluding compound eyes. **EL** Eye length. Maximum diameter of eye; **SL** Scape length. Maximum straight length of antennal scape excluding basal constriction and condylar bulb; **ML** Mesosomal length (Weber's length). Diagonal length of mesosoma in profile, from the point at which pronotum meets cervical shield to posterior margin of metapleuron; **FeL** Femur length. Maximum length of metafemur, measured from base to apex; **PL** Petiole length measured from anterior margin to posteriormost point of tergite in profile; **PH** Petiole height. The height of petiole measured in profile from apex of ventral (subpetiolar process) process vertically to a line intersecting dorsalmost point of node; **CI** Cephalic index. $HW \times 100 / HL$; **SI** Scape index. $SL \times 100 / HW$; **EI** Ocular index. $EL \times 100 / HW$; **FeI** Femur index. $FeL / HW \times 100$.

TAXONOMY

Genus *Lepisiota* Santschi, 1926

Lepisiota Santschi, 1926: 15 [as subgenus of *Acantholepis*]. Type-species: *Plagiolepis rothneyi*, by original designation.

Acantholepis Mayr, 1861: 42. Type-species: *Hypoclinea frauenfeldi*, by monotypy. (Junior homonym of *Acantholepis* Kroyer, 1846: 98 [Pisces]).

Achantilepis Santschi, 1935b: 274, incorrect subsequent spelling of *Acantholepis*.

Pseudacantholepis Bernard, 1953b: 256, attributed to Santschi (as subgenus of *Acantholepis*). Unavailable name. Proposed without designation of type-species. Species included by Bernard (1953b) are all referable to *Lepisiota*: Bolton, 1995b: 44.

DIAGNOSIS OF WORKER. Antennae 11-segments, without antennal club; palp formula 6,4; mandibles subtriangular, masticatory margin with 5–6 teeth; eyes with over 100 ommatidia; antennal scrobes absent; pronotal spines absent; mesothorax reduced and slender; metathoracic spiracles in profile raised; propodeal spines dentiform (absent in some species); petiolar spines present or absent; worker monomorphic, a few species are size-variable to weakly polymorphic.

Lepisiota bicolor Jarernkong et Jaitrong, sp. n.

<https://zoobank.org/NomenclaturalActs/DA17447B-BCB8-4ED6-840B-FA96B4CED337>

Fig. 1

TYPE MATERIAL. Holotype – worker (THNHM-I-24825, THNHM), **N Thailand:** Chiang Rai Province, Mueang District, Pong Nam Ron Village, 21.X 2018, W. Jaitrong leg., WJT211018-15. Paratypes: 13 workers (THNHM-I-24826 to THNHM-I-24838, THNHM), same data as holotype.

NON-TYPE MATERIAL EXAMINED. Seven workers (THNHM-I-24839, THNHM-I-26842 to THNHM-I-26847, THNHM), from **W Thailand:** Tak Province, Umphang District, 21.X 2018, W. Jaitrong leg., TH15-WJT-46.

DESCRIPTION. **Worker** (Fig. 1).

Measurements and indices. Holotype: HL 0.56, HW 0.46, EL 0.13, SL 0.32, ML 0.69, FeL 0.66, PL 0.29, PH 0.23, CI 82, SI 135, EI 28, FeI 70.

Paratypes (n = 13): HL 0.52–0.56, HW 0.46–0.49, EL 0.13–0.16, SL 0.62–0.66, ML 0.66–0.75, FeL 0.66–0.69, PL 0.26–0.33, PH 0.19–0.23, CI 82–93, SI 126–142, EI 28–35, FeI 66–75.



Fig 1. *Lepisiota bicolor* Jaremkong et Jaitrong, **sp. n.**, holotype worker (THNHM-I-24825, THNHM). A – body in profile view; B – head in full-face view; C – body in dorsal view.

Head: in full-face view, subrectangular, distinctly longer than broad, lateral and posterior margins weakly convex. Mandibles subtriangular; masticatory margin with five teeth, including largest apical tooth, followed by medium-sized preapical tooth, a small tooth, medium-sized prebasal tooth, and small basal tooth; basal margin without denticles. Clypeus broad and convex medially, shorter than broad, its anterior margin broadly convex, posterior clypeal margin straight medially. Eyes moderately large, oval, convex, with 14–15 ommatidia along the longest axis, located at mid-length of head laterally; outer margin of eyes reaching lateral margin of head. Ocelli present, lateral ocelli as large as median ocellus; distance between lateral ocelli clearly longer than distance between median ocellus and lateral ocellus. Antennal scapes slender, clavate, extending beyond posterolateral corners of head by about one-third of its length. Antennal segment II longer than broad and longer than segments III and IV; segments V–X each clearly longer than broad. Frontal lobe narrow and frontal carina reach to level of mid-length of eyes.

Mesosoma: in profile pronotum with weakly convex dorsal outline; mesonotum slightly sloping gradually to metanotal groove; in dorsal view, pronotum slightly broader than long and clearly broader than mesonotum but almost as broad as propodeum; metathoracic spiracle in profile raised but lower than the level of propodeal spines; promesonotal suture and metanotal groove distinct; mesopleuron clearly demarcated from metapleuron by deep groove; metapleuron not demarcated from lateral face of propodeum. Propodeum in profile with weakly convex dorsal outline; in profile, propodeal spines short, subtriangular, rather sharp apically, almost as long as broad at base; in dorsal view, tip of propodeal spine pointed backward and outward.

Petiole sessile; in profile petiolar node subtriangular, longer than high, its anterior margin weakly convex, posterior margin straight; dorsum of petiole with a pair of sharp spines, that are pointed above; in dorsal view petiolar node subrectangular, narrower posteriorly; subpetiolar process weakly developed.

Dorsum of head punctate but slightly shiny; area in front of eye laterally (lower gena) with longitudinal striation; ventral surface of head punctate, but punctuation weaker than on the dorsum; pronotum entirely punctate; mesopleuron with longitudinal striation except for lower portion punctate; propodeum punctate; petiole and gaster smooth and shiny. Antennal scape punctate; coxae smooth and shiny; femora and tibiae punctate.

Dorsum of head with sparse standing hairs mixed with short appressed hairs; pronotum with sparse standing hairs; mesonotum with 5–6 standing hairs; propodeal dorsum with sparse standing hairs ≤ 10 ; gaster with dense standing hairs. Head, mesosoma, petiole, gastral segment I, and anterior half of gastral segment II yellow; remaining parts of gaster dark to dark brown; antennal scape and legs yellow; flagellar segments of antennae largely dark brown.

REMARKS. *Lepisiota bicolor* **sp. n.** is most similar to *L. pulchella* (Forel, 1892) from India in having dense punctures on head and mesosoma and yellow gastral segment I yellow (compared with *L. pulchella* syntype images, CASENT0909894). However, *L. bicolor* can be easily separated from *L. pulchella* by 1) head longer

than broad (almost as long as broad in *L. pulchella*); 2) flagellar segment of antennae largely dark brown (entirely grey in *L. pulchella*); 3) in full-face view, outer margin of eyes reaching lateral margin of head (not touch in *L. pulchella*); 4) petiole smooth and shiny (punctate in *L. pulchella*); 5) legs yellow (grey alternating with dark brown in *L. pulchella*); 6) head and mesosoma distinctly yellow (yellowish brown in *L. pulchella*); 7) gastral segment I entirely yellow (partly yellow in *L. pulchella*); 8) anterior half of gastral segment II yellow (entire segment dark to dark brown). *Lepisiota bicolor* is also similar to *L. thepthevae* in having dense punctures on head and mesosoma. However, *L. bicolor* can be separated from *L. thepthevae* by 1) head, mesosoma, petiole, and gastral segment I yellow (head and gaster dark brown; mesosoma and petiole reddish brown in *L. thepthevae*); 2) ventral surface of head punctate (smooth and shiny in *L. thepthevae*); 3) posterior clypeal margin almost straight medially (feebly concave medially in *L. thepthevae*); 4) mesonotal spiracle in profile lower than level of propodeal spines (higher than level of propodeal spines in *L. thepthevae*); gaster bicolor (dark brown in *L. thepthevae*).

HABITAT. The type series was collected from soil in a paddy field at an elevation about 900 m above sea level. A colony from Tak Province, western Thailand (TH15-WJT-46) was collected in a dry dipterocarp forest, ca. 1,200 m above sea level. Thus, this species should be restricted to highland. *Lepisiota bicolor* is sympatric with *L. siamensis* in Chiang Rai Province, northern Thailand.

ETYMOLOGY. The specific name is a Latin, “*bicolor*” meaning having two colors.

DISTRIBUTION. Thailand: Chiang Rai and Tak Provinces (Fig. 6).

***Lepisiota siamensis* Jarernkong et Jaitrong, sp. n.**

<https://zoobank.org/NomenclaturalActs/73BC33F2-E611-49C2-94FD-AB2DADFDCB66>

Fig. 2

TYPE MATERIAL. Holotype – worker (THNHM-I-26819, THNHM), **N Thailand:** Chiang Rai Province, Mueang District, Pong Nam Ron Village, 21.X 2018, W. Jaitrong leg., WJT211018-06. Paratypes: 23 workers (THNHM-I-26820 to THNHM-I-26841, THNHM), same data as holotype.

DESCRIPTION. Worker (Fig. 2).

Measurements and indices. Holotype: HL 0.56, HW 0.52, EL 0.19, SL 0.56, ML 0.79, FeL 0.66, PL 0.29, PH 0.23, CI 94, SI 106, EI 37, FeI 80.

Paratypes (n = 23): HL 0.52–0.59, HW 0.46–0.52, EL 0.16–0.19, SL 0.56–0.62, ML 0.72–0.82, FeL 0.62–0.69, PL 0.26–0.29, PH 0.19–0.23, CI 87–94, SI 106–135, EI 31–40, FeI 71–80.

Head: in full-face view, slightly longer than broad, lateral margins convex, posterior margin almost straight medially. Mandibles subtriangular; masticatory margin with five teeth, including largest apical tooth, followed by medium-sized preapical tooth, a small tooth, medium-sized prebasal tooth, and small basal tooth; basal margin without denticles. Clypeus broad and convex medially, shorter than

broad, its anterior margin convex, posterior margin convex medially. Eyes relatively large, oval, convex, with 17–19 ommatidia along the longest axis, located at mid-length of head laterally; outer margin of eye reaching lateral margin of head. Ocelli present, located on frons; lateral ocelli slightly larger than median ocellus; distance between lateral ocelli slightly longer than distance between median ocellus and lateral ocellus. Antennal scapes slender, clavate. Antennal segment II longer than broad and longer than segments III and IV; segments V–X each thin and longer than broad. Frontal lobe narrow and frontal carina short slightly extending beyond level of anterior margin of eye.



Fig 2. *Lepisiota siamensis* Jaremkong et Jaitrong, sp. n., holotype worker (THNHM-I-26819, THNHM). A – body in profile view; B – head in full-face view; C – body in dorsal view.

Mesosoma: in profile pronotum with its dorsal outline weakly convex; mesonotum almost straight and sloping gradually to metanotal groove; in dorsal view, pronotum almost as long as broad and clearly broader than mesonotum but slightly broader than propodeum; metathoracic spiracle in profile raised at least to the level of base of propodeal spine; promesonotal suture and metanotal groove distinct; mesopleuron clearly demarcated from metapleuron by deep groove; metapleuron not demarcated from lateral face of propodeum. Propodeum in profile with its dorsal outline weakly convex; in profile, propodeal spine short, subtriangular, blunt tip, slightly shorter than broad at base; in dorsal view, tip of propodeal spine pointed backward and outward.

Petiole sessile; in profile petiolar node subtriangular, longer than high, its anterior margin weakly convex, while posterior margin concave; dorsum of petiole with a pair of sharp spines; subpetiolar process weakly developed, its ventral outline weakly convex; in dorsal view petiolar node subrectangular, longer than broad, narrower posteriorly.

Dorsum of head densely reticulate with smooth and shiny interspaces; area in front of eye laterally (lower gena) finely striate; ventral surface of head smooth and shiny; pronotum entirely smooth and shiny; mesopleuron with dense longitudinal striation except for lower portion smooth; propodeum punctate; petiole and gaster largely smooth and shiny. Antennal scape punctate; coxae smooth and shiny; femora superficially reticulate with smooth and shiny interspaces; tibiae punctate.

Dorsum of head with sparse standing hairs mixed with short appressed hairs; pronotum with sparse standing hairs mixed with sparse short appressed hairs; mesonotum with less than 10 standing hairs; propodeal dorsum with 5–6 standing hairs mixed with very short appressed hairs; gaster with dense standing hairs, hairs on gastral sternites longer than on tergite. Body entirely black to dark brown. Mandible, antenna, and legs reddish brown to yellowish brown.

REMARKS. *Lepisiota siamensis* **sp. n.** is most similar to *L. lunaris* (Emery, 1893) from India in having a dark to black and shining body, a reticulated head, and yellowish-brown antennae. However, *L. siamensis* can be easily separated from *L. lunaris* by 1) head slightly longer than broad (almost as long as broad in *L. lunaris*); 2) area between eye and mandibular base finely striate (slightly smooth in *L. lunaris*); 3) outer margin of eye reaching lateral margin of head (not touching in *L. lunaris*); 4) pronotum as long as broad (shorter than broad in *L. lunaris*); 5) in profile tip of propodeal spine bluntly angulated (tip of propodeal spine sharply angulated in *L. lunaris*); 6) dorsal outline of propodeum weakly convex (almost straight in *L. lunaris*); 7) petiolar spines pointed above (curve backward in *L. lunaris*). The new species is also similar to *L. acuta* Xu, 1994 in general appearance. However, it can be distinguished from the latter by 1) pronotum smooth and shiny (densely punctate in the latter); 2) in profile propodeal spines bluntly angulated (sharply angulated in the latter); 3) dorsal outline of propodeum weakly convex (straight in the latter); 4) petiolar spines pointed above (curve backward in the latter); 5) femora reddish brown (darker in the latter).

HABITAT. The type series was collected from soil in a paddy field (the same locality as in the *L. bicolor* colony) at an elevation of about 900 m above sea level.

ETYMOLOGY. The specific name is an adjective meaning ‘of Siam’ the historic name of Thailand.

DISTRIBUTION. Thailand: Chiang Rai Province (Fig. 6).

***Lepisiota thepthevae* Jarernkong et Jaitrong, sp. n.**

<https://zoobank.org/NomenclaturalActs/72F7EF1F-4286-487D-A40E-56DEA63FC770>

Figs 3, 4

TYPE MATERIAL. Holotype – worker (THNHM-I-26848, THNHM), **NE Thailand:** Srisaket Province, Khun Harn District, Bak Dong Subdist, Phanom Dong Rak, Kraban Krabai, 13.IX 2018, W. Jaitrong leg., WJT-130918-38. Paratypes: 9 workers (THNHM-I-26849 to THNHM-I-26857, THNHM) and 1 queen (THNHM-I-26858, THNHM), same data as holotype.

NON-TYPE MATERIAL EXAMINED. One worker (THNHM-I-26860, THNHM), from **N Thailand:** Chiang Mai Province, Chiang Mai University main campus, 18.X 2013, Onishi Y. leg.

DESCRIPTION. Worker (Fig. 3).

Measurements and indices. Holotype: HL 0.52, HW 0.42, EL 0.13, SL 0.52, ML 0.69, FeL 0.56, PL 0.29, PH 0.23, CI 87, SI 114, EI 28, FeI 82.

Paratypes (n =9): HL 0.42–0.52, HW 0.42–0.46, EL 0.13–0.16, SL 0.49–0.52, ML 0.66–0.69, FeL 0.49–0.56, PL 0.26–0.29, PH 0.19–0.23, CI 86–93, SI 107–123, EI 28–38, FeI 81–93.

Head: in full-face view, distinctly longer than broad; lateral and posterior margins convex. Mandibles subtriangular; masticatory margin with five teeth, including largest apical tooth, followed by medium-sized preapical tooth, a small tooth, medium-sized prebasal tooth, and small basal tooth; basal margin without denticles. Clypeus broad and convex medially, shorter than broad, its anterior margin roundly convex and posterior margin feebly concave medially. Eyes moderately large, oval, convex, with 18–20 ommatidia along the longest axis, located at mid-length of head laterally; outer margin of eye reaching lateral margin of head. Ocelli present, lateral ocelli as large as median ocellus; distance between lateral ocelli slightly longer than distance between median ocellus and lateral ocellus. Antennal scapes slender and clavate. Antennal segment II longer than broad and longer than segments III and IV combined; segment III as long as broad; segments VI–X each longer than broad. Frontal lobes narrow; frontal carina reaching anterior to level of mid-length of eyes.

Mesosoma: in profile pronotum with weakly convex dorsal outline; mesonotum almost straight and sloping gradually to metanotal groove; in dorsal view, pronotum broader than long and clearly broader than mesonotum, slightly broader than propodeum; in profile metathoracic spiracles raised higher than the level of propodeal outline; promesonotal suture and metanotal groove distinct; mesopleuron clearly demarcated from metapleuron by deep groove; metapleuron not demarcated from lateral face of propodeum. Propodeum in profile with straight dorsal outline; propodeal spine short, subtriangular, blunt apically, slightly shorter than broad at base; in dorsal view, tip of propodeal spine pointed backward and outward.

Petiole sessile; in profile petiolar node subtriangular, longer than high, its anterior margin convex, posterior margin weakly concave; petiolar spines sharp, pointed upward and backward; in dorsal view petiolar node subrectangular, longer than broad, narrower posteriorly; subpetiolar process weakly developed, its ventral outline weakly convex.



Fig 3. *Lepisiota thepthevae* Jaremkong et Jaitrong, **sp. n.**, holotype worker (THNHM-I-26848, THNHM). A – body in profile view; B – head in full-face view; C – body in dorsal view.

Dorsum of head punctoreticulate; area in front of eye laterally (lower gena) finely longitudinally striate; ventral surface of head smooth and shiny; pronotum entirely punctate; mesopleuron with dense longitudinal striation except for lower portion smooth; propodeum punctate; petiole and gaster smooth and shiny. Antennal scape punctate; coxae, femora, and tibiae smooth and shiny.

Dorsum of head with sparse standing hairs mixed with short appressed hairs; pronotum with more than 10 standing hairs mixed with sparse short appressed hairs; mesonotum with 5–6 standing hairs; gaster with dense standing hairs. Dorsum of head dark brown, ventral surface of head reddish-brown; mesosoma and petiole reddish; gaster dark brown to black; antennae, mandibles, and legs reddish-brown.

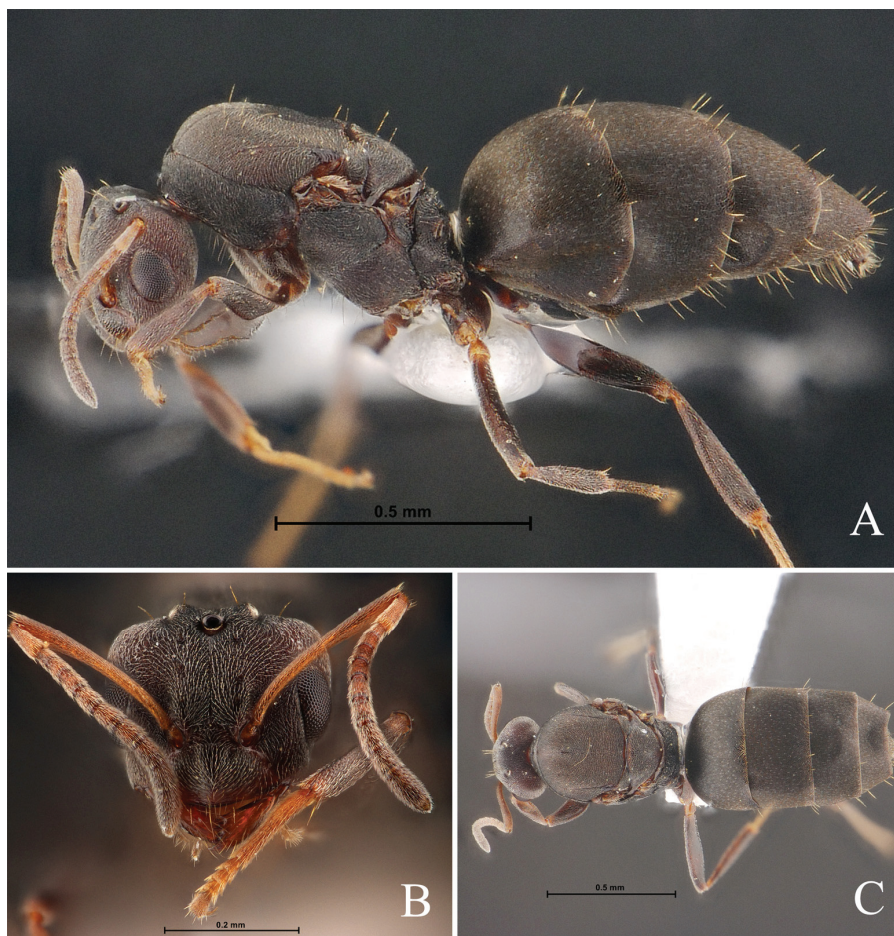


Fig 4. *Lepisiota thepthepeae* Jaremkong et Jaitrong, **sp. n.**, paratype worker (THNHM-I-26858, THNHM). A – body in profile view; B – head in full-face view; C – body in dorsal view.

Queen (Fig. 4).

Measurements and indices. Paratype (n = 1): HL 0.69, HW 0.75, EL 0.29, SL 0.66, ML 1.5, FeL 0.75, PL 0.36, PH 0.33, CI 109, SI 86, EI 39, FeI 100.

Head: In full-face view, shorter than broad, posterolateral corners broadly convex and posterior margin including lateral ocelli sinuate. Mandibles, antennae, and clypeus with the same condition as in worker; anterior and posterior clypeal margins convex. Eyes large, oval, convex, with more than 25 ommatidia along the longest axis, outer margin of eye surpassing lateral margin of head. Ocelli present, large; distance between lateral ocelli clearly longer than between lateral ocellus and median ocellus.

Mesosoma: enlarged; pronotum in profile distinctly lower than mesoscutum; in dorsal view subrectangular, clearly shorter than broad; mesoscutum in dorsal view, large, as long as broad, anterior and posterior margins convex; mesoscutum demarcated from mesoscutellum by distinct scutoscuteellar sulcus; parapsidal lines distinct, long, and straight. Mesoscutellum in dorsal view about three times as short as mesoscutum, clearly shorter than broad, with anterior and posterior margins convex; in profile mesopleuron broad, anepisternum demarcated from kanepisternum by indistinct mesopleural sulcus. Metanotum short dorsally forming transverse ridge. Propodeum in profile, low with weakly convex dorsal outline and without spines; in dorsal view, subtapizoidal, shorter than broad.

Petiole in profile sessile, flat, clearly longer than high and concealed under gastral tergite I. Gaster large, gastral tergites I–IV each shorter than broad; gastral segments III shorter than I and II.

Entire body finely punctate. Dorsa of head and mesosoma with sparse short standing hairs; gastral tergites I–IV each with a row of standing hairs along posterior margins; entire body covered with dense short pubescence. Body reddish brown to dark brown.

REMARKS. *Lepisiota thethepae* sp. n. is most similar to *L. reticulata* from China in having a slender body, punctate head, reddish mesosoma and dark and smooth gaster. However, it can be easily separated from the latter by the following characteristics: 1) ventral surface of head smooth and shiny (weakly striate in *L. reticulata*); 2) propodeum in profile with straight dorsal outline (weakly convex in *L. reticulata*); 3) anterodorsal corner of propodeum strongly convex and narrowly rounded (sloped and not convex in *L. reticulata*); 4) gaster with dense standing hairs (gaster with very sparse standing hairs in *L. reticulata*). The new species is also similar to *L. bicolor* (see under Remarks of *L. bicolor*).

HABITAT. The type series was collected from soil in a grassland.

ETYMOLOGY. The specific name is dedicated to Dr. Nopparat Thepthepa, the Director of the Office of Natural Science Research, who has been ardently supporting biodiversity researches in Thailand including our research project.

DISTRIBUTION. Thailand: Chiang Mai and Sisaket Provinces (Fig. 6).

Key to the Thai species based on worker caste

1. Dorsa of head and pronotum smooth and shiny or reticulate, with smooth and shiny interspaces (Figs 2B, 5A) 2
- Dorsa of head and pronotum densely punctate (Figs 1B, 3B) 4

- 2 Propodeum without spines or denticles; petiole without spines (Fig. 5B); dorsum of mesosoma without standing hairs *L. rothneyi*
- Propodeum with spines or denticles; petiole with a pair of sharp spines (Fig. 5C–D); dorsum of mesosoma with standing hairs 3
- 3. Masticatory margins of mandibles with five teeth, including largest apical tooth followed by 2 small teeth, medium-sized prebasal tooth, and small basal tooth; body entirely yellow; posterior margin of head broadly convex *L. chutimae*
- Masticatory margins of mandibles with five teeth, including largest apical tooth, followed by medium-sized preapical tooth, a small tooth, medium-sized prebasal tooth, and small basal tooth; body entirely black or dark brown; posterior margin of head almost straight medially *L. siamensis*
- 4. Head, mesosoma, petiole, and gastral segment I yellow, remaining gastral segments dark brown; posterior clypeal margin straight medially (Fig. 1A) *L. bicolor*
- Head and gaster dark brown; mesosoma and petiole reddish brown; posterior clypeal margin feebly concave medially (Fig. 3A) *L. thepthevae*

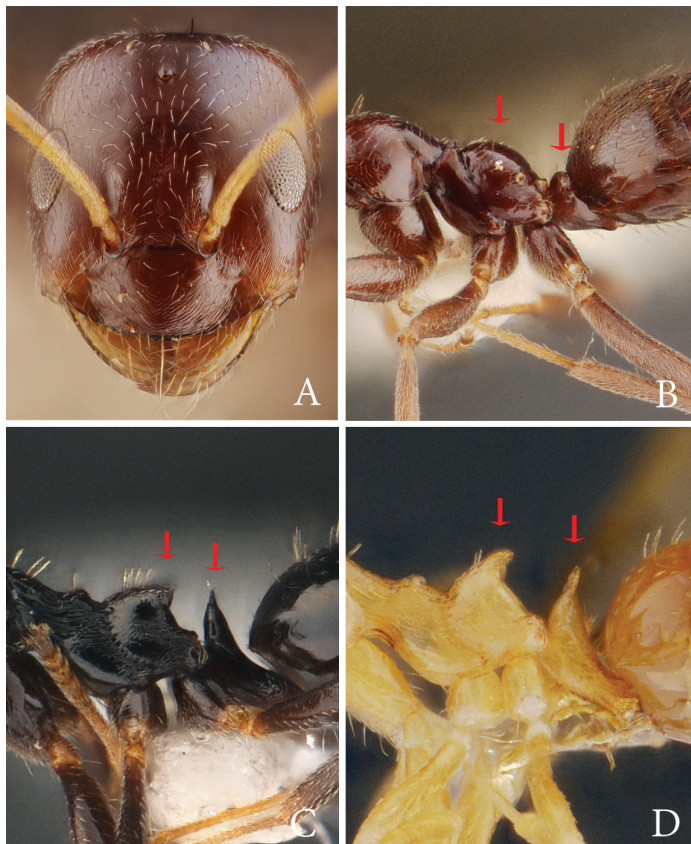


Fig 5. *Lepisiota* workers. A, B – *L. rothneyi* (non-type worker, THNHM-I-27018, THNHM); C – *L. siamensis* (holotype, THNHM-I-26819, THNHM); D – *L. chutimae* (holotype); A – head in full-face view; B, C, D – propodeum and petiole in profile view.



Fig 6. Distributions of the new species of *Lepisiota* in Thailand.

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