

Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch
of the Russian Entomological Society
and Laboratory of Entomology, Federal
Scientific Center of the East Asia
Terrestrial Biodiversity, Vladivostok

Number 483: 1-18

ISSN 1026-051X (print edition)
ISSN 2713-2196 (online edition)

September 2023

<https://doi.org/10.25221/fee.483.1>

<https://elibrary.ru/gpgpww>

<https://zoobank.org/References/E5BA49AF-59E9-40C0-A5D5-60CD0DEDE5AB>

SOME NEW BRACONID PARASITOIDS (HYMENOPTERA: BRACONIDAE) IN THE FAUNA OF KOREAN PENINSULA

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Summary. A new doryctine species, *Doryctes (Doryctes) planus* Belokobylskij et Ku, **sp. n.**, is described from South Korea. Eighteen species from the subfamilies Rhyssalinae (1), Doryctinae (8), Hormiinae (2), Pambolinae (3), Rogadinae (1), Opiinae (1), Helconinae (1), and Euphorinae (1) are recorded from the fauna of Korean Peninsula for the first time. Genera *Aulosaphoides* van Achterberg, 1995, *Aulosaphanes* Belokobylskij, 2004, *Conobregma* van Achterberg, 1995, and *Ademon* Haliday, 1833 are found in South Korea for the first time. *Asiabregma* Belokobylskij, Zaldivar-Riverón et Maeto, 2008, **stat. n.** is regarded as a subgenus of the genus *Conobregma* van Achterberg, 1995.

Key words: Ichneumonoidea, taxonomy, *Doryctes*, new species, *Asiabregma*, new status, fauna, new records, East Asia.

С. А. Белокобыльский, Д.-С. Ку. Некоторые новые наездники-бракониды (Hymenoptera: Braconidae) в фауне Корейского полуострова // Дальневосточный энтомолог. 2023. N 483. С. 1-18.

Резюме. Из Южной Кореи в подсемействе Doryctinae описан новый вид браконид – *Doryctes (Doryctes) planus* Belokobylskij et Ku, **sp. n.** Восемнадцать

видов из подсемейств Rhyssalinae (1), Doryctinae (8), Hormiinae (2), Pambolinae (3), Rogadinae (1), Opiinae (1), Helconinae (1) и Euphorinae (1) впервые отмечаются в фауне Корейского полуострова. Роды *Aulosaphoides* van Achterberg, 1995, *Aulosaphanes* Belokobylskij, 2004, *Conobregma* van Achterberg, 1995 и *Ademon* Haliday, 1833 обнаружены впервые в Южной Кореи. *Asiabregma* Belokobylskij, Zaldivar-Riverón et Maeto, 2008, **stat. n.** 2008 рассматривается как подрод рода *Conobregma* van Achterberg, 1995.

INTRODUCTION

The parasitoid wasps of the family Braconidae of the Eastern Palaearctic are very numerous, diverse and rather peculiar with abundant taxa penetrating in this region from the borderline Oriental region. As results, the new information about discovery the braconids new for sciences and for the countries are increased every year for this large and diverse territory.

Such, information on the Braconidae of the Korean Peninsula has been presented in several reviews and faunistic papers (for example, Papp, 1996, 2018; Belokobylskij, 1998; Tobias & Belokobylskij, 2000; Ku *et al.*, 2001; Samartsev & Ku, 2020, 2021; Belokobylskij & Ku, 2021, 2023a, 2023b).

In this paper, one species of the genus *Doryctes* Haliday is described from South Korea as a new for science; four genera and eighteen species from subfamilies Rhyssalinae, Doryctinae, Hormiinae, Pambolinae, Rogadinae, Opiinae, Helconinae and Euphorinae are recorded on the Korean Peninsula for the first time.

MATERIAL AND METHODS

The terminology employed for the morphological features, sculpture, and body measurements follows Belokobylskij & Maetô (2009). The wing venation nomenclature follows Belokobylskij & Maetô (2009), with the terminology of van Achterberg (1993) shown in parentheses. The new distribution records presented in this paper are marked with an asterisk (*).

The specimens were examined using an Olympus SZ51 stereomicroscope. Photographs were taken with an Olympus OM-D E-M1 digital camera mounted on an Olympus SZX10 microscope (Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia). Image stacking was performed using Helicon Focus 5.0. The figures were produced using the Adobe Photoshop CS6 program. The specimens examined in this study were deposited in the collections of the National Institute of Biological Resources (Incheon, Republic of Korea; **NIBR**), the Science Museum of Natural Enemies (Geochang, Republic of Korea; **SMNE**), and the Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia; **ZISP**). Abbreviation of the trap: MT - Malaise trap. Abbreviations of Korean provinces used in this paper as follows: CB – Chungcheongbuk-do, CN – Chungcheongnam-do, GB – Gyeongsangbuk-do, GG – Gyeonggi-do, GN – Gyeongsangnam-do, GW – Gangwon-do, JB – Jeollabuk-do JJ - Jeju-do, JN – Jeollanam-do.

TAXONOMIC PART

Subfamily Doryctinae Foerster, 1863

Genus *Doryctes* Haliday, 1836

Type species. *Bracon obliteratus* Nees, 1834.

Doryctes (Doryctes) planus Belokobylskij et Ku, sp. n.

<https://zoobank.org/NomenclaturalActs/071016AC-389E-48E0-BF2F-8CCAC97DBBF6>

Figs 1, 2

TYPE MATERIAL. Holotype: ♀, “Korea: [GG], Anseong-si, 31.III–14.VI 2018, Hyung-Keun Lee, MT” (NIBR). Paratypes. 1 ♀, “Korea [GB], Gyeongsan-si, Dae-dong, Yeongnam Univer. 25.IV 1988, J.-Y. Cha” (SMNE); 1 ♀, same locality and collector, but 21.VII 1986 (SMNE); 1 ♀, “Korea [GG], Incheon-si, Junggu Muui-dong, 13.IV–27.IV 2017, Hyung-Keun Lee, MT, 37°23'46.09"N, 126°24'36.38"E” (ZISP); 1 ♂, “Korea [GW], Goseong-gun, 06.III–20.III 2018, Hyung-Keun Lee, MT” (SMNE); 2 ♂, “Korea [CN], Taean-gun, 18.III–01.IV 2018, Hyung-Keun Lee, MT” (SMNE, ZISP).

COMPARATIVE DIAGNOSIS. This new species is the most similar to the Western Palaearctic *Doryctes planiceps* Reinhard, 1865, originally described on the base of single male from Königsberg (= Kaliningrad), but differs from it in having the palpi dark brown (pale in *D. planiceps*), vertex distinctly and densely punctate (smooth in *D. planiceps*), second tergite entirely and third in basal quarter densely evenly striate (only second tergite basally striate in *D. planiceps*), antenna 31-segmented and shorter than body (41-segmented and $1.5 \times$ longer than body in *D. planiceps*), precoxal sulcus finely crenulate (smooth in *D. planiceps*), length of first tergite $0.9\text{--}1.1 \times$ its maximum apical width ($1.5 \times$ in *D. planiceps*), second radiomedial (submarginal) cell long, $2.6\text{--}2.8 \times$ longer than its maximum width (subsquare and only weakly longer than its maximum width in *D. planiceps*).

Also, *Doryctes planus* sp. n. is similar to Japanese *D. (D.) nipponicus* Belokobylskij et Maeto, 2009 (especially by wing venation), but differs from later in the vertex distinctly and densely punctate with dense setae (finely punctate, almost smooth, with sparse setae in *D. nipponicus*), mesoscutum densely and distinctly punctate and usually finely coriaceous between punctulae at least partly, with wide rugulose-reticulate area in medioposterior 0.7 (finely punctate and smooth between punctulae, with narrow rugulose-reticulate area in medioposterior 0.5 only in *D. nipponicus*), medial lobe of mesoscutum without longitudinal furrow (with distinct longitudinal furrow in *D. nipponicus*), scutellum almost entirely longitudinally striate with rugulosity (entirely finely punctate to smooth in *D. nipponicus*), precoxal sulcus finely crenulate (smooth in *D. nipponicus*), hind coxa without medioventral tubercle (with distinct medioventral tubercle in *D. nipponicus*), propodeum without or with indistinct areas delineated by fine carinae (with areas

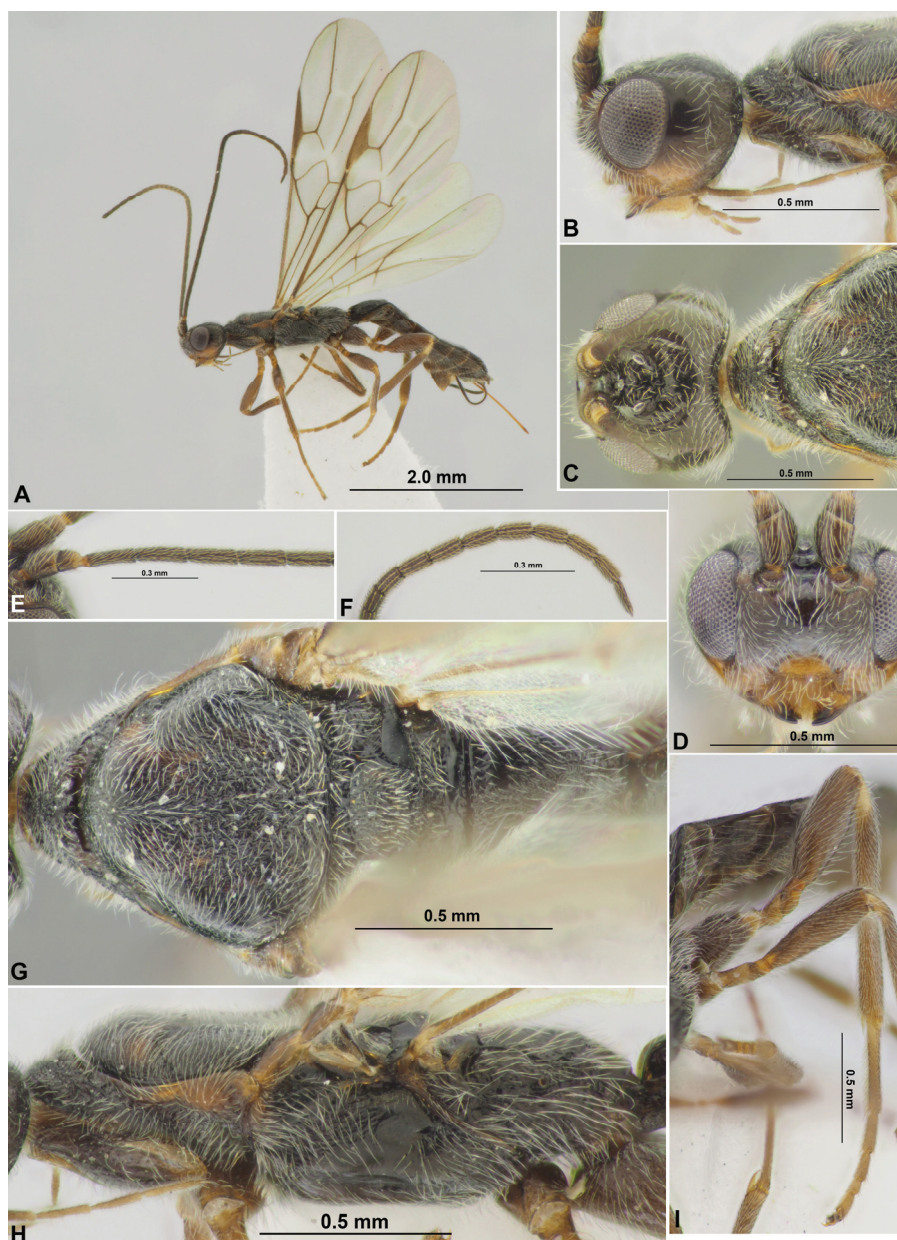


Fig. 1. *Doryctes planus* sp. n. (♀, holotype). A – habitus, lateral view; B – head and anterior part of mesosoma, lateral view; C – head and anterior part of mesosoma, dorsal view; D – head, front view; E – basal segments of antenna; F – apical segments of antenna; G – mesosoma, dorsal view; H – mesosoma, lateral view; I – hind leg.

delineated by coarse carinae in *D. nipponicus*), third metasomal tergite basally without curved transverse striation (with such striation in *D. nipponicus*), and palpi dark brown (pale in *D. nipponicus*).

DESCRIPTION. Female. Body length 2.8–4.5 mm; fore wing length 2.4–3.8 mm.

Head. Head depressed, its width (dorsal view) $1.3\text{--}1.5 \times$ median length, $1.3\text{--}1.4 \times$ maximum height (without mandibles), $0.85\text{--}0.90 \times$ maximum width of mesoscutum. Vertex flat or weakly convex. Head behind eyes (dorsal view) weakly convex in anterior half and roundly narrowed in posterior half. Transverse diameter of eye $1.0\text{--}1.1 \times$ as long as temple (dorsal view). Ocelli medium-sized, arranged in triangle with base $1.4\text{--}1.5 \times$ its side. POL $2.2\text{--}2.5 \times$ OD, $1.1\text{--}1.2 \times$ OOL. Eye glabrous, with very weak emargination opposite of antennal socket, $1.2\text{--}1.3 \times$ as high as broad. Malar space $0.30\text{--}0.35 \times$ height of eye, about $0.7 \times$ as long as basal width of mandible. Malar suture absent. Face width $1.1\text{--}1.2 \times$ height of eye, $1.3\text{--}1.5 \times$ height of face and clypeus combined. Hypoclypeal cavity subround, its diameter $1.0\text{--}1.3 \times$ distance from margin of cavity to border of eye, $0.3\text{--}0.4 \times$ as long as width of face. Occipital carina complete dorsally, obliterated below at rather long distance and not fused with hypostomal carina.

Antenna. Antenna weakly thickened, filiform, 29–31-segmented, $0.8\text{--}1.0 \times$ as long as body. Scape $1.6\text{--}1.7 \times$ longer than its maximum width. First flagellar segment $3.5\text{--}4.0 \times$ longer than its apical width, almost as long as second segment. Penultimate segment $2.5\text{--}2.7 \times$ longer than its maximum width, $0.6 \times$ as long as first flagellar segment, $0.8\text{--}0.9 \times$ as long as apical segment; the latter acuminate apically.

Mesosoma. Length of mesosoma $2.6\text{--}3.3 \times$ longer than its height. Pronotum dorsally distinctly convex (lateral view) and with high, rather narrow and divided medially pronotal lobe situated in posterior quarter or third of pronotum. Mesoscutum weakly and curvedly elevated above pronotum (lateral view), $0.8\text{--}0.9 \times$ as long as maximum width (dorsal view). Median lobe of mesoscutum anteriorly distinctly convex but weakly protruding forwards (dorsal view). Notauli anteriorly rather distinct, but shallow, narrow and crenulate-rugulose, very shallow to indistinct in posterior $0.6\text{--}0.7$. Prescutellar depression shallow to very shallow, short, with median and two or several lateral carinae, distinctly or weakly rugulose, $0.20\text{--}0.25 \times$ as long as scutellum. Scutellum flat, without lateral carinae. Subalar depression shallow, rather narrow, rugose-reticulate. Precoxal sulcus distinct, rather long, narrowly crenulate, without round cavity medially or posteriorly, running along anterior $0.7\text{--}0.8$ of lower part of mesopleuron. Propodeum with low and wide lateral tubercles.

Wings. Fore wing $2.8\text{--}3.4 \times$ longer than its maximum width. Pterostigma narrow, $4.5\text{--}4.8 \times$ longer than maximum width. Radial (marginal) cell weakly shortened. Metacarp (1-R1) $1.0\text{--}1.1 \times$ as long as pterostigma. Radial vein (r) arising distinctly before middle of pterostigma, from its basal $0.35\text{--}0.40$. Second radial abscissa (3-SR) forming obtuse angle with first radial abscissa (r) and $3.5\text{--}4.0 \times$ longer than it, $0.6 \times$ as long as third radial abscissa (SR1), $1.4\text{--}1.7 \times$ longer than first radiomedial

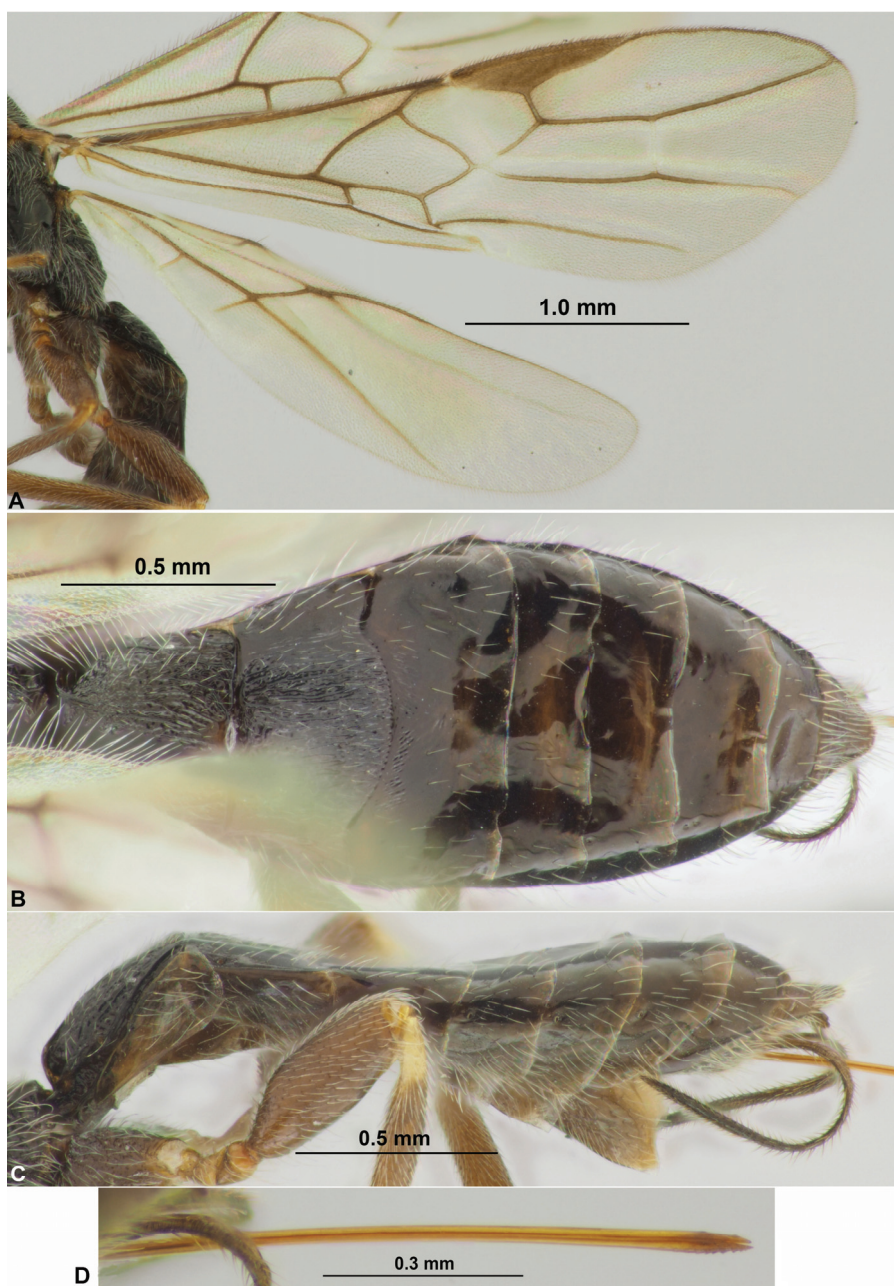


Fig. 2. *Doryctes planus* sp. n. (♀, holotype). A – wings ; B – metasoma, dorsal view; C – metasoma, lateral view; D – ovipositor, lateral view.

vein (3-SR). Second radiomedial (submarginal) cell relatively long and wide, $2.6\text{--}3.3 \times$ longer than its maximum width, $1.8\text{--}2.2 \times$ longer than wide brachial (first subdiscal) cell. First medial abscissa (1-SR+M) weakly sinuate. Recurrent vein (m-cu) antefurcal, $5.0\text{--}9.0 \times$ longer than second medial abscissa (2-SR+M), $0.8\text{--}0.9 \times$ as long as first radiomedial vein (3-SR). Distance (1-CU1) between nervulus (cu-a) and basal vein (1-M) $0.8\text{--}1.1 \times$ nervulus (cu-a) length. Parallel vein (CU1a) arising from posterior 0.3 of distal margin of brachial (first subdiscal) cell. Hind wing $3.9\text{--}4.3 \times$ longer than maximum width. First costal abscissa (C+SC+R) $0.50\text{--}0.55 \times$ as long as second abscissa (1-SC+R). First abscissa of mediocubital vein (M+CU) $1.3\text{--}1.6 \times$ longer than second abscissa (1-M). Recurrent vein (m-cu) entirely straight, oblique, interstitial, brown.

Legs. Hind coxa without dorsal protuberance, below without medioventral tubercle, with basoventral tubercle, $1.4\text{--}1.6 \times$ longer than maximum width. Hind femur $2.9\text{--}3.4 \times$ longer than its maximum width. Hind tarsus $0.9 \times$ longer than hind tibia. Hind basitarsus $0.6 \times$ as long as second–fifth segments combined; second segment of hind tarsus $0.5 \times$ as long as basitarsus, $1.2 \times$ longer than fifth segment (without pretarsus).

Metasoma. Metasoma about as long as mesosoma and head combined. First tergite with distinct spiracular tubercles in basal 0.3, distinctly and almost linearly widened from base to apex. Length of first tergite $0.9\text{--}1.1 \times$ its maximum apical width; maximum width $2.0\text{--}2.2 \times$ its minimum basal width. Second tergite with shallow or very shallow and fine, straight, and weakly divergent posteriorly sublateral furrows; median length of second tergite $0.75\text{--}0.80 \times$ its basal width, $1.4\text{--}1.5 \times$ length of third tergite. Suture between second and third tergites distinct and complete, rather shallow and narrow, weakly concave medially, with distinct, but not deep sublateral bends. Third tergite without depression. Ovipositor sheath $0.45\text{--}0.50 \times$ as long as metasoma, $0.55\text{--}0.60 \times$ as long as mesosoma, and $0.20\text{--}0.25 \times$ as long as fore wing.

Sculpture and pubescence. Vertex densely and almost entirely punctate by usually distinct punctulae with setae, smooth between punctulae, sometimes rugulose on ocellar triangle; frons distinctly transversely striate to almost smooth; face entirely and densely punctate, smooth between punctulae, but sometimes almost smooth on wide median area; temple mostly smooth, partly sparsely punctate. Mesoscutum densely and distinctly punctate with setae and usually finely coriaceous between punctulae at least partly; with wide and distinctly rugulose-reticulate area in medio-posterior 0.7 and with more or less distinct and long median carina in posterior 0.8. Scutellum almost entirely longitudinally striate with rugulosity. Mesopleuron mainly smooth, rugulose in posterior quarter. Propodeum without or with areas delineated by fine carinae, entirely rugose-reticulate, but sometimes almost smooth in basal third or quarter. Hind coxae mainly rugose-reticulate, laterally and below finely sculptured till almost smooth partly; hind femur finely and sparsely punctate to smooth. First metasomal tergite entirely densely striate and with dense rugulosity between striae. Second tergite medially widely densely striate and partly with reticulation between striae, mainly smooth on narrow lateral stripes. Third tergite

medially obliquely striate in basal one-fifth, smooth on remaining part. Remaining tergites entirely smooth. Vertex entirely densely covered by short white setae directed mainly to sides of head. Mesoscutum entirely with very dense and short white setae. Metapleuron medially widely glabrous, setose anteriorly and posteriorly. Hind tibia dorsally with dense, short and semi-erect pale setae, its length $0.4\text{--}0.5 \times$ maximum width of hind tibia.

Colour. Body almost entirely black or dark reddish brown, head below and clypeus reddish brown or at least paler. Antenna black, basally reddish brown. Palpi dark reddish brown to dark brown, sometimes only reddish brown. Legs mainly dark reddish brown to dark brown, often faintly paler distally, hind tibia yellow basally at short distance. Ovipositor sheath black. Wings subhyaline, faintly infuscate at least partly. Pterostigma entirely dark brown or brown.

Male. Body length 2.8–3.4 mm; fore wing length 2.7–3.1 mm. Antenna 31–33-segmented. Propodeum widely reticulate in basal third. Metasoma slender. Length of first tergite $1.2\text{--}1.4 \times$ its maximum apical width. Median length of second tergite $0.8\text{--}1.2 \times$ its basal width, $1.5\text{--}1.6 \times$ length of third tergite. Third tergite sculptured basally on wide part. Otherwise similar to female.

ETYMOLOGY. This species is named from Latin "planus" (= plane), because the body is strongly depressed and with flat and plane its dorsal surface.

DISTRIBUTION. Korean Peninsula.

Subfamily Rhyssalinae

****Acrisis clavipes* Marshall, 1888**

Acrisis clavipes Marshall, 1888: 212; Shenefelt & Marsh, 1976: 1344; Tobias, 1983: 164; Belokobylskij & Tobias 1986: 60; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 321.

MATERIAL EXAMINED. South Korea: [GN] Jinju-si, Ilbanseong-myeon, Changchon-ri, MT, 10.IX–10.X 2022 (Tae-Ho An), 2 ♀ (NIBR, ZISP); [GW] Yeongwol-gun, Jungdong-myeon, Hwawon2-ri, Mt. Yemisan, 37°9'6.85"N, 128°38'7.03"E, MT, 7–21.VI 2017 (Hyeong-Keon Lee), 1 ♀ (SMNE); [JB] Gunsan-si, Okdo-myeon, Sinsido-ri, MT, 35°49'7.31"N, 126°28'30.97"E, MT, 26.V–8.VI 2017 (Hyung-Geun Lee), 1 ♀ (SMNE).

HOST. *Ernobius nigrinus* (Sturm, 1837) (Coleoptera: Ptinidae).

DISTRIBUTION. *Korean Peninsula; Germany, Finland, Lithuania, Belarus, Slovakia, Hungary, Russia (European part).

Subfamily Doryctinae

****Heterospilus (Heterospilus) pumilio* Belokobylskij et Maetô, 2009**

Heterospilus pumilio Belokobylskij & Maetô, 2009: 228; Yu *et al.*, 2016.

MATERIAL EXAMINED. South Korea: [GN] Hadong-gun, Jingyo-myeon, Geumseongsa, Geumosan, light trap, 8–9.VIII 2015 (Tae-Ho An), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Japan (Kyushu).

****Neurocrassus pseudopalliatu*s Belokobylskij et Maeto, 2009**

*Neurocrassus pseudopalliatu*s Belokobylskij & Maeto, 2009: 346; Belokobylskij *et al.*, 2013: 246; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [GN] Namhae-gun, Gohyeon-myeon, Daegok-ri, Hwabangsa temple, 34°51'06.7"N, 127°51'31"E, 19.VI 2022 (S. Belokobylskij), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; China, Japan.

****Rhaconotus tergalis* Belokobylskij et Chen, 2004**

Rhaconotus tergalis Belokobylskij & Chen, 2004: 347; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [JB] Namwon-gun, Sannae-myeon, Buun-ri, Baemsagol (Valley), MT, 5.IX–30.X 2001 (Deokseo Ku), 1 ♀ (NIBR); [GN] Hapcheon-gun, Daeyang-myeon, Jeongyang-ri, Jeongyang Wetland Ecological Park, light trap, 12.VIII 2016 (Deokseo Ku), 1 ♀ (SMNE).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; India, China, Thailand, Vietnam, Indonesia.

****Spathius chichijimus* Belokobylskij et Maeto, 2008**

Spathius chichijimus Belokobylskij & Maeto, 2008: 154; 2009: 554; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [JN] Wando I., MT, 3–19.XI 2018 (Hyung-Keon Lee), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Japan (Ogasawara, Yakushima, Ryukyus).

REMARKS. This is darker specimen, perhaps because it was collected in the mainland of Asia having the climate with more low spring temperature during the period of parasitoid development.

****Spathius oriens* Belokobylskij, 1998**

Spathius exarator oriens Belokobylskij, 1998: 99.

Spathius oriens: Tang *et al.*, 2015: 79; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 268.

Spathius changbaishanensis Chen et Shi, 2004: 121; Tang *et al.*, 2015: 79 (as synonym).

MATERIAL EXAMINED. **South Korea:** [CN] Boryeong-si, Hwangryong-ri, MT, 36°26'30.75"N, 126°39'33.15"E, 20.VII–3 VIII & 17–31 VIII.2017 (Hyung-Keun Lee), 2 ♀ (SMNE); [GN] Muchon-ri, Namsang-myeon, Geochang-gun, MT,

8–23.IX 2021 (Jaehyeon Lee, Hyojin Jeong), 1 ♀ (NIBR); [JN] Suncheon-si, Seokhyeon-dong, MT, 34°58'56.59"N 127°27'40.56"E, 12–25.IX & 1–15.VIII 2017 (Hyung-Keun Lee), 2 ♀ (SMNE).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East), China (Jilin), Japan.

REMARKS. This former subspecies name was recently elevated to the level of species after study of additional material from the different localities of the Eastern Asia (Tang *et al.*, 2015).

****Spathius planus* Belokobylskij, 1998**

Spathius planus Belokobylskij, 1998: 100; 2003: 396; Belokobylskij & Maeto, 2009: 688; Tang *et al.*, 2015: 86; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 268.

MATERIAL EXAMINED. **South Korea:** [GB] Gimcheon-si, Guseong-myeon, Heungpyeong-ri, MT, 36°4'58.6"N 128°30'30.48"E, 10–23.V 2017 (Hyung-Keun Lee), 1 ♂ (SMNE); [GN] Muchon-ri, Namsang-myeon, Geochang-gun, MT, 8–23.IX 2021 (Jaehyeon Lee, Hyojin Jeong), 1 ♀ (NIBR); [GN] Geochang-gun, Geochang-eup, Science Museum Natural Enemy, MT, 8–22.X 2022 (Deokseo Ku), 1 ♀ (SMNE).

HOST. *Scolytus japonicus* Chapuis, 1875 (Coleoptera: Curculionidae: Scolytinae).

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East), China, Japan.

****Spathius proximoscus* Tang, Belokobylskij et Chen, 2015**

Spathius proximoscus Tang *et al.*, 2015: 87; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** Gyeongsangnam-do, Sancheong-gun, 30 km NNW of Jinju, forest, bush, h = 800 m, 10.VII 2002 (S. Belokobylskij), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; China.

REMARKS. The vertex of Korean specimen of *S. proximoscus* is partly finely transversely striate, while in singly holotype of this species from China (Zhejiang) the vertex is completely smooth. Similar variation of the sculpture not only on head, but also on the mesoscutum and the second metasomal tergite is known in several species of the large and cosmopolitan genus *Spathius* Nees, 1818.

****Spathius udaegae* Belokobylskij, 1994**

Spathius udaegae Belokobylskij, 1994: 38; 1998: 80; 2003: 462; Belokobylskij & Maeto, 2009: 737; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 268.

MATERIAL EXAMINED. **South Korea:** [GB] Daegu-si, Suseong-gu, Beom-mul-dong, (Jinbatgol), MT, 7–24.VI 2018 (Hyung-Keun Lee), 1 ♀ (SMNE); [JJ] Jeju-si, Sanbuvuk-ro 593–40, near Temple Gwaneum, rest area (Livestock Research Institute), MT, 1–24.IX 2022 (Deokseo Ku, Jeongjun Ahn), 1 ♀ (NIBR); same label, but 5.X–7.XII 2022, 1 ♀ (ZISP); [JN] Wando-gun, Malaise trap, 1–16.V 2018 (Hyeong-Keon Lee) (SMNE).

HOST. *Agrilus auriventris* Saunders, 1873 (Coleoptera: Buprestidae).

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East), Japan.

Subfamily Pambolinae

****Pambolus (Phaenodus) caudalis* Belokobylskij, 1988**

Pambolus caudalis Belokobylskij, 1988: 19; 1992a: 167; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [GB] Ulleung-gun, Seo-myeon, Hakpo-ri, MT, 1–15.VII & 16–30.IX 2017 (Deokseo Ku), 2 ♀, 1 ♂ (SMNE, ZISP); [GG] Seoul-si, Hongreung, light trap, 28.VII 1998 (Sung-Ho Kang), 1 ♀ (SMNE); [GG] Gwangju-si, Toechon-myeon, Gwaneum-ri, MT, 37°26'43.6"N, 127°19'55.26"E, 21.VI–6.VII 2017 (Hyung-Keun Lee), 1 ♀ (SMNE); [GN] Haman-gun, Chilwon-myeon, Yegok-ri, Yegok (reservoir), 3.VIII 1989, 1 ♀ (SMNE); [GN] Jinju-si, Naedong-myeon, Doksan-ri, (Pine grove), MT, 12–19.VII 2003 (Tae-Ho An), 1 ♀ (SMNE); [GN] Jinju-si, Ilbanseong-myeon, Changchon-ri, MT, 13.VIII–10.IX 2022 (Tae-Ho An), 1 ♀ (SMNE); [JN] Yeosu-si, Sujeong-dong, Odongdo Island, 8.VIII 1994 (Deokseo Ku), 1 ♀ (SMNE).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; China, Vietnam, Malaysia.

****Pambolus (Phaenodus) curvicaudis* Belokobylskij, 1986**

Pambolus curvicaudis Belokobylskij, 1986: 35; 1994: 75; 1998: 118; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 283.

MATERIAL EXAMINED. **South Korea:** [GW] Pyeongchang-gun, Daegwan-ryeong-myeon, Suha-ri, Mt. Balwangsan, (Suha valley), 3.IX 2000, 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East).

****Pambolus (Phaenodus) ruficeps* Belokobylskij, 1988**

Pambolus ruficeps Belokobylskij, 1988: 16; 1992a: 167; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [GN] Changwon-si, Seongsan-gu, Cheonseon-dong, Temple Seongjusa, 27.VII 1989, 1 ♂ (SMNE); [GN] Geochang-gun, Science Museum of Natural Enemies, MT, 1.V–18.VI 2014 (Deokseo Ku), 1 ♀, 1 ♂ (SMNE); same label, 27.VIII–10.IX 2022, 1 ♀ (SMNE); [GN] Geochang-

gun, Wicheon-myeon, Janggi-ri, MT, 16.X–30.XI 2015 (Hyung-Keun Lee), 1 ♂ (SMNE); [GN] Geochang-gun, Wicheon-myeon, Namsan-ri, MT, 1.IV–17.V 2017 (Tae-Ho An), 1 ♂ (SMNE); [GN] Uiryeong-gun, MT, 31.VIII–14.IX 2018 (Hyung-Keun Lee), 1 ♀ (SMNE); same label, 15–27.X 2018, 1 ♂ (SMNE); [GN] Jinju-si, Ilbanseong-myeon, Gaseon-ri, MT, 21.V–4.VI 2022 (Deokseo Ku), 1 ♀ (SMNE); [GN] Namhae-gun, Seo-myeon, Nogu-ri, Mangunsa Temple, MT, 27.VIII–8.IX 2022 (Deokseo Ku, Jaehyeon Lee, Hyojin Jeong), 1 ♀ (SMNE); [GW] Goseong-gun, MT, 1–15.V & 12–26.VI 2018 (Hyung-Keun Lee), 3 ♂ (SMNE); [JB] Jangsu-gun, Jangsu-eup, Gaejeong-ri, Dogwangsa Temple (Peak Sadubong), sweeping, 16.VIII.1997 (Geunok Choi), 1 ♀, (SMNE); [JN] Gwangyang-si, Daap-myeon, Dosa-ri, Neuraengigol, Mt. Jotbisan, light trap, 29–30.VIII 2000 (Juhwan Son), 1 ♀ (SMNE); [JN] Gurye-gun, Toji-myeon, Munsu-ri, Nogodan, Mt. Jirisan, MT, 10.VII–11.IX 2001 (Deokseo Ku), 1 ♀ (SMNE); [JN] Gurye-gun, Gwangui-myeon, Ondang-ri, Ecological forest, MT, 35°17'8.87" N, 127°27'8.72" E, 21.IV–3.V 2017 (Hyung-Keun Lee), 1 ♀ (SMNE); [JN] Gangjin-gun, Gundong-myeon, Deokcheon-ri, MT, 34°55'47.64" N 126°57'49.37" E, 17–31.VII 2017 (Hyung-Keun Lee), 1 ♂ (SMNE); [JN] Suncheon-si, Seokhyeon-dong, MT, 34°58'56.59" N, 127°27'40.56" E, 12–25.IX 2017 (Hyung-Keun Lee), 1 ♂ (SMNE).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; India, China, Vietnam, Malaysia.

Subfamily Hormiinae

Tribe Acanthormiini

**Aulosaphoides lampas* (Nixon, 1950)

Aulosaphes lampas Nixon, 1950: 470; Shenefelt, 1975: 1140; Belokobylskij, 1990a: 134; 1994: 64; Papp, 1991: 145;

Aulosaphoides lampas: van Achterberg, 1995: 92; Belokobylskij, 1998: 134.

Aulosaphes pugnatus Papp, 1991: 147; Belokobylskij, 1998: 134 (as synonym).

MATERIAL EXAMINED. **South Korea**: [GB] Ulleung-gun, Seo-myeon, Hakpo-gil, MT, 1.VII–15.VII 2017 (Deokseo Ku), 1 ♀ (NIBR); [GB] Ulleung-gun, Buk-myeon, Nari-Pension, MT, 19.VII–2.VIII 2017 (Deokseo Ku), 1 ♀ (SMNE); [GB] Ulleung-gun, Buk-myeon, Nari-Pension, MT, 30.VIII–10.IX 2017 (Deokseo Ku), 1 ♀ (SMNE); [GN] Busan-si, Gijang, MT, 8–19.VII 2018 (Hyung-Keun Lee), 2 ♀ (SMNE, ZISP).

HOST. *Homona coffearia* (Nietner, 1861) (Lepidoptera: Tortricidae).

DISTRIBUTION. *Korean Peninsula; China, Japan, India, Sri Lanka, Vietnam, the Philippines.

**Aulosaphanes suturalis* (Belokobylskij, 1990)

Oncophanes suturalis Belokobylskij, 1990a: 117; 1998: 47.

Aulosaphanes suturalis: Belokobylskij, 2004: 115; Yu *et al.*, 2016.

MATERIAL EXAMINED. **South Korea:** [JN] Wando-gun, Wando-eup, Jangjwa-ri, MT, 29.VIII–12.IX. 2020 (Deokseo Ku, Jaehyeon Lee), 1 ♀ (NIBR). **Japan:** Honshu, Hyogo Prefecture, Kobe, Rokko Mts, Maya Mt., forest, 21, 27, 28.VIII & 30.X 2005 (S. Belokobylskij), 25 ♀ (ZISP).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Japan, Vietnam.

Subfamily Rogadinae

Tribe Yeliconini

****Conobregma (Asiabregma) ryukyuense* (Belokobylskij, Zaldivar-Riveron et Maeto in Belokobylskij *et al.*, 2008)**

Asiabregma ryukyuense Belokobylskij, Zaldivar-Riveron et Maeto in Belokobylskij *et al.*, 2008: 142; Tan *et al.*, 2009: 412; Yu *et al.*, 2016.

Conobregma ryukyuense: Butcher *et al.*, 2016: 111.

MATERIAL EXAMINED. **South Korea:** [CN] Boryeong-si, Cheongna-myeon, Hwangryong-ri, MT, 36°26'30.75"N, 126°39'33.15"E, 14–29.IX 2017 (Hyung-Geun Lee), 1 ♂ (SMNE); [JB] Wandju-gun, Unju-myeon, Godang-ri, MT, 21.VII–3.VIII 2017 (Hyung-Geun Lee), 1 ♀ (ZISP); [JN] Jangjoa-ri, Wando-eup, Wando-gun, MT, 29.VIII–12.IX 2000 (Deokseo Ku, Jaehyeon Lee), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Japan (Ryukyus), Malaysia.

REMARKS. The former genus *Asiabregma* Belokobylskij, Zaldivar-Riveron et Maeto, 2008 described for the three Asian species (Belokobylskij *et al.*, 2008) was recently synonymised with the Old World genus *Conobregma* van Achterberg, 1995 (van Achterberg, 1995) (Butcher *et al.*, 2016) after discovery of the new African species *Conobregma bradpitti* Quicke et Butcher, 2016 having the intermediate condition of some former generic diagnostic characters. However, after additional study of the differences between these related taxa, we prefer to keep the name *Asiabregma* as subgeneric taxon (**stat. n.**). The main differences between these subgenera are showed below in the key.

Key to subgenera of *Conobregma*

1. Transverse carina between antennal socket and eye absent. Claw of middle leg simple. New World species *Conobregma* (*Conobregma* s.str.)
- Transverse carina between antennal socket and eye present and distinct. Claw of middle leg pectinate. Old World species *Conobregma* (*Asiabregma*)

Subfamily Opiinae

****Ademon decrescens* (Nees, 1811)**

Nees von Esenbeck, 1811: 35; Fischer, 1972: 62; Tobias & Jakimavicius, 1986: 9; Tobias, 1998: 563; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 310.

MATERIAL EXAMINED. **South Korea:** [GG] Seoul, Hongrung, VII.1998, 1 ♀ (NIBR).

HOST. *Cerodontha geniculata* (Fallen, 1823) (Diptera: Agromyzidae); *Hydrellia albifrons* Fallen, 1813, *H. argyrogenia* Becker, 1896, *H. cochleariae* Haliday, 1839, *H. concolor* (Stenhammer, 1844), *H. fascitibia* (Roser, 1840), *H. fusca* (Stenhammer, 1844), *H. griseola* (Fallen, 1813), *H. pakistanae* Deonier, 1978, *H. pubescens* Becker, 1926, *H. stratiotae* Hering, 1925 (Diptera: Ephydriidae).

DISTRIBUTION. *Korean Peninsula; Europe, Russia (European part, south of Far East), Uzbekistan, Mongolia, Vietnam.

Subfamily Helconinae

****Aspicolpus vernalis* Belokobylskij, 1990**

Aspicolpus vernalis Belokobylskij, 1990b: 32; 1998: 422; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 286.

MATERIAL EXAMINED. **South Korea:** [GW] Inje-gun, Girin-myeon, Jindong-ri, Gangseon Village, Mt. Jeombong, MT, 13.V–22.VI 2017 (Hyung-Geun Lee), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East).

Subfamily Euphorinae

****Centistes (Ancylocentrus) pteropygidium* Belokobylskij, 1992**

Centistes pteropygidium Belokobylskij, 1992b: 212; 2000: 268; Yu *et al.*, 2016; Belokobylskij *et al.*, 2019: 269.

MATERIAL EXAMINED. **South Korea:** [GW] Inje-gun, Girin-myeon, Jindong-ri (Village Gangseon), Mt. Jeombong, MT, 38°2'6.58" N, 128°27'18.68" E, 22.VI–20.VII 2017 (Hyung-Geun Lee), 1 ♀ (NIBR).

HOST. Unknown.

DISTRIBUTION. *Korean Peninsula; Russia (south of Far East).

CONCLUSION

In the subfamily Doryctinae the species new for science, *Doryctes (Doryctes) planus* sp. n., and eight the first recorded in the Korean peninsula species, *Heterospilus pumilio* Belokobylskij et Maetô, 2009, *Neurocrassus pseudopalliatu*s Belokobylskij et Maeto, 2009, *Rhaconotus tergalis* Belokobylskij et Chen, 2004, *Spathius chichijimus* Belokobylskij et Maeto, 2008, *S. oriens* Belokobylskij, 1998, *S. planus* Belokobylskij, 1998, *S. proximoscus* Tang, Belokobylskij et Chen, 2015, and *S. udaegae* Belokobylskij, 1994, are mentioned. The following species are recorded in

the fauna of South Korea for the first time: in Rhyssalinae – *Acrisis clavipes* Marshall, 1888; in Hormiinae – *Aulosaphoides lampas* (Nixon, 1950) and *Aulosaphanes suturalis* (Belokobylskij, 1990); in Pambolinae – *Pambolus caudalis* Belokobylskij, 1988, *P. curvicaudis* Belokobylskij, 1986 and *P. ruficeps* Belokobylskij, 1988; in Rogadinae – *Conobregma ryukyuense* (Belokobylskij, Zaldivar-Riveron et Maeto, 2008); in Opiinae – *Ademon decrescens* (Nees, 1811); in Helconinae – *Aspicolpus vernalis* Belokobylskij, 1990; in Euphorinae – *Centistes pteropygidium* Belokobylskij, 1992.

Additionally, the genera *Aulosaphoides* van Achterberg, 1995, *Aulosaphanes* Belokobylskij, 2004 (both from the subfamily Hormiinae), *Conobregma* van Achterberg, 1995 (from the subfamily Rogadinae) and *Ademon* Haliday, 1833 (from the subfamily Opiinae) are found in the Korean peninsula for the first time.

ACKNOWLEDGEMENTS

The authors are grateful to Mrs. Kyoungim Kim for the braconid specimens preparation. This work was funded by the Russian State Research Project No 122031100272-3 for SAB, a grant from the National Institute of Biological Resources (NIBR) funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR 201801201, 202002205, 202304203 to DSK).

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