

Notes on the Genus *Asiacentistes* Belokobylskij (Hymenoptera: Braconidae: Euphorinae) from Korea

Tae-Ho An, Hyojoong Kim^{1*}, Ki-Gyoung Kim², Hong-Yul Seo² and Deok-Seo Ku

The Science Museum of Natural Enemies, Geochang 670-801, Korea

¹Department of Biology, Kunsan National University, Gunsan 573-701, Korea

²National Institute of Biological Resources, Incheon 404-708, Korea

한국산 *Asiacentistes* Belokobylskij속 (벌목: 고치벌과: 잎벌레고치벌아과)에 대한 보고

안태호 · 김효중^{1*} · 김기경² · 서홍렬² · 구덕서

천적생태과학관, ¹군산대학교 생물학과, ²국립생물자원관

ABSTRACT: Two species of the genus *Asiacentistes* (Hymenoptera: Braconidae) are reported in this study. One of them, *Asiacentistes sinica* Chen and Belokobylskij is new to Korea. Diagnosis and distribution data in East Asia are included.

Key words: *Asiacentistes*, New record, Braconidae, Hymenoptera, Korea

초 록: 본 연구를 통해 2종의 *Asiacentistes* Belokobylskij(아시아넓은갈고치벌속: 신칭)(벌목: 고치벌과)를 보고한다. 그 중 *Asiacentistes sinica* Chen and Belokobylskij(긴갈집아시아넓은갈고치벌: 신칭)는 한국 미기록종으로 보고한다. 식별형질과 동아시아내 분포 정보를 포함하였다.

검색어: *Asiacentistes*속(아시아넓은갈고치벌속: 신칭), 미기록종, 고치벌과, 벌목, 한국

The genus *Asiacentistes* (Hymenoptera: Braconidae) is a small group distributed in the East Palaearctic and Oriental regions (Chen et al., 2001), which has only two species in the world. The genus *Asiacentistes* Belokobylskij is distinguished from other winged Euphorinae by 1) malar suture present, but sometimes incomplete; 2) vein 1-SR of fore wing absent; 3) vein M+CU1 of fore wing completely sclerotized; 4) hind tibia with distinct small sparse spines at outer side; 5) laterope of first metasomal tergite very shallow and small; 6) ovipositor sheath thick and densely setose apically (Belokobylskij, 1995; Chen and Achterberg, 1997).

Two species of this genus from Korea are recognized in this study, of which one species, *Asiacentistes sinica* Chen and Belokobylskij, 2001 is new to Korea. *Asiacentistes alekseevi* (Belokobylskij, 1992) was reported in Korea by Belokobylskij and Ku (1998). The biology of this genus is still unknown.

In this study, we describe its diagnostic characters and also provide distribution. All examined materials are deposited in the Science Museum of Natural Enemies, Geochang, Korea (SMNE). Terminology used in this paper follows van Achterberg (1993).

Systematic accounts

Family Braconidae Nees, 1811

Subfamily Euphorinae Foerster, 1862

*Corresponding author: hkim@kunsan.ac.kr

Received September 25 2014; Revised January 20 2015

Accepted January 30 2015

Genus *Asiacentistes* Belokobylskij, 1995 (아시아넓은칼고치벌속: 신칭)

Asiacentistes Belokobylskij, 1995: 293.

Type species: *Centistes alekseevi* Belokobylskij, 1992.

***Asiacentistes alekseevi* (Belokobylskij, 1992) (아시아넓은칼고치벌: 신칭) (Fig. 1)**

Centistes (Centistes) alekseevi Belokobylskij, 1992: 204.

Asiacentistes alekseevi Belokobylskij, 1995: 294; Chen and Achterberg, 1997: 20; Belokobylskij and Ku, 1998: 139; Belokobylskij, 2000: 249; Ku et al., 2001: 102; Ku, 2010: 181; Belokobylskij et al., 2012: 355.

Diagnosis: Length of body 2.5-3.6 mm; fore wing length 2.0-2.9 mm. Head width in dorsal view 1.8-2.2 times its median length. Antenna 30-31-segmented, length of third segments 3.6-4.5 times as long as its maximum width; penultimate segment 1.1-1.3 times as long as wide; length of eye 1.1-1.4 times longer than length of temple in dorsal view. Length of mesosoma 1.3 times its height. Mesoscutum smooth, and mostly glabrous, densely setose anterior half. Scutellar suture short, smooth, and with a weak median carina. Scutellum convex. Propodeum irregularly and weakly rugulose, with median longitudinal carina basal half. Length of vein 1-R1



Fig. 1. *Asiacentistes alekseevi* (Belokobylskij), habitus, lateral aspect.

1.2-1.6 times length of pterostigma; vein r arising behind middle of pterostigma. Abdomen smooth and elongate oval; metasoma completely dark brown or basal half reddish brown; combined length of second and third tergites 1.0-1.2 times than basal width of 2nd tergite; hypopygium densely setose; ovipositor sheath shorter, its length 0.4-0.6 times as its maximum width.

Material examined: Korea, 13 ♀ 2♂ (SMNE): 1 ♀, Unmunsa, Cheongdo, Gyeongbuk, 17. VII. 1989, J.-Y. Cha; 1 ♀, Baebong, Hyunnae, Goseong, Gangwondo, 26. V. 1993, D.-S. Ku; 1 ♀, Suwon, 8. VI. 1984. D.-J. Im; 1 ♀, Gajwa, Jinju, 18-25. VIII. 1987, Malaise Trap (MT); 1 ♀, *ditto*, Malaise trap (B), 3-9. IX. 1989; 1 ♀, *ditto*, 1. VII. 1989, Malaise trap (A); 1 ♀, *ditto*, 8-14. VII. 1989, Malaise trap; 1 ♀, *ditto*, Malaise trap (B), 9-15. IX. 1989, Malaise trap; 1 ♀, *ditto*, 11-18. IX. 1994, Malaise trap; 1 ♀, Galgol, Singye-ri, Gacheon-myeon, Seongju, Gyeongbuk, 19. VI. 2000; 1 ♀, Mt. Juwang, Cheongsong, Gyeongbuk, 15. V. 1999; 1 ♀, Unmunsa, Cheongdo, 6. VI. 1989; 1 ♀, Gangvul-ri, Sinnae-myeon, Namhae, Gyeongnam, 28. VII. 1994, Y.-H. Baek; 1♂, Geumsan, Sinjeon, Idong, Namhae, Gyeongnam, 7. VIII. 1994, J.-S. Park; 1♂, Gajwa, Jinju, 9-10. VI. 1987, Malaise trap (MT).

Distribution: Korea (Central, South), China (Jiangsu), Japan, Russia (Far East).

Host: Unknown.

Remarks: Belokobylskij and Ku (1998) first recorded this species from Korea.

***Asiacentistes sinica* Chen and Belokobylskij, 2001 (긴칼집 아시아넓은칼고치벌: 신칭) (Fig. 2)**

Asiacentistes sinica Chen and Belokobylskij; Chen et al., 2001: 168.

Diagnosis: Length of body 2.7-3.6 mm; fore wing length 3.1-3.5 mm. Head width in dorsal view 1.7-2.3 times its median length. Antenna 31-35-segmented, length of third segments 3.4-4.3 times as long as its maximum width; penultimate segment 1.0-1.4 times as long as wide; length of eye in dorsal view 1.1-1.5 times longer than length of temple. Length of mesosoma 1.3 times its height. Mesoscutum smooth, and mostly glabrous, densely setose anteriorly. Scutellar suture deep with a median carina. Scutellum convex, setose. Propodeum



Fig. 2. *Asiacentistes sinica* Chen and Belokobylskij, habitus, lateral aspect.

with median longitudinal carina basally and a transverse carina medially, almost smooth posteriorly with several rugae near carinae. Length of vein 1-R1 0.8-0.9 times length of pterostigma; vein r arising behind middle of pterostigma; Abdomen smooth. First tergite short and wide, its length 1.1 times apical width; combined length of second and third tergites 1.2-1.4 times than basal width of 2nd tergite; hypopygium sparsely setose; ovipositor sheath longer, its length about equal to its maximum width; 2nd and 3rd tergites largely reddish brown.

Material examined: KOREA, 1 ♀ 1 ♂ (SMNE); 1 ♀, Mt. Chiak, Gangwon, 14.VIII-15.X. 1999, Malaise trap, D.-S. Ku; 1 ♂, Mt. Myeongseong, Pocheon, Gyeonggido, 17.VIII-14.X. 1999, Malaise trap.

Distribution: Korea (Central), China (Zhejiang).

Host: Unknown.

Remarks: This species is recorded for the first time from Korea.

Literature Cited

- Achterberg, C. van, 1993. *Illustrated key to the subfamilies of the Braconidae* (Hymenoptera: Ichneumonoidea). *Zool. Verh.* 283, 1-189.
- Belokobylskij, S.A., 1992. Revision of the genus *Centistes* Haliday (Hymenoptera: Braconidae: Euphorinae) of the USSR far East and neighbouring territories. *Zool. Med. Leiden* 66(11): 199-237, figs 1-121.
- Belokobylskij, S.A., 1995. A new genus and ten species of the subfamily Euphorinae (Hymenoptera: Braconidae) from the Russian Far East. *Zoosyst. rossica* 3(2), 293-312, figs 1-95.
- Belokobylskij, S.A., Ku, D.S., 1998. New species and rare genera of the Family Braconidae from Korea. *J. Asia-Pacific Entomol.* 1(2), 131-145.
- Belokobylskij S.A., 2000. Euphorinae. In: Lehr P.A. (Ed.). Key to insects of the Russian Far East. Neuropteroidea, Mecoptera, Hymenoptera. Vladivostok: Dal'nauka, 4(4), 192-399. (in Russian).
- Belokobylskij S.A., Tobias, V.I., Kotenko, A.G., Proshchalikin, M.Y., 2012. Fam. Braconidae – braconidy. In: Lelej A.S. (Ed.). *Annotated Catalogue of Insects of the Russian Far East. Hymenoptera.* Vladivostok: Dal'nauka, 1, 300-389. (In Russian).
- Chen, X., Achterberg, C. van, 1997. Revision of the subfamily Euphorinae (excluding the tribe Meteorini Cresson) (Hymenoptera: Braconidae) from China. *Zool. Verh. Leiden* 313, 1-217.
- Chen, X., Belokobylskij, S.A., He, J.-H., Ma, Y., 2001. The genus *Asiacentistes* Belokobylskij (Hymenoptera: Braconidae) from China. *Oriental Insects*, 35, 167-170.
- Ku, D.S., 2010. Family Braconidae: 174-190. In: Paek, Mun-Ki (Ed.). *Checklist of Korean Insects.* Nature & Ecology, Academic Series 2, 1-598.
- Ku, D.S., Belokobylskij, S.A., Cha, J.Y., 2001. *Family Braconidae.* Economic Insects of Korea 16. *Ins. Koreana.* Suppl. 23, 283pp.
- Foerster, A., 1862. Synopsis der Familien und Gattungen der Braconiden. *Verhandlungen des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens.* 19: 225-288.
- Nees von Esenbeck, C.G., 1811. *Ichneumonides Adsciti*, in *Genera et Familias Divisi.* Magazin Gesellschaft Naturforschender Freunde zu Berlin. 5. 37pp.