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The Exenterine Ichneumonids (Hymenoptera, Ichneumonidae) of China¹⁾

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Abstract The Chinese Ichneumonidae of the tribe Exenterini, subfamily Tryphoninae, are reviewed. Members of the genera Kristotomus, Kerrichia, Eridolius, Excavarus, Exenterus, Cteniscus and Exyston occur in China. The following new species are described from P. R. China: Eridolius sinensis, Exenterus chinensis, E. rutiabdominalis, E. similis, Cteniscus sinensis and Exyston chinensis.

Key words: Ichneumonidae; Exenterini; taxonomy; China; parasites.

Introduction

The tryphonine tribe Exenterini is distinguished from other members of the subfamily Tryphoninae by having the spur of the fore tibia evenly curved and its antennal brush extending almost to the apex, the middle tibia with one spur, and the hind tibia without spurs but sometimes with a small apical tooth-like spur. This tribe is otherwise close to the tribe Tryphonini. TOWNES (1969) provided keys to distinguish the Tryphoninae from other Ichneumonidae and the Exenterini (as Cteniscini) from the other Tryphoninae.

The Exenterini are parasitoids of sawflies. Most parasitize Tenthredinidae but *Exenterus* attacks Diprionidae. The eggs are laid externally on the host larva and are attached to it by a variously modified egg stalk. The parasitic larva hatches when the host larva has spun its cocoon.

UCHIDA (1942) reported Exenterus adspersus HARTIG from "Kaiyuan, Mongolia." KERRICH (1952) reported two new species from Taiwan: Kristotomus pronotalis and K. tenuis. Both were described under Anisoctenion from other parts of the Orient at the same time. However, K. pronotalis is confined to Burma and the paratype from Taiwan represents another species, K. occipitis GUPTA, 1990. MASON (1962) described Excavarus sinensis from China. KASPARYAN (1976) described two new species of Kristotomus, viz., K. chinensis and K. claviventris from China. GUPTA (1990) revised the genus Kristotomus and described ten new species from Taiwan (chiuae, flavoguttatus, incompletus, lini, occipitis, petiolatus, punctatus, punctifrons, tangi, townesi). In addition, K. foveolatus KASPARYAN, claviventris KASPARYAN, GUPTA, ridibundus (GRAVENHORST), buccatus KASPARYAN, and areolatus GUPTA were reported from Taiwan. In 1991, Eridolius orientalis GUPTA was de-

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Virendra K. GUPTA

scribed from India and Taiwan, and *Kerrichia nipponica* MASON, originally described from Japan in 1962, was reported from Taiwan. GUPTA (1993) described two new species of *Exenterus*, viz., *E. orientalis* and *E. phaeopyga* from Taiwan.

The paucity of species of Exenterini from China is directly related to the paucity of specimens collected from there. This group is primarily Holarctic in distribution and also occurs in the high mountains of the Orient. Certainly, many more species occur in China and further collecting there will be rewarding.

Recently, I received a small collection of Exenterini from China from Dr. Junhua HE, which contained additional new species. These are described below. The synonymical references for the genera and the known species are not repeated. Instead, a more recent reference is cited against the name of the genus or the species where such information is available.

The holotypes and other specimens are deposited in the Department of Entomology, Zhejiang Agricultural University, Hanghou, Zhejiang, P. R. China except for one paratype of *Eridolius sinensis* sp. nov. that is in the author's collection.

Genus Kristotomus MASON (GUPTA, 1990, 1-88)

The chief distinguishing features of the genus are: Mandible typically widened apically with the lower tooth wider and longer than the upper. Subtegular ridge simple. Apical rim of hind tibia with a fringe of long, close hairs on its inner side and a flat and polished area on the lower and inner sides between the apical fringe of bristles and the tarsal socket, the hind tibia widest at apex and truncate. Dorsolateral carina of tergite 1 interrupted by the spiracle or continuous just along the upper rim of spiracle. Ovipositor usually tapering apically and surpassing the tip of the abdomen, straight or weakly arched, or decurved. Egg with an elongate and slender stalk and a long anchor.

The hind tibial characters are shared with Kristotomus, Orthomiscus and Kerrichia, and define the Kristotomus group of genera.

Four species are represented in the specimens received from P. R. China and these are documented below. Several new species from Taiwan which were described by GUPTA (1990) are listed in the appended check-list.

Kristotomus claviventris KASPARYAN (GUPTA, 1990, 26)

Specimens examined. CHINA: Guangxi Province: Tianlin: Langping (24.0°N, 106.3°N), 1 male, 30.V.1982, HE Jun-hua, Coll. No. 821999. Zhejiang Province: Mt. Tianmushan (30.4°N, 119.5°E), 3 females, 18.VI.1983, MA Yun, Coll. Nos. 831080, 831117, 831118.

This species was originally described from Fujian Province, China. GUPTA (1990) reported it from two localities in Taiwan.

Exenterine Ichneumonids from China

Kristotomus kamikochi MASON (GUPTA, 1990, 40)

Specimens examined. CHINA: Jilin Province, Liaoyuan (42.9°N, 125.1E), 1 female, 19.VI.1982, YAN Hui, Coll. No. 861459; Jilin: Changchun (43.9°N, 125.3°E), 1 female, 25.IX.1985, BAI Hong-yu, Coll. No. 861346.

This species was originally described from Japan. The Chinese specimens differ as follows: Face without lateral black lines; scape and pedicel with yellow ventral marks; pronotal collar narrowly yellow.

Kristotomus rufiabdominalis GUPTA (GUPTA, 1990, 57)

Specimen examined. CHINA: Jilin Province: Mt. Changbaishan (42.0°N, 128.1°E), 1 female, 9.VIII.1977, HE Jun-hua, Coll. No. 770631.

This species was originally described from the mountainous regions of India and Nepal. The specimen from China differs slightly in coloration from the specimens from India and Nepal. The scape and pedicel are brownish, the thorax is without yellow marks except slightly on tegula, the hind coxa is yellowish-brown, and the first tergite does not have a yellow apical band. Additional specimens will be needed before it can be decided whether the differences noted for the Chinese specimen represent intraspecific variation or suggest that the Chinese population may belong to another taxon.

Kristotomus triangulatorius (GRAVENHORST) (GUPTA, 1990, 62)

Specimen examined. CHINA: Sichuan Province: Chongging (29.5°N, 106.5°E), 1 male, 8.V.1982, ZHU Wen-bing, Coll. No. 824343.

This species is widely distributed in Europe. This is the first record of its occurrence outside Europe.

Genus Eridolius FOERSTER (GUPTA, 1991 a, 435)

The chief distinguishing features of the genus are: Notauli generally sharply impressed up to middle of mesoscutum. Subtegular ridge simple. Apex of hind tibia rounded, not truncate, without an apical fringe of long hairs. Tergite 1 uniformly tapered from apex to base. Tergite 2 without oblique impressions. Epipleura of tergites 4 and following not creased. Female subgenital plate pointed, large, weakly convex. Ovipositor short and thick. Egg short or of medium length, with double stalk attached to dish-shaped foot.

GUPTA (1991 a, 435) reviewed the taxonomy of the genus and provided synonymical references and a key to the Asiatic species. A new species, *E. orientalis*, was described from Taiwan. In the material received from P. R. China, two species are represented, *E. clauseni* (KERRICH) originally described from Korea and *E.* sinensis sp. nov.

Virendra K. GUPTA

Eridolius clauseni KERRICH (GUPTA, 1991 a, 440)

Specimen examined. CHINA: Zhejiang Province: Hangzhou (30.2°N, 120.1°E), 1 female, 16.IV.1958, ZHOU Zeng-nan, Coll. No. 5831.5.

This species was described from Korea and was reared from a tenthredinid host, *Allantus* sp. The Chinese specimen agrees with the type specimens except that the tip of the abdomen is slightly compressed, resulting in a slightly curved female subgenital plate and the clypeus is largely black with a yellowish-brown apicomedian area.

Eridolius sinensis sp. nov.

(Fig. 1)

Male and female. Mandibular teeth of equal length and width, or the upper tooth a little wider. Malar space $0.5 \times$ the basal width of mandible. Interocellar distance $0.5 \times$ the ocellocular distance. Vertex wide (Fig. 1). Face and clypeus with scattered punctures and largely subpolished. Mesoscutum convex, subpolished, minutely and shallowly punctate. Mesopleurum shallowly punctate and shiny. Propodeum irregularly rugulose, fully areolated, areola about $2.0 \times$ as long as wide. Costula complete. Tergite 1 widened from base to apex, weakly rugulose, its basolateral flanges small. Tergite 2–3 rectangular, subpolished, leathery in texture. Ovipositor short, its lower valve with teeth. Ovipositor sheaths small and conically pointed. Female subgenital plate convexly folded and pointed apically. Egg as seen on the ovipositor with basal and apical processes on its foot.

The mesopleurum, propodeum and abdominal tergites of one female paratype are coarser in sculpture.

Color of female: Black. Clypeus, mandibles except teeth, tegula, and wing bases, yellow. Face of female paratype with yellow marks. Coxae black. Fore and middle trochanters black in basal 0.75 and yellow in apical 0.25. Fore and middle femora, tibiae and tarsi brown, with fuscous marks on femora and apical segments of tarsi. Hind trochanter, femur, tibia and tarsus black, or tibia and tarsus partly brownish-yellow. Hind trochantellus yellow in holotype and blackish in paratype. Abdomen black with apices of apical two segments yellow. Tergite 3 of the female paratype reddish apically. Subgenital plate black.

Color of male. As in female, but legs lighter in coloration. Fore and middle coxae and trochanters yellow. Hind trochanter yellow. All femora and tibiae reddish-brown. Tergites 2-3 reddish medially.

Length: 6-8 mm; fore wing 4.5-5 mm.

Holotype: Female, CHINA: Jilin Province: Mt. Changbaishan (42.0°N, 128.1°E), 9.VIII.1977, HE Jun-hua, Coll. No. 770719. Paratypes: 1 female, same data as the holotype, Coll. No. 770701; 1 male, Guangxi Province: Jinxiu: Mt. Dayaoshan (24.0°N, 110.2°E), 13.VI.1982, HE Jun-hua, Coll. No. 822822.



Figs. 1-4. Eridolius sinensis sp. nov. (1) and Exenterus rutiabdominalis sp. nov. (2-4).
1, Vertex and mesoscutum; 2, front view of head; 3, abdominal tergites 1-3; 4, mesopleurum and metapleurum.

Additional specimen: CHINA: Sichuan Province: Mt. Emeishan (29.5°N, 103.3°E), 1 male, 6.VIII.1980, He Jun-hua, Coll. No. 803112. The face of this specimen is largely yellow. It is doubtfully placed under this species.

Virendra K. GUPTA

Comparison. This species runs to couplet 3 in the author's key to the Asiatic species of Eridolius (GUPTA, 1991 a, 436). It differs from E. clauseni (KERRICH) and E. orientalis GUPTA in having the mandibular teeth almost of equal length and the basal flanges on tergite 1 rather weak. In these respects, and also in general morphology, it approaches E. kamikochi (MASON) from Japan, but differs from that species in having a more fully areolated propodeum and in the coloration of the face and legs.

Genus Exenterus Hartig (GUPTA, 1993, 209-218)

The chief distinguishing features of the genus are: Body usually coarsely punctate and with black and yellow markings. Mandibular teeth usually equal in length. Notauli absent. Subtegular ridge moderately swollen but without any longitudinal slot, simple. Tergite 1 wide, dorsally flat, with a basolateral flange just above glymma on each side. Tergites 2-4 rather coarsely punctate. Ovipositor decurved, short and stout. Female subgenital plate large, flat, convex, or folded medially, its apical margin convex. Egg structure variable, with a small single stalk and a knoblike anchor or specialized with a stalk at each end of the egg.

GUPTA (1993) reviewed the taxonomy of the genus and described two new species: *E. orientalis* GUPTA from India, Pakistan and Taiwan and *E. phaeopyga* GUPTA from Taiwan. The specimens from P. R. China represent three new species and these are described below.

UCHIDA (1942) recorded E. adspersus HARTIG from "Kaiyuan, Mongolia". I do not have specimens of this species from China but I have examined Korean specimens in the American Entomological Institute collection. It belongs to the Amictorius species group (as defined by KERRICH, 1952, 366) to which also the other Chinese species belong, but is distinctive in having the temples strongly convex, the female subgenital plate strongly folded medially and acute apically, and the ovipositor sheaths projecting beyond the apex of abdomen. E. orientalis GUPTA is distinctive because it lacks carinae or yellow marks on the propodeum (which is otherwise rugoso-punctate), has the abdomen slender, and because the first abdominal tergite is about 2.0x as long as its apical width and without prominent dorsomedian and dorsolateral carinae. E. phaeopyga GUPTA closely resembles the three species described below in general body sculpture, but can be distinguished by having evenly spaced punctures on the mesoscutum that are sparser than in the other species, and by its medially creased and apically pointed subgenital plate. The body coloration is also different. The species described below are close to the Japanese E. confusus KERRICH, which is distinctive by having a shorter interocellar distance (0.6-0.7x), largely black mesopleurum and mesosternum, and by the structure of the subgenital plate (convex, not creased medially, with apical margin obtuse to somewhat conical).



Figs. 5-9. *Exenterus chinensis* sp. nov. — 5, Abdominal tergites 1-3; 6, mesopleurum and metapleurum; 7, metapleurum showing metapleural carina; 8, apex of abdomen showing subgenital plate; 9, ovipositor and its sheaths.

Exenterus chinensis sp. nov.

(Figs. 5-10)

Female. Temple about as wide as the eye, receding from the eye posteriorly.

432

Virendra K. GUPTA

Face and frons rugoso-punctate. Vertex punctate, punctures large and coalescing at places. Interocellar distance equal to ocellocular distance. Malar space 0.45 the basal width of mandible. Clypeus with scattered punctures, transversely impressed subapically, its apical margin convex. Pronotum, mesoscutum and mesopleurum with moderately coarse punctures. Metapleurum subpolished, with a strong transverse carina arching upwards and meeting the lateral longitudinal carina. Propodeum rugose; areola and petiolar area tending to be reticulate. Apical transverse carina and costulae strong. Apical part of lateral longitudinal carina indistinct so that the second lateral area confluent with the pleural area. Tarsal claws not pectinate. Tergite 1 rugose, its dorsomedian and dorsolateral carinae strong. Tergite 2 rugose and aciculate. Tergite 2 with coalescing punctures. Tergites 3, 4, 6 and 7 with shallow punctures, but tergite 5 with moderately deep punctures. Subgenital plate convex, boat-shaped, its apical margin thin and reflexed. Ovipositor not exserted beyond tip of abdomen.

Color: Black with yellow markings. Face, clypeus, mandibles and malar space largely yellow. Face with a median black line. The yellow mark on face extending on frons along eye margins and on lower temples. Pronotal collar, basolateral corners of mesoscutum, 2 small lines beyond middle of mesoscutum, scutellum, metascutellum, subtegular ridge, a squarish mark on mesopleurum, and two apicolateral marks on propodeum along apical transverse carina, yellow. Legs with yellow marks. Trochanters yellow. Hind femur black. Apical 0.2 of tergite 1 and apical 0.3 of tergite 2 yellow. Tergites 3–6 with narrow crescentic yellow marks. Subgenital plate brown with its apical margin yellow.

Male. Unknown.

Length: 12.0 mm; fore wing 8.0 mm.

Holotype: Female, CHINA: Fujian Province: Mt. Wuyishan (26.4°N, 116.4°E), 10.VIII.1986, WANG Jia-she, Coll. No. 870729.

Comparison. This species closely resembles both Exenterus phaeopyga GUPTA and E. confusus KERRICH, but differs by the strongly punctate head and thorax, as well as in characteristics of the second lateral area of the propodeum, subgenital plate, metapleural carina, and of overall body coloration.

Exenterus rutiabdominalis sp. nov.

(Figs. 2-4)

The mostly red abdomen of this species is characteristic and readily distinguishes it from the other Chinese species. The body also is more hairy than in the other species.

Female. Structure and color of head and thorax largely similar to E. chinensis but mesoscutum less closely punctate with interspaces shiny. Mesopleurum more closely punctate. Hairs on lower part of mesopleurum, mesosternum and sides of propodeum longer. Propodeum largely rugoso-punctate, punctures not coarse.

Apical transverse carina stronger than other propodeal carinae. Areola and costulae present. Second lateral area open with surrounding carinae weak. Tergites 1 and 2 rugoso-reticulate. Tergite 3 with well formed, moderate-sized coalescing punctures. Tergites 4–6 with smaller punctures. Female subgenital plate weakly convex, its apical margin thick and convexly pointed. Ovipositor sheaths not extending beyond the tip of abdomen.

Color: Black. Yellow marks on head similar to those in *C. chinensis*. Thorax with yellow marks only along pronotal collar, narrowly along basolateral corners of mesoscutum, scutellum, metascutellum, and with a small mark on subtegular ridge. All legs largely black. Trochanters black. Tergite 1 black and with a small yellow apical mark. Tergites 2–5 red. Tergite 6 black with its apical margin reddish. Tergite 7 black. Subgenital plate black with a narrow yellow border.

Male. Unknown.

Length: 11.0 mm; fore wing 8.0 mm.

The name is derived from the Latin rutilus = red + abdomen, referring to the reddish abdominal tergites 2-5 in this species.

Holotype: Female, CHINA: Yunnan Province: Kunming (25.0°N, 102.7°E), IV-V.1978, QI Jing-liang, Coll. No. 801759.

Exenterus similis sp. nov.

(Figs. 11–13)

Female. Head punctate. Punctures coarser on frons and sparse on clypeus and temples. Thorax punctate. Metapleurum smoother than rest of thorax. Carina on metapleurum strong, straight or concavely arched towards the junction of metapleural carina and the apical transverse carina of the propodeum. Propodeal carinae strong and complete. Areola, costulae and second lateral area complete. Tergite 1 rugose, its dorsomedian and dorsolateral carinae strong. Tergite 2 rugose. Tergite 3 closely punctate. Apical tergites with shallower punctures. Female subgenital plate almost flat, only slightly convex, its apical margin thick and broadly triangular.

Color: Face, inner orbital margins, clypeus, mandibles, lower 0.3 of temples, pronotal collar, basolateral triangular marks on mesoscutum, two small triangluar marks on the middle of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, an oval mark on mesopleurum near epicnemial carina, and two large triangular marks on propodeum covering the second lateral area and part of pleural area, yellow. Fore and middle legs partly yellow and partly black with all trochanters yellow. Abdomen black with a yellow band on tergite 2 and tergites 3–5 partly reddish-yellow. Female subgenital plate brownish-black with its apical margin narrowly yellow.

Male. Essentially similar to the female except with abdominal tergites brownish rather than reddish-yellow and with the whole body more brownish than black.





Figs. 10-13. 10, *Exenterus chinensis* sp. nov. (10) and *E. similis* sp. nov. (11-13). — 10, Propodeum and tergite 1; 11, metapleurum and tergites 1-2; 12, mesopleurum, metapleurum and propodeum; 13, female subgenital plate and ovipositor sheaths.

Length: 8-10 mm; fore wing 6-8 mm.

Holotype: Female, CHINA: Hunan Province: Liuyang (28.1°N, 113.6°E), 11.X.1985, TONG Xin-wang, Coll. No. 896368. Paratypes: 1 female, same data as the holotype except 9.V.1984, Coll. No. 846453; 1 male, Zhejiang Province: Fuyan (30.0°N, 119.9°E), 23.VI.1984, CAO Jing-ging, Coll. No. 850063, ex *Neodiprion zhejiangensis* ZHONG & XIAO.

Comparison. This species is close to the Taiwanese E. phaeopyga GUPTA in

general sculpture and color of abdomen, but is distinct in having coarser punctures on the mesoscutum and because its subgenital plate is not creased medially (medially creased in *E. phaeopyga*). It is also close to *E. chinensis* but the structure of the propodeum is different in the two species. In the latter species the thoracic punctures are smaller and closer. The shape of the subgenital plate is different from that of the others and appears to distinguish the species of the genus from each other.

Exenterus adspersus HARTIG (TOWNES, MOMOI & TOWNES, 1965, 114)

Clypeus apically impressed, with apical margin truncate medially. Tarsal claws not pectinate. Ovipositor sheaths surpassing tip of abdomen. Female subgenital plate strongly creased medially, yellow, with an apical circular collar-like formation.

UCHIDA (1942) reported this species from "Kaiyuan, Manchuria". The hosts reported were *Neodiprion sertifera* and *Diprion nipponicus* in Japan.

This species was originally described from Germany and has been reported subsequently from Japan, Mongolia and Korea. I have not examined any specimens from China, but did study Korean material in the AEI collection.

Genus Cteniscus HALIDAY (TOWNES, 1969, 188)

The chief distinguishing features of the genus are: Clypeus transversely elliptic. Mandibular teeth equal in length. Notauli distinctly impressed. Subtegular ridge simple. Petiole more or less flat. Abdominal tergites with fine punctures, usually with median apical white or yellow marks. Tergite 2 with oblique grooves. Female subgenital plate boat-shaped, folded and creased medially, with an apical lip or median hook or tubercle.

Species of *Cteniscus* are common in the Holarctic Region and one species has been described from Japan. The genus so far has not been reported from Palearctic China or the Indo-Australian Area. One new species is described below from P. R. China.

Cteniscus sinensis sp. nov.

(Figs. 14-16)

Female. Face shallowly punctate, interspaces shiny. Clypeus largely smooth and shiny, convexly elliptic. Malar space 0.75 the basal width of mandible. Frons and vertex polished, with scattered small punctures. Interocellar distance $0.8 \times$ the ocellocular distance. Occiput strongly concave. Occipital and hypostomal carinae of normal shape, meeting each other at an angle of 45° and at a distance above the mandible of about $0.8 \times$ the basal width of mandible. Mesoscutum convex, shiny, with scattered shallow punctures. Scutellum convex, indistinctly punctate, its lateral

Virendra K. GUPTA



Figs. 14-16. *Cteniscus sinensis* sp. nov. — 14, Vertex and mesoscutum; 15, tergites 1-2; 16, lateral view of thorax.

carinae confined to its base. Mesopleurum shiny, with more uniform and distinct punctures than the mesoscutum. Metapleurum shallowly rugulose. Propodeum convex, irregularly shallowly rugulose and subpolished, its carinae strong and enclosing a pear-shaped areola. Apical parts of lateral longitudinal and pleural carinae strong, and along with the lateral part of apical transverse carina, defining a diamond-shaped area on pleura of propodeum. Tergites 1 and 2 rugulose. Ter-

gite 1 with distinct dorsomedian and dorsolateral carinae, the latter passing along the upper rim of spiracle. Tergites 3 and the following with fine setiferous punctures. Subgenital plate strongly rectangularly folded, its apical margin somewhat reflexed and with a distinct median, slightly curved, spine.

Color: Black with extensive yellow marks. Antenna brownish-black. Face, inner orbits up to the level of ocelli, clypeus, mandibles, temples except dorsally, pronotum except dorsally, tegulae, mesoscutum (as in figure), scutellum, metascutellum, mesopleurum (as in figure), small marks on metapleurum and propodeum, and legs largely, yellow. Abdominal tergites with an irregular triangular yellow mark along their apical margins; tergites 1–3 with brown areas laterad of the yellow marks. Abdominal venter yellow with black marks. Apical sternites including the subgenital plate yellow.

Male. Unknown.

Length: 7.0 mm; fore wing 5.0 mm.

Holotype: Female, P. R. CHINA: Beijing: Shunyi (40.1°N, 116.6°E), 27.VI. 1980, WANG Qing-lin, Coll. No. 830167.

Comparison. This species is distinctive in having yellow marks on the mesoscutum and propodeum. The yellow marks on the upper eye orbits and the abdomen, and the wholly yellow coxae, will also distinguish it from the other Palearctic species. It shows similarities to the European C. pedatorius (PANZER), pallitarsis (THOMSON) and the Japanese quadriceps (UCHIDA) in general sculpture and in the nature of the occipital and hypostomal carinae, but the latter three species have a black thorax without yellow marks on the mesoscutum. The abdomen in these species also is generally black with small yellow marks, except in quadriceps where the tergites have yellow apical bands. The mesopleurum of quadriceps is more strongly punctate than in sinensis.

Genus *Exyston* SCHIØDTE (TOWNES, 1969, 185)

The chief distinguishing features of the genus are: Subtegular ridge with an elongate slot along its posterior edge. Tarsal claws not pectinate. Abdomen slender and club-shaped; tergite 1 long and slender, with basolateral flanges; tergites 4-6 strongly convex with setae usually slanted mesad. Epipleura absent or very narrow and creased. Female subgenital plate short and unspecialized, its apex truncate.

This Holarctic genus has not been reported previously from the Indo-Australian Area. One new species is described below from P. R. China.

Exyston chinensis sp. nov.

(Figs. 17–22)

Female. Face in middle moderately closely punctate, orbits smoother. Clypeus

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Figs. 17-22. Exyston chinensis sp. nov. — 17, Frons and face; 18, frons and ocellar area; 19, face and clypeus; 20, dorsal view of head and thorax; 21, lateral view of thorax; 22, lateral view of tergite 1.

Exenterine Ichneumonids from China

shiny, with only a few scattered punctures. Apical margin of clypeus somewhat thick and truncate medially. Mandibular teeth equal in length. Malar space $0.7 \times$ the basal width of mandible. Frons striato-punctate, with a distinct median keel. Vertex shiny, with scattered punctures. Punctures closer around ocelli. Interocellar distance about $0.5 \times$ the ocellocular distance. Upper part of temple almost as wide as the eye, punctate. Occipital carina sharp and running along outer edge of occiput almost up to the mandibular base and then effaced. Hypostomal carina lamellate, distant from base of mandible by about 0.3 the basal width of mandible. Mesoscutum convex, shiny, with scattered punctures. Scutellum convex and punctate. Mesopleurum and metapleurum punctate. Propodeum ruguloso-punctate, areola and carinae complete. Tergite 1 slender, its length $2.3 \times$ the apical width, its basolateral corners projecting, its dorsomedian carinae distinct up to apex, its dorsolateral carina interrupted at spiracle. Apical half of tergite 1 punctate, more so laterally, tending to become rugulose mesad. Tergites 2 and 3 with minute scattered punctures. Apical abdominal tergites curved. Female subgenital plate folded medially, its apical margin truncate.

Color: Black and yellow. Face, clypeus, mandibles, 0.75 of temples, pronotal collar, tegula, subtegular ridge, scutellum, metascutellum, marks on pronotum, mesopleurum, metapleurum, and propodeum apicolaterally, yellow. Legs yellow, with their femora and tibia orange-brown. Abdomen orange-brown, with base of tergite 1 black and apices of tergites yellow. Apex of abdomen largely yellow.

Male. Unknown.

Length: 10 mm; fore wing 7 mm.

Holotype: Female, P. R. CHINA: Shanxi Province: Linfen (36.1°N, 111.5°E), 27. V. 1986, FAN Jin-jiang, Coll. No. 864155.

Comparison. This species appears somewhat related to the European E. sponsorius (FABRICIUS) [=cinctulus GRAVENHORST] in the form of its occipital and hypostomal carinae. The epomia and epicnemial carinae are strongly developed in sponsorius (KERRICH, 1952, 371) but not so in the present species. The sculpture of the mesopleurum and propodeum, and the coloration of the propodeum, hind coxae and the petiole are different in the two species. E. sponsorius has the malar space about $0.9 \times$ the basal width of mandible, the mesopleurum shallowly punctate, the propodeum shiny, the petiole black and the hind coxae with black marks. The propodeum of sponsorius is without yellow marks. The propodeum of the new species is more fully areolated than in E. sponsorius.

Check-list of species of Exenterini from China

An asterisk (*) in the first column indicates a new species described here and * in the second column a new distribution record. See GUPTA (1987) for citations of original references to the genera.

440

Virendra K. GUPTA

Cteniscus HALIDAY, 1832. C. sinensis GUPTA* Eridolius FOERSTER, 1869. E. clauseni KERRICH, 1962. E. orientalis GUPTA, 1991. E. sinensis GUPTA* Excavarus DAVIS, 1897. E. sinensis MASON, 1962. Exenterus HARTIG, 1837. E. adspersus HARTIG, 1837. E. chinensis GUPTA* E. orientalis GUPTA, 1993. E. phaeopyga GUPTA, 1993. E. rutiabdominalis GUPTA* E. similis GUPTA* Exyston SCHIØDTE, 1839. E. chinensis GUPTA* Kerrichia MASON, 1962. K. nipponica MASON, 1962. Kristotomus MASON, 1962. K. areolatus GUPTA, 1990. K. buccatus KASPARYAN, 1976. K. chinensis KASP., 1976. K. chiuae GUPTA, 1990. K. claviventris KASP., 1976. K. flavoguttatus GUPTA, 1990. K. foveolatus KASP., 1976. K. incompletus GUPTA, 1990. K. kamikochi MASON, 1962. K. lini GUPTA, 1990. K. masoni GUPTA, 1990. K. occipitis GUPTA, 1990. K. petiolatus GUPTA, 1990. K. punctatus GUPTA, 1990. K. punctifrons GUPTA, 1990. K. ridibundus (GRAV., 1829). K. rufiabdominalis GUPTA, 1990. K. tangi GUPTA, 1990. K. tenuis (KERRICH, 1952). K. townesi GUPTA, 1990.

[See TOWNES, 1969, for syn. references.] China (Beijing) [See GUPTA, 1991 a, for syn. references.] Korea; China (Zhejiang*). India (H.P.), Taiwan. China (Jilin, Guangxi, Jinxiu, Sichuan ?). [See TOWNES, 1969, for syn. references.] China (Fujian). [See GUPTA, 1992, for syn. references.] Europe, China (Kaiyuan) (UCHIDA, 1942, 129.) China (Fujian). India, Pakistan, Taiwan. Taiwan. China (Yunnan). China (Hunan; Zhejiang). [See TOWNES, 1969, for syn. references.] China (Shanxi). [See GUPTA, 1990.] Japan, Taiwan (GUPTA, 1991 b, 754). [See GUPTA, 1990, for syn. references.] India, Taiwan. Eastern Russia, Taiwan. China (Fujian), Russia. Taiwan. China (Fujian, Guangxi^{*}, Zhejiang^{*}), Taiwan, Russia. Taiwan. India, Taiwan, Philippines, Russia. Taiwan. Japan, China (Jilin*), Taiwan, Russia. Taiwan Nepal, Taiwan. Taiwan. Taiwan. Taiwan. Taiwan. Eurasia, Japan, Taiwan. India, Nepal, China (Jilin*). Taiwan. India, Nepal, Burma, China (Fujian) Taiwan, Eastern Russia. Taiwan.

Exenterine Ichneumonids from China

K. triangulatorius (GRAV., 1829). Europe, China (Sichuan*).

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References

- GUPTA, V. K., 1987. The Ichneumonidae of the Indo-Australian Area (Hymenoptera). A synonymic catalog of the taxa described through 1985 together with a bibliography, 1960-1985. *Mem. Am. ent. Inst.*, 41: 1-1210.
- 1990. The taxonomy of the Kristotomus-complex of genera and a revision of Kristotomus (Hymenoptera: Ichneumonidae: Tryphoninae). Contrib. Am. ent. Inst., 25 (6): 1-88.

1991 a. A review of the exenterine genus *Eridolius* (Hymenoptera: Ichneumonidae) and descriptions of new species from the Oriental Region. *Orient. Insects*, 25: 435-446.

1991 b. Taxonomy of the Oriental genus Kerrichia MASON, with description of a new species from Nepal (Hymenoptera: Ichneumonidae: Tryphoninae). Proc. ent. Soc. Wash. 93: 751-755.

1993. The exenterine genus *Exenterus* in the Oriental Region (Hymenoptera, Ichneumonidae). *Entomofauna*, 14: 209-218.

- KASPARYAN, D. R., 1976. New species of the tribe Cteniscini (Hymenoptera, Ichneumonidae) from East Asia. The genera Cycasis Townes, Orthomiscus MASON and Kristotomus MASON. Ent. Rev., 55: 99-108. [English translation of the original paper published in Russian in Ent. Obozr., 55: 137-150].
- KERRICH, G. J., 1952. A review, and a revision in greater part, of the Cteniscini of the Old World. Bull. Brit. Mus. nat. Hist. (Ent.), 2: 305-460.
- MASON, W. R. M., 1962. Some new Asiatic species of Exenterini (Hymenoptera: Ichneumonidae) with remarks on generic limits. *Canad. Ent.*, 94: 1273-1296.
- TOWNES, H., 1969. The genera of Ichneumonidae, Part. 1 Mem. Am. ent. Inst., 11: 1-300.

-----, S. MOMOI & M. TOWNES, 1955. A catalogue and reclassification of the eastern Palearctic Ichneumonidae. Mem. Am. ent. Inst., 5: 1-166.

UCHIDA, T., 1942. Ichneumoniden Mandschukuos aus dem entomologischen Museum der kaiserlichen Hokkaido Universität. Insecta matsum., 16: 107–146.

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