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PALAEARCTIC AND ORIENTAL SPECIES OF *CRASPEDOMETOPON* KERTÉSZ (DIPTERA, STRATIOMYIDAE)

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The taxonomy and distribution of the Palaearctic and Oriental genus *Craspedometopon* of the subfamily Pachygastrinae are revised. One new species (*C. orientale* sp. n.) is described, *C. basale* (MATSUMURA, 1915) is resurrected from synonymy and one new synonym of it (*C. ussuricum* KRIVOSHEINA, 1973) is documented. The three species of the genus treated are described in detail including their male and female terminalia as the most important distinguishing characters. Their relationships are briefly discussed. *Craspedometopon basale* shows an exclusively Palaearctic distribution in easternmost Russia, Korea and Japan, *C. orientale* sp. n. and *C. frontale* KERTÉSZ, 1909 seem to be extensively distributed throughout the Oriental Region. An identification key to the species of *Craspedometopon* is presented.

Key words: Pachygastrinae, *Craspedometopon orientale* sp.n., new synonym, distribution, identification key

INTRODUCTION

Craspedometopon was described by KERTÉSZ (1909) as monotypic and based on a species originating from Taiwan. According to the most recent catalog of Stratiomyidae (WOODLEY 2001), *Craspedometopon* includes only one East Palaearctic species, *C. ussuricum* KRIVOSHEINA, 1973 and one Oriental species, *C. frontale* KERTÉSZ, 1909. The junior author succeeded recently in rearing a new species (*C. orientale* sp. n.) from larvae found under the bark of deciduous trees in North Thailand. A study of this material stimulated the preparation of the review of Palaearctic and Oriental species of *Craspedometopon* presented here. In addition to Thai specimens we obtained very interesting comparative material from Nepal, India, China, Taiwan, North and South Korea, Japan, Laos and Malaysia.

There is no doubt that two species occur in Japan. The first of them, *C. basale* (MATSUMURA, 1915) was described from the Palaearctic part of Japan and is apparently identical with *C. ussuricum* KRIVOSHEINA, 1973. It was studied in detail by NAGATOMI (1975) under the name *C. frontale* KERTÉSZ, 1909. Its distribution covers the East Palaearctic (eastern Russia, North and South Korea, Palaearctic Japan). The true *C. frontale*, being described from Taiwan, is exclusively Oriental,

ranging from Nepal and India to the Oriental part of Japan (Ryukyu Islands) and Taiwan. The third species, *C. orientale* sp. n. is known, for the time being, from Nepal, India, Laos, and Thailand.

MATERIALS AND METHODS

This study is based on recently collected material as well as specimens from different museum and institution collections. D. KOVAC found larvae of a *Craspedometopon* under the bark of fallen deciduous trees in two localities of North Thailand (September 2002 and October 2004) and adults of a new species were reared in the laboratory during the following spring (April). Another interesting series of specimens was available thanks to P. TRIPOTIN (via M. HAUSER) who collected Diptera by means of Malaise traps in several localities in South Korea during 1999–2005. In his material a relatively large series (46 specimens) of *C. basale* was studied and identified. The Malaise traps were situated in forested habitats, usually in shade of moist places, like under larger trees, along small streams, thus in places with high humidity and a soil usually covered with moist humus, decaying plant debris, etc. (P. TRIPOTIN, e-mail communication from the 29th October 2006).

Several recently collected specimens were also found in different museums in addition to some older material enabling a correct interpretation of some previously published records. All specimens were re-examined and identified, the male and female terminalia were studied and illustrated. The distribution was evaluated with respect to the boundary between the Palaearctic and Oriental Regions. The abbreviations of the museums from which material was studied and other institutions are as follows: BMNH – The Natural History Museum, London; BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii; FSMU – Faculty of Science, Masaryk University, Brno; HUS – Entomological Institute, Hokkaido University, Sapporo; MHC – Martin Hauser Collection; MMB – Moravian Museum, Brno; MNHN – Muséum National d´Histoire Naturelle, Paris; SMF – Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt am Main; USNM – National Museum of Natural History, Smithsonian Institution, Department of Entomology, Washington D.C.; ZIAS – Zoological Institute, Academy of Sciences, St. Petersburg; ZIB – Zoological Institute, Slovak Academy of Sciences, Bratislava.

CHARACTERISTICS OF THE GENUS

Craspedometopon KERTÉSZ, 1909

Craspedometopon KERTÉSZ, 1909: 373. Type species: *Craspedometopon frontale* KERTÉSZ, 1909 (by monotypy)

Acanthinoides MATSUMURA, 1916: 367. Type species: *Acanthinoides basalis* MATSUMURA, 1916 (= *Beris basalis* MATSUMURA, 1915) (orig. des.).

The genus includes predominantly black and stout flies of small to medium size (5.0–7.0 mm). The head is transverse in both sexes, i.e. much broader than long in dorsal view and higher than long in lateral view. The ocellar tubercle is usually very prominent above the eyes in lateral view. The eyes are bare or microscop-

ically short haired, but finely, relatively long and densely haired in *C. orientale* sp. n., touching in the males and separated by a parallel-sided frons in the females. The relatively short antennae are inserted below the middle of eyes, each consisting of a cylindrical scape, which is longer than the subconical pedicel, and an onion-like flagellum with an almost terminal arista. The flagellum consists of 7 flagellomeres, forming a subrounded complex, and an arista that is less than twice as long as the antenna (Fig. 15). The face is concave, the labellum of the proboscis large. The two-segmented palpi are moderately long, both segments subequal.

The thorax is black, densely punctate and generally short haired, shining black parts are very limited even on the pleura. The scutum and the scutellum are moderately convex in lateral view, with only a shallow incision between them. The scutellum has four strong and rather short spines and an entire, distinct margin (Fig. 19). The wings are usually infuscated in the basal half, at least the stronger veins in this region are darker than in the distal half. The anterior crossvein is well developed and vein R_{2+3} originates well beyond it. Vein R_4 is unusually approximate to R_{2+3} so that the costal section between them is much shorter than the section between R_4 and R_5. Vein Cu_2 is markedly bent and the apical angle of cell Cu is thus 90 degrees. The legs are simple, black and yellow, the posterior surface of the fore and mid femur is usually covered with longer erect hairs. The abdomen is wide, rounded or even somewhat broader than long, conspicuously arched.

The male eye facets are markedly enlarged in the upper half, the eyes are contiguous medially for a long distance, leaving only a small and narrow upper frons and a larger and much broader lower frons. The elongate-triangular upper frons is about as broad as the anterior ocellus and abruptly tapered downwards, being barely twice as long as broad. The broadly triangular lower frons is usually covered by dense whitish grey tomentum but it is shining black at the upper angle and in the median groove reaching the base of antennae. The antennal flagellum is, as a rule, smaller than in the female, also the palpi are shorter and more slender. A postocular rim is not visible in dorsal view and in lateral view a somewhat swollen postocular area is developed only in the lower third (Figs 1, 16). The infuscation of the wings is often more developed in males than in females. The male terminalia are fairly uniform. The epandrium is usually narrowed distally (Figs 5, 12, 20). The genital capsule has a narrow (Figs 7, 14) or broader posteromedial incision (Fig. 22), the gonostyli are of complicated structure, sometimes narrowed distally, with basal lobes and/or inner processes or hooks (Figs 4, 11, 22). The aedeagal complex is relatively short, barely extending beyond the proximal margin of the genital capsule, tripartite distally (Figs 6, 13, 21).

The female eye facets are not divided and unified in size. The female frons (Figs 3, 8, 18) is parallel-sided, usually rather narrow, occupying at most 1/5 of

head width, slightly dilated in the upper part. The lower part of the frons is separated by a shining black, low, transverse elevation. The frontal band is margined by a narrow ridge along each eye margin and with large punctures to varying extent, leaving sometimes a differently large longitudinal medial area bare and shining black. The lower frons above the antennae is covered by dense whitish grey tomentum which is divided medially by a subtriangular or oval longitudinal depression. Both frontal tomentose patches are rounded at the upper margin. The postocular rim is only narrow and well visible in dorsal view (Fig. 8) but absent in *C. orientale* sp. n. (Fig. 18). In lateral view the postocular area in the lower third of the head (Figs 2, 17) is mostly as swollen as in the male or somewhat larger. The body pile is usually only short and less conspicuous than in the male. The differences between the dark basal half and the pale apical half of the wing is usually less conspicuous in the females. The legs may be more yellow in some species. The female terminalia (Figs 9–10) are elongated, the two-segmented cerci are relatively short, both segments subequal, tergite 9 relatively high. The genital furca is rounded or more oval, with a long and basally dilated proximal middle projection.

Acanthinoides MATSUMURA, 1916, based on *Acanthinoides basalis* MATSUMURA, 1916, from Japan, is a synonym of *Craspedometopon*. HOLLIS (1963) described a new species, *Craspedometopon testacea*, which is now considered to be a member of the genus *Evaza* WALKER (WOODLEY 2001). LINDNER (1938, 1941) discussed and illustrated under *Acanthinoides basalis* a member of another genus. His male should have the bare eyes (cf. his description) but the figured specimen (LINDNER 1938: fig 133) has long haired eyes and the antennae distinctly differ from *Craspedometopon*. The figured female originated from Japan (Honshu, Nikko) and might belong to *Kolomania* PLESKE (see KRIVOSHEINA 1973).

REVIEW OF SPECIES

Craspedometopon basale (MATSUMURA, 1915) (Figs 1–7)

Beris basalis MATSUMURA, 1915: 45
Acanthinoides basalis MATSUMURA, 1916: 368 (Pl. XXI, Fig 29) (secondary homonym of *Beris basalis* MATSUMURA, 1919)
Craspedometopon frontal; ÔUCHI, 1940 (Japanese specimens) (incorrect subsequent spelling)
Craspedometopon ussuricum KRIVOSHEINA, 1973: 180, syn. n.
Craspedometopon frontale; NAGATOMI 1975: 372.

Type material: Syntypes of both sexes of *Beris basalis* MATSUMURA as well as *Acanthinoides basalis* MATSUMURA originate from Japan and should be depos-

ited in HUS (WOODLEY 2001). Unfortunately, we did not succeed in borrowing these syntypes from Hokkaido University. *Craspedometopon ussuricum* KRIVOSHEINA is based on a male holotype and two female paratypes from Russia (Primorskiy district, Suputinskiy Reserve and Kedrovaya Pad' Reserve). Although we did not examine the type series, N. P. KRIVOSHEINA kindly compared our material from North Korea and a male from Japan with types of *C. ussuricum* and was of the opinion that all specimens were conspecific.

Material examined: North Korea, Ryongaksan Mts., 10 km W of Pyongyang, 14.v.1988, 1 ♂, M. KOZÁNEK; Kungansan Mts., Okryn Valley, 21.v.1988, 1 ♀, M. SLOVÁK; Wonsan, Botanical garden, 28.v.1988, 2 ♂♂, M. KOZÁNEK, in FSMU and ZIB, all identified as *C. ussuricum* by KRIVOSHEINA. South Korea, Kangwondo Province, Nam District, Magog, along Hongcheon river, 70 m, 37°43.786´N, 127°34.589´E, 24.v.–12.vi.2004, 1 ♀ in USNM and 1 ♀ in MHC; North Jeolla Province, Muju Prefecture, Anseong District, Muryeong Mt., 30.v.–6.vi.1999, 1 ♀ in MNHN; South Chungcheong Province, Nami District, Keum Mt., Pohyeonsa, N 36°03.494 N, 127°27.225 E, 27.iv–14.v.2005, 1 ♀, 1.–8-vi.2005, 1 ♂, 16 ♀♀; 8.–24.vi.2005, 4 ♀♀; North Chungcheong Province, Okcheon Prefecture, Dongi District, Soesan, 36°16.594 N, 127°36.742 E, 150 m, 19–28.vi. 2004, 4 ♂♂, 12 ♀♀; Jiri Mt., South Gyeongsang Province, Hamyang Prefecture, Macheon District, Samjeong, 700 m, 35°20.930 N, 127°38.503 E, 4 ♀♀; Munsusa, 400 m, 35°24.739 N, 127°43.818 E, 9.vii.–17.viii.2005, 2 ♀♀; all P. TRIPOTIN, all in MHC. Japan, Tokyo environs, 1906, 1 ♂, J. HARMAND; Osaka, Mt. Minoo, July 1930, 1 ♀, C. TETANISHI; Kyoto, 10.iv.1954, 1 ♀, W. C. BENTINCK; Camp Fuji, 7.v. 1954, 1 ♂, L. W. TELLER; Tamba, Sasayama, 4.v.1955, 1 ♀, 28.v.1958, 1 ♂; Osumi, Sata, 27.iv.1962, 1 ♂, all A. NAGATOMI, all in USNM, det. as C. *frontale* KERTÉSZ by A. NAGATOMI. Kagoshima Pref., Cape-Sata, 30.iv.1966, 1 ♂, A. TANAKA, in FSMU, det. as *C. ussuricum* by N. P. KRIVOSHEINA.

Diagnosis. The eyes are bare or very short haired and the antennae black in the males or black to brown in the females. The hind femora and tibiae are completely black and the hind tarsi contrastingly yellow in the males. The medial incision on the hind margin of the male genital capsule is narrow.

Redescription: ♂. Head (Fig. 1) black and blackish haired, occiput, both frontal triangles, face and postocular area whitish grey tomentose. Eyes bare or very short haired, contiguous for a long distance. Upper angle of lower frons shining black. Supra-antennal whitish tomentose patches separated by a deep, black medial groove, greyish tomentum on face less conspicuous. Ocellar tubercle, face, genae and lower postocular area with erect black hairs. Antenna entirely black, basal antennal segments black haired, arista only 1.3 times as long as antenna. Proboscis pale brown, yellowish haired, palpus usually black, shorter than half length of labellum, its apical segment slightly shorter and stouter than basal segment. Maximum width of lower postocular area about length of both basal antennal segments combined.

Thorax subshining black and densely punctate, punctation finer and denser than in *C. orientale* sp. n. Extreme lateral ridges of postpronotal calli reddish brown, apical halves of scutellar spines yellow and bare. Scutum and scutellum covered by dense black pile that is much longer then pedicel and predominantly erect especially in presutural area but short and semi-appressed on rest of scutum. Pleura also densely black haired, only posterior part of anepimeron and greater part of meron bare, shining black. Area above halteres indistinctly greyish tomentose.

Wings tinged with brown and yellow, basal half extending to discal cell brown and apical half yellowish or almost hyaline. Stronger veins in basal half dark brown, stigma and veins in apical half yellow. Costal sections between R_4 and R_5 twice as long as that between R_{2+3} and R_4. Squamae small, their marginal hairs chiefly brown, halteres dark brown, stem more yellow.

Legs as in *C. frontale* but pale parts more limited, black and yellowish brown, pile black on dark parts and chiefly brown on pale parts. Femora dark, only fore femur yellowish at tip. All tibiae dark but fore and mid tibiae yellowish at both ends. Hind femora and tibiae completely black. Tarsi yellowish brown but hind tarsi contrastingly ochre yellow. Longer and erect black hairs visible on posterior surface of fore and mid femur.

Abdomen subshining black and densely punctate as on thorax. Abdominal pile inconspicuous, short and mainly appressed, chiefly black on disc but predominantly whitish to yellow on posterior half and venter. Longer black and erect hairs distinct at anterior corners both dorsally and ventrally.

Male terminalia (Figs 5–7): Epandrium (Fig. 5) elongate, with relatively shallow, semicircular proximal emargination, proctiger slightly longer than broad at base, tapered in distal half, cerci relatively stout and short, barely half as long as proctiger. Genital capsule (Fig. 7) with narrow and short medial incision at distal margin. Gonostylus (4) markedly tapered in apical half, submedial ridge forming inner basal bilobate process. Ventrobasal lobe of gonostylus much more slender than in *C. frontale*. Aedeagal complex (Fig. 6) relatively long, tripartite distally, with flattened proximal part as in other species.

Length: body 4.7–6.7 mm, wing 5.3–7.4 mm (13 males).

♀: Head (Fig. 2) black, occiput, paired supra-antennal patches, face, gena and distinctly swollen lower postocular area greyish tomentose. Eyes bare, postocular rim narrow but distinct in dorsal view (Fig. 3), shining black, about as broad as lateral ocellus. Frontal vitta shining black, frontal index (length between anterior ocellus and base of antennae to width in middle) about 3.2 and frons thus relatively widest of all three known species, with usual narrow ridges along eye margins and punctation being about as dense as in *C. frontale* but shining bare area above low frontal calli usually much more extensive. Tomentose patches above antennae separated by a longitudinal, deep and anteriorly tapered medial groove. Antennae brown, flagellar complex darker and dull, larger than in male. Arista at most slightly longer than antenna. Proboscis and palpi brown, reaching about 3/4 of labellum length, apical segment stouter and longer than in male, almost black. Head pile indistinct, chiefly short and pale but chiefly blackish on postocular area where longer on lower part.

Thorax as in male but postpronotal calli, narrow subnotopleural line and postalar calli usually reddish brown. Brownish to black thoracic pile generally short and appressed. Basal infumation of wings less contrasting than in male but distinct, halteres yellowish to dark brown, only stem yellow basally. Legs as in male, tarsi often more brownish dorsally. Pile on legs predominantly pale, hairs on posterior surface of fore and mid femur shorter than in male and whitish. Abdominal pile inconspicuous, short and appressed, predominantly pale but partly black on disc. Female terminalia yellow with brown apical segment of cerci, genital furca similar to that of *C. frontale*.

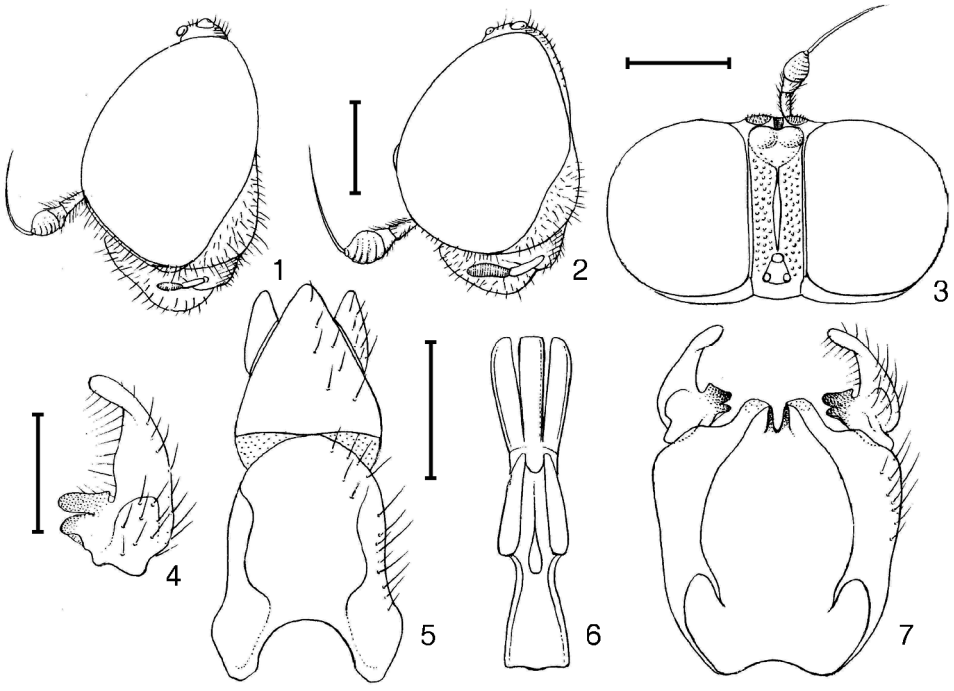
Length: body 5.2–7.6 mm, wing 5.7–7.2 mm (41 females).

Variation: The antennal flagellar complex may be paler than in the male, often even pale brown though both basal segments usually black. The halteres also usually paler, yellowish brown in some specimens.

Note. Undoubtedly the type material of both MATSUMURA's taxa originated from Japan: *Beris basalis* from "Hokkaido or Honshu" and *Acanthinoides basalis* from "Hokkaido and Honshu". Also records by ÔUCHI (1940) under "*C. frontal*" based on three females with blackish brown antennae from Takao Mt. near Tokyo,

Mitsumine Mt. and Ohyama near Tokyo belong to this species. KRIVOSHEINA (1973) described her *C. ussuricum* from the Russian Far East (southern Sikhote Alin, Suputinskiy and Kedrovaya Pad' Nature Reserves) and NAGATOMI (1975) recorded 73 specimens from the following localities under "*C. frontale*": Hokkaido: Sapporo; Jozankei. Honshu: Tamba, Sasayama; Mt. Kogane near Sasayama; Okayama City. Shikoku: Ehime Pref., Jôjusha. Kyushu: Fukuoka Pref., Hikosan and Inunakiyama; Hyuga, Mt.Osuzu; Satsuma, Kurinodake; Kagoshima City; Osumi, Takakuma and Sata. South-West Islands: Yakushima, Miyanoura.

Distribution (Fig. 24): Eastern Russia (KRIVOSHEINA 1973 as *C. ussuricum*), North Korea (material examined), South Korea (material examined), Japan (Palaearctic part, MATSUMURA 1915 as *Beris basalis*, MATSUMURA 1916 as *Acanthinoides basalis*, ÔUCHI 1940 as *C. frontal*, NAGATOMI 1975 as *C. frontale* and material examined).



Figs 1–7. Diagnostic characters of *Craspedometopon basale*: 1 = male head in lateral view, 2–3 = female head in lateral and frontal view, 4 = gonostylus in dorsal view, 5 = dorsal part of male terminalia, 6 = aedeagal complex, 7 = genital capsule. Scales: 0.5 mm (heads), 0.2 mm (gonostylus), 0.3 mm (male terminalia)

Craspedometopon frontale KERTÉSZ, 1909
(Figs 8–9, 11–15)

Craspedometopon frontale KERTÉSZ, 1909: 375
Craspedometopon frontal; ÔUCHI 1938: 38, 1940: 265 (Chinese specimens) (incorrect subsequent spelling)

Type material: The species is based on specimens of both sexes from Kosempo (= Jia-Xian). We had the opportunity to study a female syntype deposited in BMNH, which may be designated as lectotype if necessary. Additional specimens from the same locality are deposited in FSMU and USNM (see Material examined) though they apparently do not belong to the type series.

Material examined: Nepal, Godavari, Botanical garden, 1.v.1980, 1 ♀, A. FREIDBERG, in USNM. India, Calcutta, 1908, 4 ♂♂ and 4 ♀♀, E. BRUNETTI; Sikkim, Singhik, 5000 ft, 24.iv.1924, 1 ♀, all in BMNH. China, Chengtu, 16.iv.1932, 2 ♂♂, 2 ♀♀, in USNM. Shanxi, Qinling Mts., 6 km E of Xunyangba, 1000–1300 m, 23.v.–13.vi.2000, 1 ♀, V. KUBÁŇ, in MMB. Japan, Ryukyu Is., Okinawa, Izumi-gogayama, 22.iii.1964, 2 ♂♂, 4 ♀♀, C. M. YOSHIMOTO & J. HARREL, in USNM. Taiwan, Kosempo [=Jia-Xian], April 1908, H. SAUTER, 1 ♂ and 1 ♀ in FSMU, 1 ♂ in USNM; Kuraru [=Hengchun], Hengchun Park, 250 m, 2.iv.1965, 4 ♂♂; Hengchun, Pingtung Hsien, in drainage gutter, 4.iv.1965, 1 ♀; all C. M. YOSHIMOTO, all in BPBM; Bashien [=Ba-xien-shan], Taichung Sien, 14.v.1990, 1 ♀, L. LESAGE; Kanshirei [=Guan-zi-ling], 1 ♂, H. SAUTER, in USNM.

Diagnosis. The eyes are bare and the antennae bright yellow to pale brown in both sexes. The hind femora and tibiae are dark but the tips of hind femora are broadly yellow and hind tarsi brownish. The medial incision on the hind margin of the male genital capsule is fairly broad, the inner lobe of gonostylus is simply rounded.

Redescription: ♂. Similar to *C. basale* but on average larger and more pale. Eyes bare, contiguous for a long distance. Head black, upper and lower frons, face, lower postocular area and occiput with whitish tomentum but only supra-antennal patches more distinct. Antenna (Fig. 15) pale brown and flagellum small as is usual in males and sometimes more brown. Arista about 1.4 times longer than antenna. Proboscis ochre yellow and palpus brown or bicoloured, with distal segment blackish. Hairs on and behind ocellar tubercle, on face and gena predominantly whitish or yellow, only on lower postocular area more brownish.

Thoracic pile on scutum black but relatively short, at most length of scape, semi-erect. Pleura also with dense black pile, bare and shining parts almost indistinct, confined to meron. Basal half of wing brownish infuscate, apical half yellowish. Halteres yellow to pale brown. Legs dark brown to black and yellow, all coxae black, all femora dark with broadly yellow apices. Fore tibia yellow but darkened dorsally in basal half, mid tibia brownish and yellow on both ends and hind tibia almost completely black, at most with both extreme ends yellowish. All tarsi pale brown but often darkened dorsally. Yellow apex on hind femur usually distinctly broader than diameter of femur.

Abdomen black with blackish, short and appressed hairs dorsally, longer erect hairs only at anterolateral corners brown. In addition, white and longer hairs visible on distal half of abdomen, particularly on lateral and distal margins of tergites and entire surface of tergite 5. Venter pile short, appressed and white.

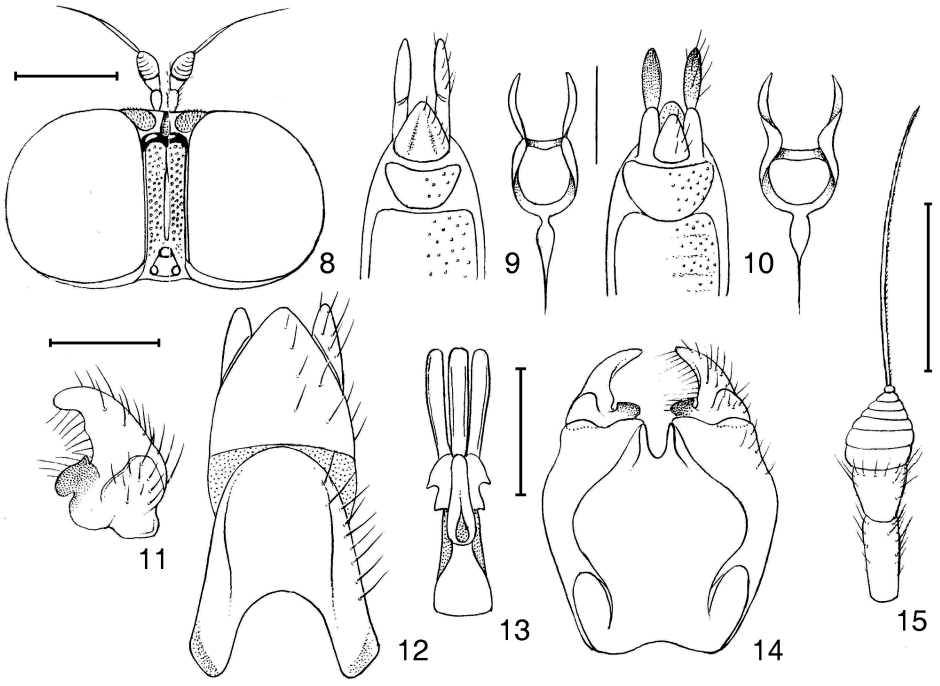
Male terminalia (Figs 11–14): Epandrium (Fig. 12) resembling that of *C. basale*, but proximal emargination usually deeper. Medial incision on posterior margin of genital capsule (Fig. 14) more

conspicuous. Gonostylus (Fig. 11) somewhat stouter in distal half, with a broad and simple inner projection and rounded basal lobe.

Length: body 6.6–8.3 mm, wing 7.2–9.1 mm (15 males).

♀. Frontal index about 3.5 and frons (Fig. 8) thus relatively narrower than in *C. basale*. Frontal vitta with long, bare and shining black medial ridge, which can be limited to the middle area only (see KERTÉSZ 1909). Postocular rim narrow but distinct, broader than lateral ocellus. Shining area above low frontal callus relatively narrow, anterior part of median vitta depressed and extensively punctate, median groove above antennae usually slender, elongate teardrop-shaped. Antennae pale as in male but flagellum distinctly larger. Palpi with yellow basal segment and brown apical segment, usually stouter and longer than in male. Head pile predominantly inconspicuous and white, only on lower postocular area erect and partly black.

Thoracic pile much shorter, mostly appressed, brownish on scutum and scutellum. Apical half of wings almost hyaline, halteres always ochre yellow. Pale parts of legs more extensive, femora often narrowly yellow basally and also apical half of fore femur yellow as in fore tibia. Sometimes fore tibia darkened along dorsal surface, mid and hind tibia brown to black, though mid tibia yellow on both ends. Hind femur with a broadly yellow apex as in males. All tarsi ochre yellow, sometimes slightly darkened dorsally. Abdomen black, haired as in male with very short black hairs dorsally and longer whitish hairs dorsally and ventrally.



Figs 8–15. Diagnostic characters of *Craspedometopon frontale* (8–9, 11–15) and *C. orientale* sp. n. (10): 8 = female head in frontal view, 9–10 = female terminalia (left) and female genital furca (right), 11 = gonostylus in dorsal view, 12 =dorsal part of male terminalia, 13 = aedeagal complex, 14 = genital capsule, 15 = male antenna. Scales: 0.5 mm (head and antenna), 0.3 mm (female and male terminalia), 0.2 mm (gonostylus)

Female terminalia (Fig. 9): Tergite 10 subtriangular, cerci two-segmented, distal segment relatively more slender and usually yellow. Tergite 9 distinctly smaller than in *C. orientale* sp.n. Genital furca rather oval, with slender posterolateral projections and a narrow, basally dilated proximal appendage.

Length: body 6.7–6.9 mm, wing 7.2–7.8 mm (17 females).

Variation: KERTÉSZ (1909) recorded a somewhat different size for both sexes: body 4.5–8.8 mm and wing 4.8–8.2 mm in length. The extent of the pale coloration on the legs, particularly on the fore pair, is variable, as is the intensity of the wing infumation and the colour of halteres, which are, however, always pale, yellow to pale brown.

Note. BRUNETTI (1920) mentioned under this name two males from Tenasserim and a male from Darjiling District (India) which he compared with specimens of both sexes from Taiwan. According to ÔUCHI (1938) a male of this species was also recorded in eastern China: Chekiang Province (= Zhejiang), Tienmushan Mts (= Tianmu Shan Mts). His later note (ÔUCHI 1940) proves that the Chinese specimens differ from the Japanese ones by having bright orange antennae. They might thus belong to *C. frontale*. LINDNER (1951) recorded very probably this species from southern China (Fukien, Kuatun) and HOLLIS (1963) examined the specimens from Calcutta mentioned above.

Distribution (Fig. 25): Nepal (material examined), India (BRUNETTI 1920, HOLLIS 1963 and material examined), China (ÔUCHI 1938, LINDNER 1951 and material examined), Japan (Ryukyu Is., material examined), Taiwan (KERTÉSZ 1909 and material examined).

Craspedometopon orientale sp. n.
(Figs 10, 16–23)

Holotype: ♂, North Thailand, Mae Hong Son Province, Pangmapa District, near Ban Nam Rin, larva under bark of a fallen tree, 5.x.2004, adult emerged 2.iv.2005, D. KOVAC, in SMF.

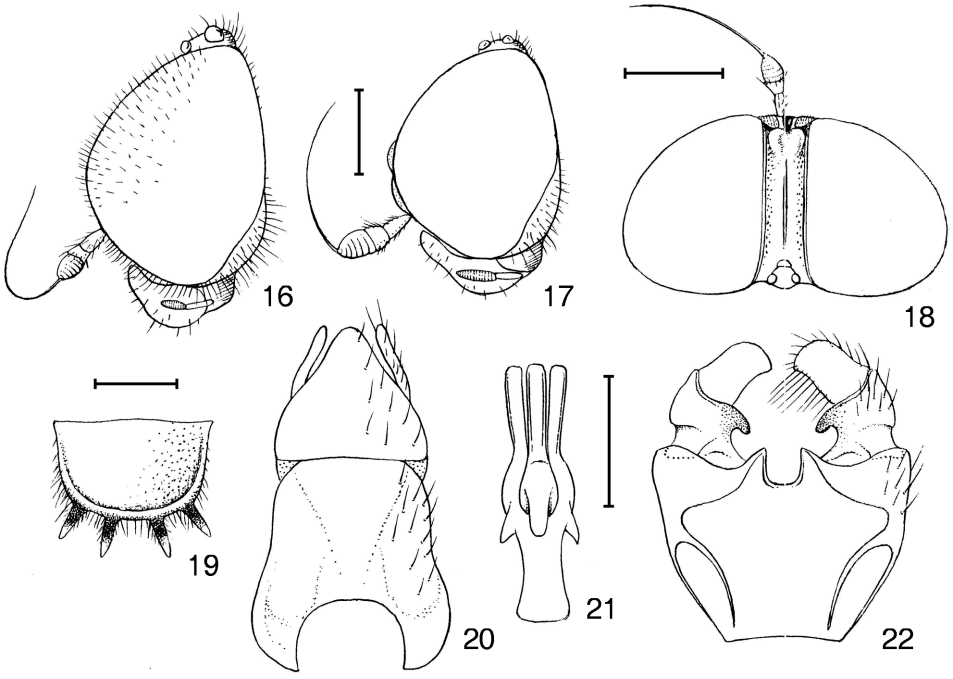
Paratypes: 15 ♂♂, 13 ♀♀. 2 ♂♂ and 1 ♀ labelled as the holotype, in FSMU. Nepal, Bagmati Zone, Rasuwa District, Langtang National Park,, Dunche, Bharku Syabru, 2000–2800 m, 6–15.v. 1996, 3 ♂♂, P. ČECHOVSKÝ, in MHC. India, Meghalaya, Nongph [=Nongpoh?] Forest, 25.iv.1980, 2 ♂♂, A. FREIDBERG, in USNM. Laos, Vientiane Prov., Ban Van Eue, 29.iii.1906, 1 ♀, native collector, in BPBM. Thailand, Chiangmai, Fang, 500 m, 12.iv.1958, 2 ♂♂, 1 ♀; Doi Pui, 1360 m, 2.v.1958, 1 ♀; all T. C. MAA, in BPBM. Mae Hong Son, Soppong, larvae under bark of deciduous trees, September 2002, 2 ♂♂ and 1 ♀ ex larva; near Ban Nam Rin, larvae under bark of deciduous tree, 5.x.2004, 3 ♂♂ and 8 ♀♀ ex larva; near Ban Nam Rin, resting on a leaf near a stream, 25.iii.2007, 1 ♂, all D. KOVAC, in SMF.

Diagnosis. The male eyes are finely and long haired, the antennae yellow to pale brown in both sexes. The female scutum and scutellum are virtually bare with large conspicuous punctation. The hind femora and tibiae are entirely black, the

hind tarsi are contrastingly yellow. The male genital capsule has a deep and broad middle incision at the hind margin, the gonostylus is flat and broad in the distal half.

Description: ♂ (Fig. 23). Head (Fig. 16) black, occiput, both frontal triangles, face and lower postocular area more or less whitish to greyish tomentose. Fine hairs on eyes brownish, pile on ocellar tubercle whitish but at least partly black on its posterior surface and behind it. Antennae ochre yellow, inner margin of pedicel slightly convex but not prominent, flagellum only slightly broader than pedicel distally. Proboscis yellow and predominantly pale haired, palpus about as long as half length of labellum, its apical segment shorter and more brownish than basal sagment. Genae not visible in lateral view, black and as well as postocular area covered with black erect hairs that are slightly longer than pedicel. Maximum width of lower postocular area reaching length of scape.

Thorax black and densely punctate, covered with short black pile, chiefly semi-erect on scutum and scutellum but somewhat longer and erect on pleura. Postpronotal calli reddish brown along anterior ridge, also postalar calli sometimes narrowly reddish. Posterior part of anepimeron and greater part of meron in front of hind coxa bare, shining black. Area above halteres bare and greyish tometose. Apical third (or slightly more) of scutellar spines bright yellow, bare and shining.



Figs 16–22. Diagnostic characters of *Craspedometopon orientale* sp. n.: 16 = male head in lateral view, 17–18 = female head in lateral and frontal view, 19 = male scutellum, 20 = dorsal part of male terminalia, 21 = aedeagal complex, 22 = genital capsule. Scales: 0.5 mm (heads), 1.0 mm (scutellum), 0.3 mm (male terminalia)

Wings almost hyaline, at most with a brownish cloud in basal radial cell and along posterior margin of discal cell. Veins in front of stigma and discal cell chiefly brown to black, stigma and veins in distal half of wing pale yellow. Squamae narrow, with blackish fringe, halteres white, more brownish basally.

Legs dark brown to black and pale yellow. Femora dark, only fore femur yellowish at apex. Fore tibia pale but with brown outer line in basal half, mid and hind tibia with pale apices. All tarsi yellow but last 3 tarsomeres more brownish on dorsal surface.

Abdomen black, with finer and denser punctation than on thorax. Abdominal pile very short and indistinct, chiefly whitish and appressed but somewhat longer, black and more erect in anterolateral corners and along lateral margins.

Male terminalia (Figs 20–22): Epandrium (Fig. 20) as broad as proctiger at base, with moderately deep proximal emargination. Cerci about half length of proctiger, slender. Genital capsule (Fig. 22) with a deep and broad median incision at posterior margin. Gonostylus with a well-developed transverse ridge at middle, continuing innerwards as a strong and proximally oriented black hook. Inner and ventral margin of gonostylus with dense, fine and long setae. Gonocoxal apodemes slender and long, almost reaching proximal margin of genital capsule. Aedeagal complex (Fig. 21) moderately long, tripartite in distal third.

Length: body 6.5–8.4 mm, wing 6.7–8.6 mm (15 males).

♀. Eyes almost bare, very short dense hairs barely distinct. Frontal vitta (Fig. 18) in middle only 1.5 times broader than ocellar tubercle, frontal index about 4.0–4.2 and frons thus narrowest of all known species, with narrow ridges along eye margins, predominantly shining black. Insertions of very fine and short frontal hairs (= punctation) usually developed only along frontal ridges in 1–2 longitudinal rows, rarely more numerous. Frontal calli above lower frons shining black, only slightly

Fig. 23. *Craspedometopon orientale* sp. n., male. Photo: D. KOVAC

prominent, low and rounded. Tomentose patches above antennae separated by a longitudinal, medial, subelliptical bare area. Antennae, proboscis and palpi ochre yellow, antennal flagellar complex slightly larger than in male. Lower postocular area (Fig. 17) somewhat broader than in male. Palpi longer, sometimes reaching about 2/3 of labellum length, apical segment being stouter and more brownish than basal segment. Pile much less conspicuous than in male, short to indistinct even on ocellar tubercle and lower postocular area.

Thorax black, markedly punctate, though thoracic pile mostly indistinct. Reddish colour on postpronotal and postalar calli partly or entirely reduced. Longer whitish to pale yellow hairs visible only on propleura, as well as lower and posterior pleura. Difference in veins colouration on wings not as contrasting as in male but distinct, a brownish cloud usually developed in basal radial cell and along proximal margin of discal cell. Squamae without distinct marginal fringe. Legs as in male but dorsal streak on fore femora usually extended as a broad ring in basal half. Abdomen covered with very short whitish pile, longer black hairs usually indistinct.

Female terminalia (Fig. 10) predominantly yellow. Apical segment of cercus slightly shorter than basal, brownish, distinctly stouter than in both preceding species. Subgenital plate long as in most genera of Pachygastrinae. Genital furca more rounded than in *C. frontale*, with usual, slender and long, basally dilated proximal appendage.

Length: body 6.0–7.2 mm, wing 6.7–7.5 mm (13 females).

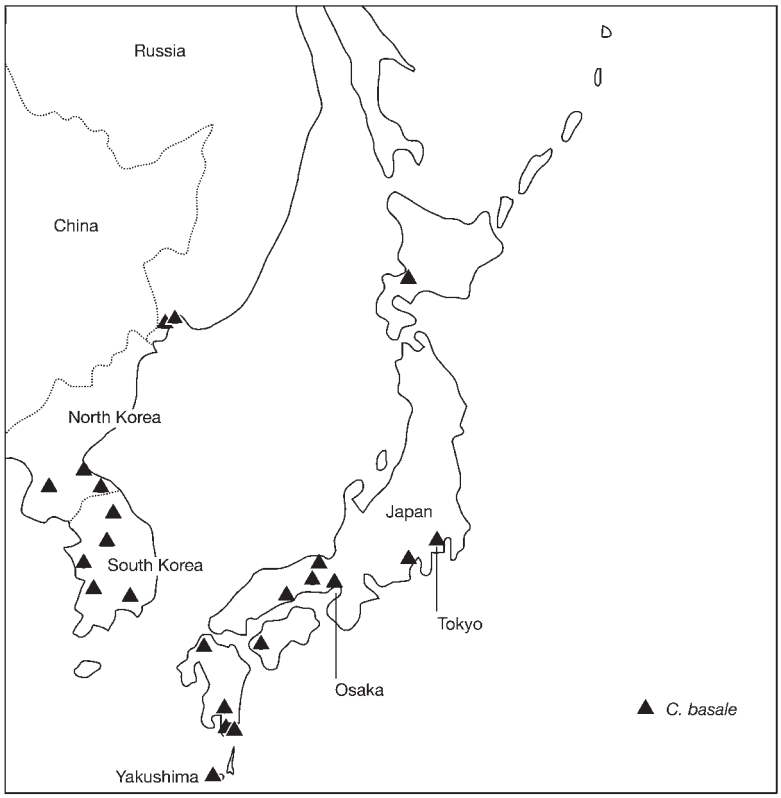


Fig. 24. Distribution of *Craspedometopon basale*

Etymology. The specific name indicates the distribution of the species in the Oriental Region.

Distribution (Fig. 25). India, Laos, Nepal and Thailand (material examined).

DISCUSSION

Although all three species vary considerably in size and also in colour characters, the distinguishing characters seem to be relatively stable. The males of *C. orientale* sp. n. differ from both other species by the eyes with dense long hairs and the conspicuously broad distal half of the gonostyli. The males of *C. basale* are characterised by their black antennae and the usually blackish knob of the halter. The gonostylus is slender in the distal half and its inner basal projection is bicuspidate. Finally, the males of *C. frontale* possess yellow antennae as in *C. orientale* sp. n., the hind femur is broadly yellow at the distal end and the inner basal projection of the gonostylus is simple, without any additional lobe.

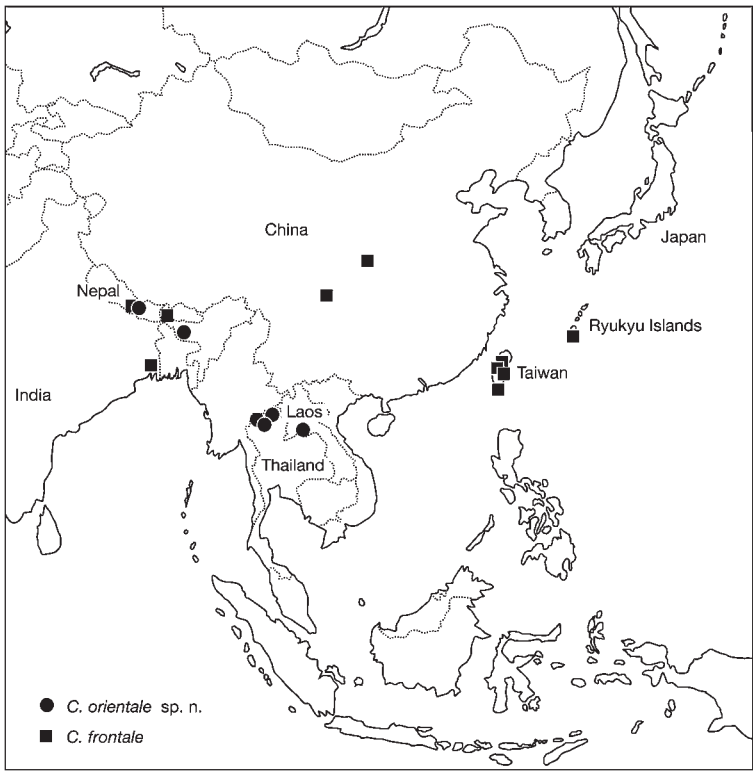


Fig. 25. Distribution of *Craspedometopon frontale* and *C. orientale* sp. n.

The females of *C. orientale* sp. n. are primarily distinguishable by the absence of the postocular rim and by larger punctation on the scutum and scutellum. Their antennae are yellow as in *C. frontale* and the hind tarsi are contrastingly yellow with the black hind femora and tibiae as in *C. basale. Craspedometopon frontale* females have the apices of the hind femora broadly yellow and the hind tarsi more brownish like the males.

According to present knowledge *C. basale* is limited to the eastern part of the Palaearctic Region and is largely distributed on the main islands of Japan (including South-West Islands). *C. frontale* mainly occurs in the Oriental Region, but reaches in China the Palaearctic Region. The distribution of the new species *C. orientale* sp.n. is surprisingly large, from Nepal and India to Laos and Thailand, apparently being confined to the Oriental Region only.

KEY TO SPECIES

1. Male eyes finely and long haired, longest hairs longer than diameter of anterior ocellus; female upper postocular rim absent. *C. orientale* sp. n.

– Male eyes bare or very short haired, longest hairs always much shorter than diameter of anterior ocellus; female upper postocular rim at upper eye angle narrow but distinct, at least as broad as diameter of lateral ocellus. 2

2. Antennae and halteres (at least in males) dark brown to black, hind femur completely dark. *C. basale* (MATSUMURA)

– Antennae and halteres yellow, hind femur broadly yellow in distal third. *C. frontale* KERTÉSZ

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