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The Cephenniini of China. II. *Cephennodes* Reitter of southern provinces, with taxonomic notes on the *Cephennodes-Chelonoidum* complex (Coleoptera: Scydmaenidae)

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Abstract. Taxonomy of the hitherto problematic *Cephennodes-Chelonoidum* complex (Scydmaenidae, Scydmaeninae, Cephenniini) is clarified, basing on examination of type species and a large number of undescribed taxa from Southeastern and Eastern Asia. Diagnostic characters of type species of these two genera are discussed, and it is concluded that no features justify separate placement of *Chelonoidum* Strand and *Cephennodes* Reitter. Therefore, *Chelonoidum* is placed as a junior synonym of *Cephennodes*. A new subgenus of *Cephennodes* is established (*Fusionodes* n. subgen.). Twenty nine new species of *Cephennodes* collected in southern Chinese provinces Fujian, Jiangxi, Guangxi and Yunnan are described: *C.* (s. str.) *taurus* n. sp., *C.* (s. str.) *tuberculifrons* n. sp., *C.* (s. str.) *inflatipes* n. sp., *C.* (s. str.) *spatulipes* n. sp., *C.* (s. str.) *paramerus* n. sp., *C.* (s. str.) *yunnanensis* n. sp., *C.* (s. str.) *impressifrons* n. sp., *C.* (s. str.) *triangulifrons* n. sp., *C.* (s. str.) *carinifrons* n. sp., *C.* (s. str.) *elytratus* n. sp., *C.* (s. str.) *cooteri* n. sp., *C.* (s. str.) *excavatus* n. sp., *C.* (s. str.) *bicolor* n. sp., *C.* (s. str.) *hamatus* n. sp., *C.* (s. str.) *spinosus* n. sp., *C.* (s. str.) *superlatus* n. sp., *C.* (s. str.) *guadunanus* n. sp., *C.* (s. str.) *masuanus* n. sp., *C.* (s. str.) *nitens* n. sp., *C.* (s. str.) *longipes* n. sp., *C.* (s. str.) *penicillatus* n. sp., *C.* (*Fusionodes*) *hippopotamus* n. sp., *C.* (*F.*) *malleiphallus* n. sp., *C.* (*F.*) *rectangulicollis* n. sp., *C.* (*F.*) *schuelkei* n. sp., *C.* (*F.*) *testudo* n. sp., *C.* (*F.*) *brachylinguis* n. sp., *C.* (*F.*) *longilinguis* n. sp., and *C.* (*F.*) *microphthalmus* n. sp. Informal species groups accommodating the new and previously described species are proposed, and the following new combinations are established: *Cephennodes* (s. str.) *araiorum* (Jałoszyński) n. comb., *C.* (s. str.) *latus* (Motschulsky) n. comb., *C.* (s. str.) *moderatus* (Kurbatov) n. comb., *C.* (s. str.) *pullatus* (Kurbatov) n. comb., *C.* (s. str.) *torosus* (Kurbatov) n. comb., *C.* (*F.*) *ussuricus* (Kurbatov) n. comb., *C.* (*F.*) *loebli* (Kurbatov) n. comb. *Cephennodes basilewskyi* Besuchet, *C. indifferens* Besuchet, *C. japonicus* (Sharp), *C. leleupi* Besuchet, *C. marginatus* Besuchet, *C. mizunoi* Hoshina & Kishimoto, *C. simonis* Reitter, and *C. vafer* Kurbatov are placed in the nominotypical subgenus; *Chelonoidum graeseri* (Reitter) is placed in the subgenus *Fusionodes* of *Cephennodes*. Species representing the following new combinations are treated as *incertae sedis* and not placed in any subgenus: *Cephennodes besucheti* (Kurbatov) n. comb.,

C. hellenicus (Roubal) n. comb., *C. tuniseus* (Pic) n. comb., *C. clavatus* (Marsh) n. comb., *C. concinus* (Marsh) n. comb., *C. corporosus* (LeConte) n. comb., and *C. virginicus* (Casey) n. comb. Also the subgeneric status of *Cephennodes zanzibaricus* (Schaufuss) and *Cephennodes zwaluwenburgi* Zimmerman cannot be verified at the current stage of taxonomic study, and these species remain *incertae sedis*. „*Cephennodes aschnae* Makhan" is treated as *nomen dubium*. A number of unusual and in some cases multiple modifications of various body parts in males of *Cephennodes* are reported for the first time; male secondary sexual characters and morphology of genitalia in the Cephenniini are thoroughly discussed.

Key words: entomology, taxonomy, Scydmaenidae, Scydmaeninae, Cephenniini, *Cephennodes*, *Chelonoidum*, new species, East Palearctic, China.

INTRODUCTION

Majority of species belonging to the tribe Cephenniini are known to occur in West Palearctis, and most of them belong to the large genus *Cephennium* Müller & Kunze. In East Palearctis and Orient this genus seems to be replaced mostly by *Chelonoidum* Strand and *Cephennodes* Reitter, and some other, smaller and more locally distributed genera. While the Cyrtoscydmini and Scydmaenini of Asia are represented by hundreds of known species, the Cephenniini remains exceptionally poorly studied and no species of the tribe have been described from vast areas of India, Bangladesh, Nepal, Bhutan, Burma, Thailand, Laos, Cambodia, and Vietnam. A single species was reported to occur in South Korea (Jałoszyński, Nomura & Kurbatov 2005), merely three species are known from the huge territory of China (Jałoszyński 2005a; Makhan 2005), and only eight are known from Japan (Sharp 1886; Kurbatov 1995; Jałoszyński & Hoshina 2003; Jałoszyński 2003, 2005b; Jałoszyński, S. Arai & K. Arai 2004; Hoshina & Kishimoto 2003). Also southern and southeastern Asiatic islands are very poorly studied, and no species of the Cephenniini have been reported from most parts of the Malay Archipelago, the Philippines, and other islands of the region. However, Southeastern and Eastern Asia are in fact inhabited by hundreds of undescribed species of the Cephenniini, as can be concluded from abundant materials accumulated in museums and private collections (Jałoszyński, unpublished observations). Future systematic work will certainly multiply the number of known species in this tribe.

The present paper is the second part of the synopsis of the Cephenniini of China. The part I (Jałoszyński 2005a) dealt with *Neseuthia* Scott of Fujian; herein the „*Chelonoidum-Cephennodes* complex" of Fujian, Jiangxi, Guangxi and Yunnan provinces is treated. During my study on the Oriental and Far Eastern Cephenniini, I examined (including dissections) specimens belonging to nearly a hundred undescribed species, all matching diagnoses of *Cephennodes* and *Chelonoidum*. Therefore, it was necessary to analyze morphology and verify actual differences between these two genera. This „*Cephennodes-Chelonoidum* complex" appeared unusually diverse morphologically, with a number of never reported, odd modifications of the antennae, head, elytra, metasternum, abdomen or legs in males. Previously published suspicions concerning lack of reliable external characters that could be used to distinguish between *Cephennodes* and *Chelonoidum* (Jałoszyński 2003) were confirmed. The shape of the aedeagus was used by Kurbatov (1995) and Jałoszyński (2003), respectively as a major and

sole generic diagnostic character. However, during the present study, a number of new species was discovered, which showed external characters justifying their placement in the *Cephennodes*-*Chelonoidum* complex, but with aedeagi to various extent different than those of type species of the both genera. Previously described species placed in *Chelonoidum* show a broad range of shapes of the aedeagus, from nearly symmetrical to strongly asymmetrical, with the parameres of equal lengths or one shorter than the other, entirely free or nearly completely fused to the median lobe (illustrated examples can be found in KURBATOV 1995). Interestingly, most of the known species of *Chelonoidum* have the aedeagi relatively dissimilar to that of *Ch. latum* (MOTSCHULSKY), which is the type species of the genus. During the present study, aedeagi showing an intermediary shape between that in the type species of *Cephennodes* and *Chelonoidum* were found, as well as various modifications of the two types. The study led to a conclusion that not only external characters, but also structures of the aedeagus cannot be used to unambiguously distinguish *Chelonoidum* from *Cephennodes*. Although certain relatively distinct types of the aedeagus can be recognized within the studied taxa, a gradual morphological transition between them (supported by intermediary forms) does not allow for providing diagnoses for *Chelonoidum* and *Cephennodes* as separate taxa, even at the subgeneric rank. Therefore, herein *Chelonoidum* is placed as a junior synonym of *Cephennodes*, and basis of this taxonomic action are discussed in detail. Moreover, twenty nine new species from southern provinces of China are described.

In order to clarify the status of *Chelonoidum* and *Cephennodes*, a number of known species was examined, and original descriptions of species not known to the author were also studied. Moreover, large materials of undescribed members of the complex from East Palearctis and Orient were analyzed, coming mostly from Malaysia, Vietnam, mainland China, Taiwan and Japan. The following known species were examined:

Cephennodes simonis REITTER (type species of *Cephennodes*) – type series (Borneo); *Cephennodes japonicus* (SHARP) – type series and a non-type male specimen (Japan); *Cephennodes vafer* KURBATOV – male and female paratypes (Russian Far East) and abundant additional material (Japan); *Chelonoidum latum* (MOTSCHULSKY) (= *Cephennium turgidum* REITTER; type species of *Chelonoidum*) – non-type male (Switzerland), identified by C. BESUCHET; *Chelonoidum araiorum* JAŁOSZYŃSKI – type series (Japan); *Chelonoidum graeseri* (REITTER) – female holotype (Russia) and additional material, including males (S Korea); *Chelonoidum pullatum* KURBATOV – non-type specimens (Japan); *Chelonoidum moderatum* KURBATOV – non-type specimens (Japan); *Chelonoidum torosum* KURBATOV – non-type specimens (Japan).

Recently, „*Cephennodes aschnae*" was described by MAKHAN (2005), on the basis of a single male collected in Mt. Jinyun, Beibei, Chongqing Prov. I had an opportunity to study a specimen, coming from the province of Guangxi, matching the feautures mentioned by MAKHAN. Although *C. aschnae* seems unique in having the antennomere III oddly modified (as it is in the specimen from Guangxi), the original description is extremely short and gives characters which are either useless for identification or impossible to occur in the genus (or even in the family!). For instance, the left metatarsus in Fig. 1 is shown with six (sic!) tarsomeres, the shape of the head and pronotum was clearly distorted by the illustrator (they are drawn as strongly asymmetrical), and

the elytra are distinctly longer than broad, whereas the measurements given in the description are exactly the same (1 mm) for both length and width. Taking into account simplified, barely schematic illustrations of the aedeagus, and also serious flaws that can be found in many other articles published by the same author, it is not possible to recognize which characters are correct and which are misinterpreted. The depository of the holotype of *C. aschnae* given in MAKHAN 2005, is Dept. of Life Sciences, South West Normal University (currently the Southwest University), Beibei, Chongqing, China. This information was found doubtful during my efforts to borrow the type material. Persons that I was able to contact at this institution (including one suggested by MAKHAN himself in private correspondence) appeared not to know anything about any types of the Scydmaenidae (e.g., Dr. Deshou WANG, email dated 17 Jan. 2006). MAKHAN ignored my further inquiry, so the depository of the holotype of his Chinese species remains uncertain. In result, it was not possible to verify whether the examined specimen from Guangxi was conspecific with MAKHAN'S species. Furthermore, a very similar unnamed species is known to me to occur in Vietnam, and it seems plausible that more allied taxa with similarly modified antennomere III can be found in Indochina. The specimen from Guangxi clearly differs from the material from Vietnam, but basing on the MAKHAN'S rudimental description both species can be easily identified (or misidentified) as *C. aschnae*. For two reasons – the inadequate diagnosis making determination impossible (standing against requirements of ICZN for a new name to become valid), and an unknown depository of the type material – „*Cephennodes aschnae* MAKHAN" is treated here as *nomen dubium*, not as a valid name.

The following abbreviations are used in the descriptive part below: MNKB - Museum für Naturkunde, Berlin, Germany; NSMT - the National Science Museum, Tokyo; SNMB - Slovak National Museum, Bratislava, Slovakia; PCPJ - private collection of the author, Poznań, Poland; PCPH - private collection of Peter HLAVÁČ, Košice, Slovakia; PCMS - private collection of Michael SCHÜLKE, Berlin. The measurements are as follows: length of head measured from anterior margin of clypeus to middle point of a line connecting posterior margins of eyes; width of head is maximum, including eyes; length of pronotum measured along midline; width of pronotum is maximum; length of elytra measured in dorsal view along suture, from a line connecting humeral denticles to apices of elytra; width of elytra is maximum, combined; elytral index (EI) was calculated by dividing length by width; and body length is a sum of lengths of head, pronotum and elytra measured separately; visible abdominal sternites are numbered I-VI beginning from the base of the abdomen. Some original labels bear information put in square brackets, therefore additional comments or explanations, when necessary, were put in braces.

TAXONOMY OF THE *CEPHENNODES-CHELONOIDUM* COMPLEX

1. MORPHOLOGY

Cephennodes REITTER and *Chelonoidum* STRAND differ from all other Cephenniini in having two lateral antebasal pits on the pronotum, a high (i.e. strongly expanded

ventrally) prosternal process separating procoxae, and six visible abdominal sternites. Such a combination of characters does not occur in any other genus of the tribe. As already mentioned (Jałoszyński 2003), the external characters cannot be used to distinguish the two genera. Despite numerous and diverse secondary sexual characters newly reported in further parts of this paper, morphology of this group is very uniform, and few characters can be considered as possible generic traits. The secondary sexual characters have a robust diagnostic value, but rather at the species level only. In other genera of the tribe, characters used in generic or subgeneric diagnoses by previous authors are: the number of visible abdominal sternites; presence or lack of the prosternal process; appearance of the antennae (i.e. whether the antennae are gradually thickened or have a club); presence and number of pits on the pronotum; and the shape of the subhumeral line (or internal border of the „humeral fold") in the latero-anterior part of each elytron. In the type species of *Cephennodes* (i.e., *C. simonis* Reitter) and *Chelonoidum* (i.e., *Cephennium turgidum* Reitter = *Chelonoidum latum* (Motschulsky)), the number of visible abdominal sternites is the same (i.e., six); the procoxae are separated by high and relatively narrow prosternal process; their pronota bear a single, shallow pit near each hind angle. The status and diagnostic value of the remaining characters listed above or included into original diagnoses of the two genera under discussion is analyzed below, on a background of all other taxa examined during the present study.

1.1. LATERAL MARGINS OF THE PRONOTUM

The primary external difference between *Cephennodes* and *Chelonoidum* was believed to be a lateral carina on the pronotum, which was the original diagnostic character used to establish the genus *Cephennodes* by Reitter (1883) (*Chelonoidum* Strand was a replacement name for preoccupied *Chelonoides* Croissandeau, established as a subgenus in *Cephennium*). *Cephennodes simonis* indeed has a carina running along each lateral margin of the pronotum, distinctly separated from the margin. In *Chelonoidum latum*, the lateral margins are only slightly thickened, without a separated carina. In other previously described species of *Cephennodes* and *Chelonoidum* as well as in the ones described below and a number of undescribed species from Southeast Asia and the Far East, the lateral carina shows a high degree of variability. It can be long and clearly separated from the lateral margin, shortened and visible only in the posterior or only in the anterior part of the pronotum, very close to the margin, or unrecognizable. In the latter case, the lateral margin itself is usually at least slightly swollen, and the thickened area is more or less distinctly delimited from the disc. It seems equally possible that in such cases the carina is completely fused with the margin or simply lacking. *Cephennodes vafer* and *C. japonicus*, which both have the aedeagus very similar to that found in *C. simonis* (and different from that in *Ch. latum*), have only the thickening of the lateral margin, and lack the separated carina. However, the thickening is broader than that found in *Ch. latum*, *Ch. graeseri* and *Ch. araiorum*. Such condition, most common among studied taxa, is in the further text referred to as „lateral carinae not separated from lateral margins". Among five Chinese species treated below, which share the same type of the aedeagus as *C. simonis*, *C. vafer*, *C. japonicus* and African

species of *Cephennodes* illustrated by Besuchet (1962), only one has the lateral carina clearly separated from the lateral margin (*C. tuberculifrons* n. sp.). The lateral margins of the pronotum in undescribed Asiatic species were found to be more diverse than in the known species of *Cephennodes* and *Chelonoidum*. Among taxa treated below, *C. malleiphallus* n. sp. has a relatively broad area along the anterior part of each lateral margin distinctly thickened and sharply separated from the disc, whereas the posterior part of margins lack any thickening or carina. *Cephennodes microphthalmus* n. sp., in turn, has a relatively broad area along each lateral margin of the pronotum strongly flattened, nearly horizontal, and relatively sharply delimited from the disc, but the very edge of the margin is thickened very indistinctly. These two species have all other external characters matching original diagnoses of *Chelonoidum* and *Cephennodes*, but their aedeagi have some peculiar features different from those found in type species of both genera (discussed in further paragraphs). Basing on the appearance of the carina and the original diagnosis, such species as *C. vafer* and *C. japonicus* should be excluded from *Cephennodes*. However, their aedeagi are so similar to that found in *C. simonis* and distinctly different from that of *Ch. latum* that treating them as not congeneric with *C. simonis* would cause more taxonomic problems. It can be concluded that the lateral carina on the pronotum is variable within the whole complex under study; it cannot be used as the only feature to base a generic diagnosis upon it, and cannot be used to distinguish *Cephennodes* and *Chelonoidum*.

1.2. ANTENNAL CLUB

The antennae in *Ch. latum* are relatively slender and have indistinctly separated 3-segmented club, whereas *C. simonis* has antennae more compact, with four or five terminal antennomeres forming an indistinctly separated club. In many undescribed species of the complex it is difficult to recognize whether the antenna is gradually thickened or has an indistinctly separated club. Usually antennomeres III-VI are equal or subequal in width, and thickening of the antenna begins from the antennomere VII. The club is not separated in *Ch. graeseri*, and in more than 10 new species from S China described below (e.g., *C. rectangulicollis*, *C. schuelkei*). In some cases five terminal antennomeres, gradually thickened from VII to XI, bear coarse microsculpture, different from rather smooth surface of the proximal antennomeres (e.g., *C. hippopotamus* n. sp.). The shape of the antennae does not correspond to the shape of the aedeagus, and does not correlate with any other external features. For example, the club is indistinctly delimited in *C. simonis*, *C. malleiphallus* n. sp. and *C. bicolor* n. sp., each of them showing a different type of the aedeagus. Separation of the club in *Ch. latum* is not very distinct, and it seems rational not to base a generic diagnosis on such a weak character, when it is not supported by any other features, especially when in many cases it seems problematic whether the club is „indistinctly separated" or simply not separated, or whether antennomeres VII-VIII when only minimally broader than VI and much narrower than IX should be included into 5-segmented club or not.

Interestingly, the present study revealed a character that seems to be shared by a majority of the examined species - the antennomere VIII is shorter than

both VII and IX. Such a feature is commonly found in the Leiodidae, but has not been reported to occur in the Scydmaenidae. In some studied cases the difference between the antennomere VIII and adjacent segments is indistinct, but when the antennal segments are measured it becomes clear that this antennomere is shorter than both VII and IX. The antennomere VIII is clearly shorter than VII in *C. simonis*; in *Ch. latum* it is minimally shorter than VIII. Only in one examined species the antennomere VIII is slightly longer than VII (*C. spatulipes* n. sp.), and in two further the length of antennomeres VII and VIII is comparable (*C. taurus* n. sp. and *C. elytratus* n. sp.). Moreover, new species with males showing strongly enlarged (i.e., broader and longer than VI and VIII) antennomere VII were found (described below as *C. superlatus* and *C. spinosus*). Furthermore, in *C. longipes* n. sp. and *C. hamatus* n. sp., the antennomere VII is very long (in *C. longipes* it is over 3 times as long as broad). The modified antennomere VII in males of these species can be assumed to be a derived character. However, the reduced antennomere VIII can be found in some Eutheiini (see Discussion), a group regarded as rather primitive within the family. It remains to be studied whether this character represents a plesiomorphy or apomorphy. Taking into account how small fragment of the plausible diversity of the Cephenniini has been revealed so far, it seems not possible to analyze this interesting problem in details at the current stage of study.

1.3. SUBHUMERAL AREA OF THE ELYTRA

In the Cephenniini the humeral or subhumeral area on each elytron is commonly separated by a groove or carina from the internal (i.e., adsutural) part, or the humeral area is more convex or higher raised than the adsutural part of each elytron, and a border between these parts is sharply marked, but with neither groove nor carina. This border is in the text below referred to as „the subhumeral line", to accommodate a variety of possible shapes, and to replace the term „humeral fold" (often found in German-language articles, as „humeral Fälte"), which seems to be confusing (as sometimes the humeral area is not more convex than remaining parts of the elytra and the only distinct structure is a carina). The latero-anterior part of each elytron in *C. simonis* is separated from the disc by a distinct carina, whereas the border between the disc and the humeral area in *Ch. latum* is not carinate. In the latter case, the two adjacent areas are separated due to a sudden raise of the lateral part, sharply delimited from the less convex internal surface of the elytron.

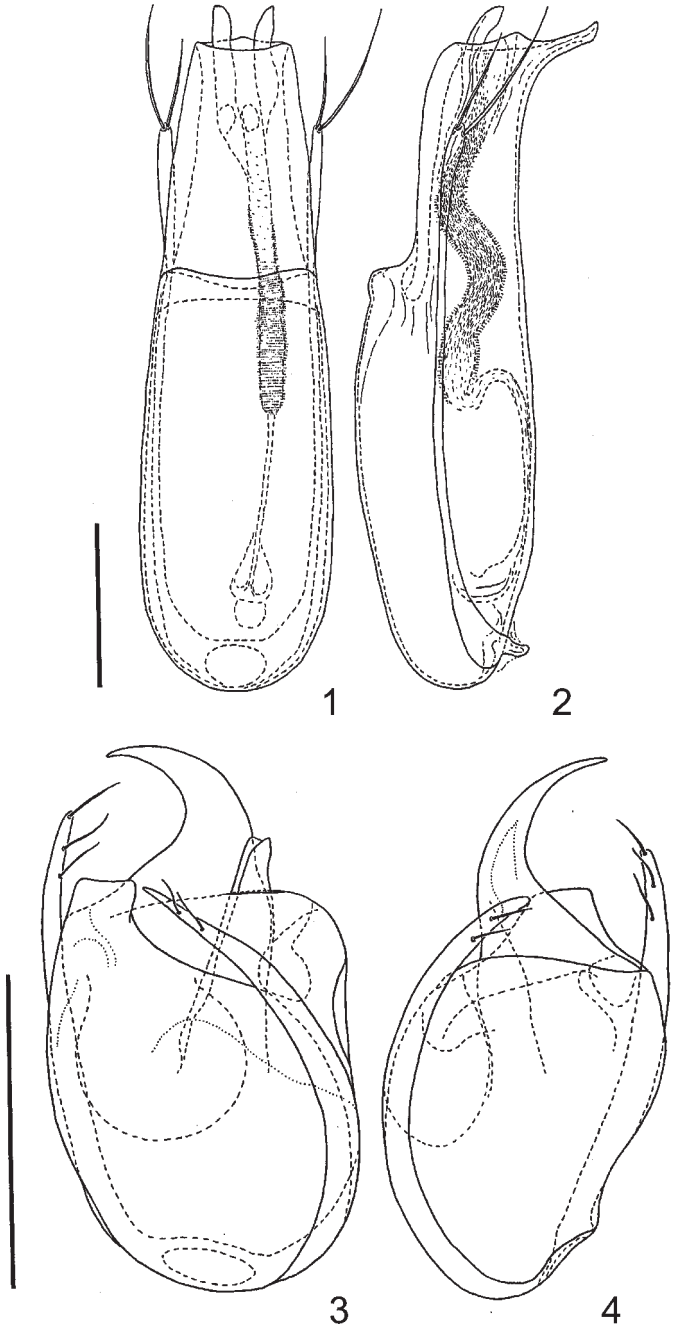
The subhumeral line in other studied species is variously developed; it may form a very distinct carina with sharp edge; indistinct rounded „carina"; or it is similar to the structure described above in *Ch. latum*, i.e. non-carinate border between two differently raised parts. The transition between these forms is not sharp but rather gradual, and the less distinct carinae are usually short, whereas when the carina is long (sometimes longer than half length of the elytra) it is more frequently distinct and with sharp edges, especially in its basal part. The degree of development of this structure does not correspond to the type of the aedeagus (i.e., species with short and indistinct carina may have the same type of the aedeagus as those with the carina long and sharply marked).

Also this character cannot be used as a diagnostic feature to distinguish between *Cephennodes* and *Chelonoidum*.

1.4. AEDEAGUS

The aedeagus in *C. simonis* (Figs. 3, 4) is very characteristic: it has the median lobe strongly asymmetrical, drop-shaped with rounded base and protruded, subtriangular apex located far from the long axis of the aedeagus; the parameres are free (i.e. not fused with the median lobe), in the dorsal view the right paramere surrounds the median lobe and it is strongly bent toward less curved left paramere, so that their apices are approximate and located near the protruded apex of the median lobe; a major part of the right paramere (from near its base) is bent in such a way that it is located in front of the ventral wall (not behind it). Each paramere bears three setae arranged in a row running from apex toward the base of paramere. The apex of the median lobe is formed by an expansion of the dorsal wall, and it covers and conceals the dorsal membranous area, so that the latter structure is located on the internal surface of the apical half of the median lobe, nearly parallel to the long axis of the aedeagus. This shape is further referred to as „the *simonis* type". Very similar copulatory organs representing the same morphological type have also *C. japonicus*, *C. vafer*, *C. basilevskyi*, *C. leleupi*, *C. indifferens*, *C. marginatus* (the four latter species of *Cephennodes* have been described by Besuchet (1962) from Africa). One known species described in *Cephennodes* - *C. zwaluwenburgi* Zimmerman from Hawaii - has been described without examination of the aedeagus, which shape remains unknown (Zimmerman 1942). The aedeagus of *Ch. latum* (Figs. 1, 2), in turn, is symmetrical, with parameres running along sides of the ventral wall and in dorsal view they are behind the ventral wall, their apices are distant from each other, separated by the width of the median lobe, and each bearing two apical setae. The median lobe is bulbous, with the apical part of the dorsal wall not projected, so that the dorsal membranous area is nearly perpendicular to the long axis of the aedeagus. The place where the thin-walled membranous area is located divides the aedeagus into large median lobe and apical processes of the ventral wall, which show little resemblance to those visible in *C. simonis*. Two additional apical projections (connected to internal armature) are visible in dorso-ventral view, and they are slightly asymmetrical. The shape similar to that described above is called „the *latus* type" in the further text.

Interestingly, some forms that can be regarded as intermediary between those two types of copulatory organs were discovered among undescribed Asiatic species. Some of them (as *C. paramerus* n. sp. described below, the aedeagus showed in Figs. 29-31) have the aedeagus strongly asymmetrical, with roughly oval median lobe and parameres resembling those in *C. simonis*, but the apex of the median lobe is much less projected, and the dorsal membranous area is slant (not nearly parallel or perpendicular to the long axis of the aedeagus), intermediary between the *simonis* and *latus* types. Moreover, in dorsal view the part of the right paramere visible in front of the ventral wall is much shorter than in *C. simonis*, *C. vafer*, *C. japonicus* or the African species. This shape can be regarded as a variant of the *simonis* type, still with most of its key features described above.



1-2. *Chelonoidum latum* (MOTSCHULSKY); 3-4. *Cephennodes simonis* REITTER. Aedeagus in dorsal (1, 3) and lateral (2, 4) views (scale bars: 0.1 mm)

A number of species have the aedeagus more similar to the *latus* rather than the *simonis* type, with large and oval median lobe, which is symmetrical or showing only a low degree of asymmetry, and symmetrical or nearly symmetrical parameres, in most cases each bearing two setae. However, the apical projections are asymmetrical and resembling more those in *C. simonis* than the apical structures found in *Ch. latum*. This group (with the aedeagus that can be called a variant of the *latus* type) is represented by newly described *C. excavatus* (Figs. 61-63), *C. bicolor* (Figs. 64-66), *C. hamatus* (Figs. 85-87), *C. spinosus* (Figs. 88-90), *C. superlatus* (Figs. 91-93), and others, including many unnamed species from various parts of Southeastern and Eastern Asia. A higher degree of asymmetry, and more characters similar to the *simonis* type of the aedeagus can be found in *C. impressifrons* (41-43), *C. triangulifrons* (Figs. 49-51), *C. carinifrons* (Figs. 52-54) (all newly described below), and in a number of undescribed species from various parts of Asia. In this case (the *simonis* variant) the median lobe is also very large and roughly oval, thin-walled except for indistinctly delimited, thick-walled apical part, only slightly or moderately asymmetrical, with clearly asymmetrical and relatively small apical projections. The parameres resemble those in *C. simonis* - they are strongly asymmetrical, in dorsal view the apical part of the right paramere is bent along the apical margin of the median lobe; each paramere bears three setae. The apical projections share with *C. simonis* a hook-like ventral structure. In *Ch. latum* the apical part of the ventral wall is also curved ventrally, but its shape is not as regularly hook-like as in *C. simonis*. An unusual character in this variant is a group (or two groups) of numerous tiny setae on the ventral subapical area of the median lobe. The *latus* type of the aedeagus, as well as similar variants represented by *C. excavatus* and allied species, have no such setae. However, in several species having clearly the *simonis* type of the aedeagus, such setae can be found (e.g., *C. taurus* n. sp. and the unnamed species mentioned in the Introduction, resembling the description of „*C. aschnae* Makhan"). The modified variant of the *simonis* type aedeagus found in *C. paramerus* mentioned in the previous paragraph also has subapical ventral fields of setae on the median lobe.

In order to make the possible morphocline complete, several undescribed species from Vietnam and other parts of SE Asia must also be mentioned. They have the *simonis* variant type of the aedeagus, very similar to that known in *C. carinifrons*, *C. impressifrons*, and *C. triangulifrons*. However, the remarkable difference can be found in the dorsal apical part of the median lobe, which is asymmetrically protruded and it forms a subtriangular, more or less pointed apex located in the same position as the apex of the „classical" *simonis* type median lobe. This protruded part is relatively small, and the remaining part of the median lobe is symmetrical, broadly oval and elongate; the apical projections and the parameres do not differ from those found in *C. carinifrons* and its two allied species mentioned above.

An apparently separate and distinct group of species (*Chelonoidum graeseri*, *Ch. ussuricum*, *Ch. loebli*, and a number of new species describe below) has the aedeagus with symmetrical or nearly symmetrical median lobe and parameres, and variously developed (sometimes asymmetrical and very complicated) apical projections, but the parameres are almost completely fused to the walls of the median lobe, only their apices

remain free. Another unique character is the position of the ventral orifice, which is located near middle of the median lobe, not near base, as in all other species, including those most similar to *C. simonis* and *Ch. latum*. Usually this type of the aedeagus has also very thick and darkly sclerotized walls, except for sharply delimited thin-walled basal area. This type is here called „the *Fusionodes* type" (and a new taxon bearing this name is proposed below). Interestingly, thicker and darker walls in the apical part of the median lobe can also be found in most variants of the *latus* type aedeagus, and sometimes in the *simonis* type. However, in such cases the thick-walled area is very short and confined only to the very apical part of the median lobe, and usually it is indistinctly delimited.

A hypothesis assuming a gradual transition between symmetrical and strongly asymmetrical aedeagi during the evolution of the *Cephennodes*-*Chelonoidum* complex can be put forward. It remains to carry out a detailed phylogenetic analysis to resolve actual relationships between the various groups of externally very uniform taxa, and to address a question whether they indeed have evolved from a common (symmetrical?) ancestor. The aedeagus is far more diversified within the studied complex of taxa than their external morphology. Therefore, its various types may be considered as diagnostic characters to define genera, subgenera or species groups. However, only the *Fusionodes* type seems clearly different and easily separable from all others, bearing characters not found in any other types of aedeagus. Therefore, a separate position of this group of species seems well supported, even if no external features different from those known in *C. simonis* and *Ch. latum* can be found.

The intermediary forms of the aedeagus do not allow for maintaining the existing separate genera *Cephennodes* and *Chelonoidum*. It seems most reasonable to use uniform external characters to define a genus, and divide it into easily diagnosable subgenera based on the features of the aedeagus. Therefore, *Chelonoidum* is herein placed as a junior synonym of *Cephennodes*, and *Fusionodes* n. subgen. is established. A possible division of both subgenera (i.e., *Cephennodes* s. str. and *Fusionodes*) into species groups is discussed in further sections of this paper.

The classification proposed here should be treated as preliminary. It may be supported by new findings or be replaced by a better system when more materials become available. The already described species, including the new ones treated below, represent a minor fraction of the genus, which may include hundreds of species awaiting description. Unnamed species from various parts of the Far East and Orient known to the author highly outnumber already described ones, and the genus *Cephennodes* (in its shape proposed herein) may be much larger than East Palearctic *Cephennium* (which currently comprises about 125 species placed in six subgenera).

Genus *Cephennodes* Reitter

Cephennodes Reitter 1883:420, type species: *Cephennodes simonis* Reitter, 1883 (monotypy).
Chelonoidum Strand, 1935: 285 (replacement name for *Chelonoides* Croissandeau); **n. syn.**
Chelonoides Croissandeau, 1894: 418 (as subgenus of *Cephennium*; preoccupied, not Hitchcock, 1858), type species: *Cephennium turgidum* Reitter, 1887 (monotypy).

The existing diagnoses of *Cephennodes* and *Chelonoidum* can be used to identify the genus in the shape proposed here. Briefly, *Cephennodes* differs from all other members of the Cephenniini in having the following combination of characters: mandibles with broad base and narrow apical tooth; maxillary palpi with moderately small, subconical palpomere IV with blunt apex; antennae with indistinct club or gradually thickened toward apex; pronotum with single antebasal fovea near each hind angle; each elytron with subhumeral line and single basal fovea filled with short setae; procoxae narrowly separated by very high (i.e., strongly expanded ventrally) prosternal process; mesocoxae narrowly separated by mesosternal process forming a keel well visible in lateral view; metacoxae contiguous; abdomen with six visible sternites.

KEY TO SUBGENERA OF *CEPHENNODES* REITTER

1. Parameres entirely free; ventral orifice of aedeagus located near base of median lobe ..... ***Cephennodes* s. str.**
-. Parameres fused to median lobe, usually only short apical parts recognizable; ventral orifice of aedeagus located near middle of median lobe .... ***Fusionodes* n. subgen.**

Subgenus *Cephennodes* s. str.

Diagnosis

Parameres free, not fused with median lobe; ventral orifice of aedeagus located near base of median lobe.

Redescription

External characters as in generic diagnosis.

Aedeagus variously shaped, with large median lobe; free (i.e. not fused with median lobe) and long parameres with 2-3 apical/subapical setae; and ventral orifice located near base of median lobe. Two basic types of aedeagus can be found within the subgenus: the *simonis* type, and the *latus* type, with a variety of intermediary forms. The *simonis* type aedeagus (similar to that found in *Cephennodes simonis*) is strongly asymmetrical, in dorsal view right paramere is bent toward left one, so that apices of both parameres are approximate and located near protruded apex of median lobe; major part of right paramere (often nearly from its base) in dorsal view is located in front of ventral wall (not behind it); each paramere bears one apical and two subapical setae arranged in a row and directed distinctly laterally to the long axis of paramere; median lobe is drop-shaped with protruded apex which in dorsal view is located on left side of long axis of aedeagus; dorsal membranous area is located on internal surface of strongly protruded apical part of median lobe (not exposed outwards), and positioned nearly parallel to long axis of aedeagus. The *latus* type aedeagus (similar to that found in *Chelonoidum latum* = *Cephennodes latus* n. comb.) is symmetrical or only slightly asymmetrical, apices of parameres are distant from each other, both parameres run along sides of ventral wall and in dorsal view their apical parts are visible at both sides of median

lobe, each paramere bears two setae, which are both inserted apically or one is apical and the other one slightly subapical, setae are directed more parallel to long axis of paramere; dorsal membranous area of median lobe is nearly transverse or slant to long axis of aedeagus, not concealed by its dorsal wall. The two types seem to be extreme forms of a morphocline, with a number of intermediary shapes and gradual transition between symmetrical and asymmetrical median lobes and parameres, and between groups of apical and subapical setae (some species have three clearly apical setae, in others three setae are nearly apical, and there are also cases when parameres bear two setae, from which one is apical and the other one is distant from apex). „Typical" intermediary form in dorsal view has right paramere bent towards left one so that their apices are approximate, but major part of right paramere is located behind median lobe (not in front of it, as in the *simonis* type), voluminous median lobe, which is slightly or moderately asymmetrical, but never drop-shaped, with dorsal membranous area exposed or located on internal, slant surface of slightly protruded apical part of dorsal wall. Median lobe of the *simonis* type and some intermediary forms sometimes bear numerous very short setae in subapical part of ventral wall. In all species median lobe has group of apical projections composed of several variously shaped structures, usually with bent or curved, hook-like anchoring ventral part; endophallus is composed of long, tubular structure often slightly protruding from apex of median lobe; this part is movable and in several specimens it was found almost entirely extruded, most likely resembling erected condition necessary for copulation.

***Cephennodes* (s. str.) *taurus* n. sp.**

(Figs. 5, 11-13, 17, 18)

Name derivation

The Latin noun „*taurus*" („a bull") is adopted as a name to reflect the unusual modification of the head in males of this species, which bears a pair of long and thick bristles resembling horns.

Diagnosis

This species can be distinguished from its congeners on the basis of strongly modified head in males, which in dorsal view has deeply emarginate anterior margin, frontoclypeal area is delimited from vertex by broad transverse groove and vertex bears pair of very long and thick bristles thickened at apices. Identification of females can be certain only if they have been collected together with males.

Description

Male. Body (Fig. 5) moderately large, strongly convex, dark brown with light brown setation; body length 1.57-1.69 mm (mean 1.62 mm). Head (Figs. 17, 18) large, length 0.25 mm, width 0.40-0.41 mm (mean 0.41 mm); vertex convex, in posterior part bearing pair of tiny tubercles and pair of very long, thick bristle-like structures with thickened apices, directed anteriorly and dorsally, each inserted near postero-interior margin of eye; anterior part of vertex is steeply lowering toward transverse

impression delimiting frontoclypeal area; area between frontal impression and labrum is raised anteriorly forming pair of subtriangular lateral convexities divided in middle by emargination; supraantennal tubercles only slightly raised; eyes moderately large. Punctation and setation as in Fig. 17. Antennae relatively short and compact, 0.80 mm in length, antennomeres I and II subequal in length, each slightly less than 1.5x as long as broad, III about 0.7x as broad as long, IV-VI each slightly broader than long, as broad as III, VII-X gradually increasing in width, VII 1.5x as long as broad and distinctly broader than VI, VIII slightly broader than VII but not longer, about as long as broad, IX slightly longer than VIII, as long as broad, XI about as long as IX-X together, minimally broader than X.

Pronotum broadest between middle and anterior third, very convex in central part and slightly flattened near each hind angle, length 0.50-0.54 mm (mean 0.51 mm), width 0.74-0.75 mm (mean 0.74 mm). Anterior margin relatively short, so that pronotum in dorsal view is nearly semicircular; sides broadly rounded up to posterior fourth, then lateral margins are slightly concave and very finely serrate; posterior margin deeply biemarginate. Lateral antebasal pits are located closer to basal than to lateral margins; lateral margins narrowly carinate, carina not separated from margin. Punctures on central part of disc distinct, separated by spaces of variable lengths, from slightly shorter to slightly longer than puncture diameters, punctures become smaller toward base and narrow area along posterior margin as well as surroundings of antebasal pits are indistinctly punctate, punctures near each front angle are denser and partly fused one to another. Setation moderately dense and long, suberect.

Elytra very convex and relatively short, broadest near anterior third, length 0.82-0.90 mm (mean 0.86 mm), width 0.75-0.77 mm (mean 0.76 mm), EI 1.09-1.17. Subhumeral lines distinctly carinate, as long as about half length of elytra; apices of elytra separately rounded. Punctation slightly sparser and much finer than that on pronotum, punctures shallow but distinct in central part, and becoming less distinct and shallower toward apex of elytra; setation as dense as that on pronotum but slightly longer and distinctly more erect. Scutellum broader than long; hind wings shortened, about as long as elytra.

Metasternum with very fine punctures on central part and sides, but oval central area is surrounded by larger punctures; also area posterior to paracoxal sutures is covered with large and dense punctures.

Legs moderately long and slender, without any peculiar characters.

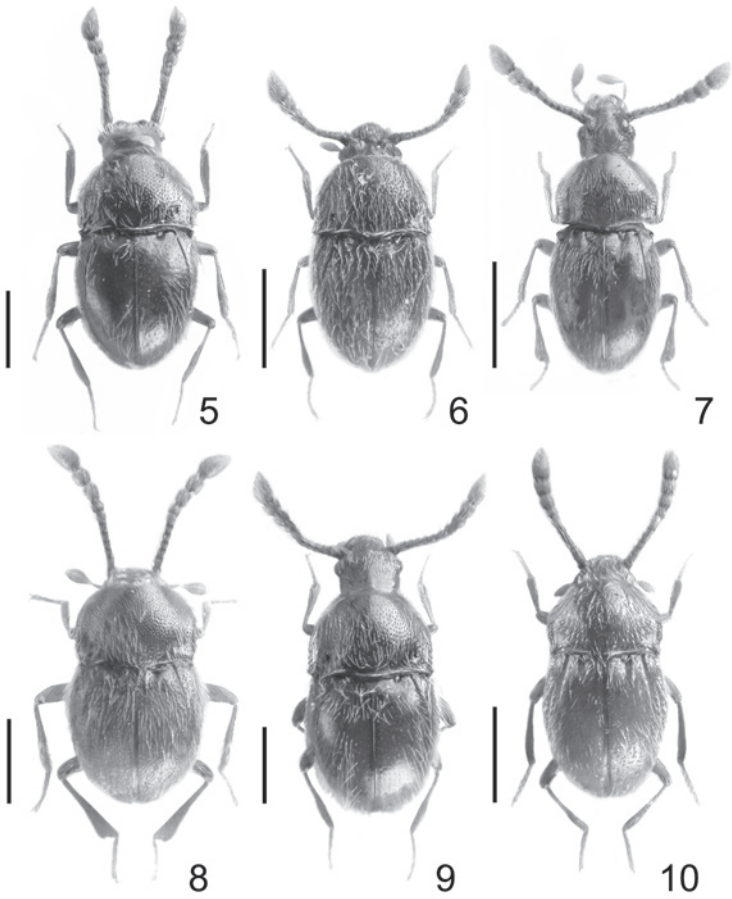
Aedeagus (Figs. 11-13) 0.30 mm in length, *simonis* type, with moderately asymmetrical, drop-shaped median lobe, relatively large apical structures, subapical part of ventral wall bearing numerous tiny setae and moderately slender parameres.

Female. Very similar to male, except for non-modified head, without pair of long horn-like bristles, impressions or peculiar convexities, but with pair of tiny tubercles on vertex; supraantennal tubercles very indistinct and covered with very dense punctures, whereas those on frons are moderately dense, large and deep, vertex with punctures less dense, smaller and shallower than those on frons; elytra slightly stouter than in males; wings entirely reduced. Body length 1.58-1.66 mm (mean 1.62 mm), length of head 0.25 mm, width of head 0.40-0.42 mm (mean 0.40 mm), length of antennae 0.75-0.77

mm (mean 0.76 mm), length of pronotum 0.51-0.54 mm (mean 0.52 mm), width of pronotum 0.75-0.76 mm (mean 0.75 mm), length of elytra 0.82-0.87 mm (mean 0.85 mm), width of elytra 0.77-0.79 mm (mean 0.78 mm), EI 1.06-1.1.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *taurus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB). Paratypes: 2 ♂♂, 5 ♀♀, same data as for holotype; 1 ♀, white printed label „CHINA: Fujian Province, Wuyi Shan, ca. 850 m, Road to Masu 3 km, 6. vi. 2001, N27°75' E117°72', leg J.Cooter & P. Hlaváč, mixed forest litter"; 1 ♀, white printed label „CHINA: Fujian Province, Wuyi Shan,

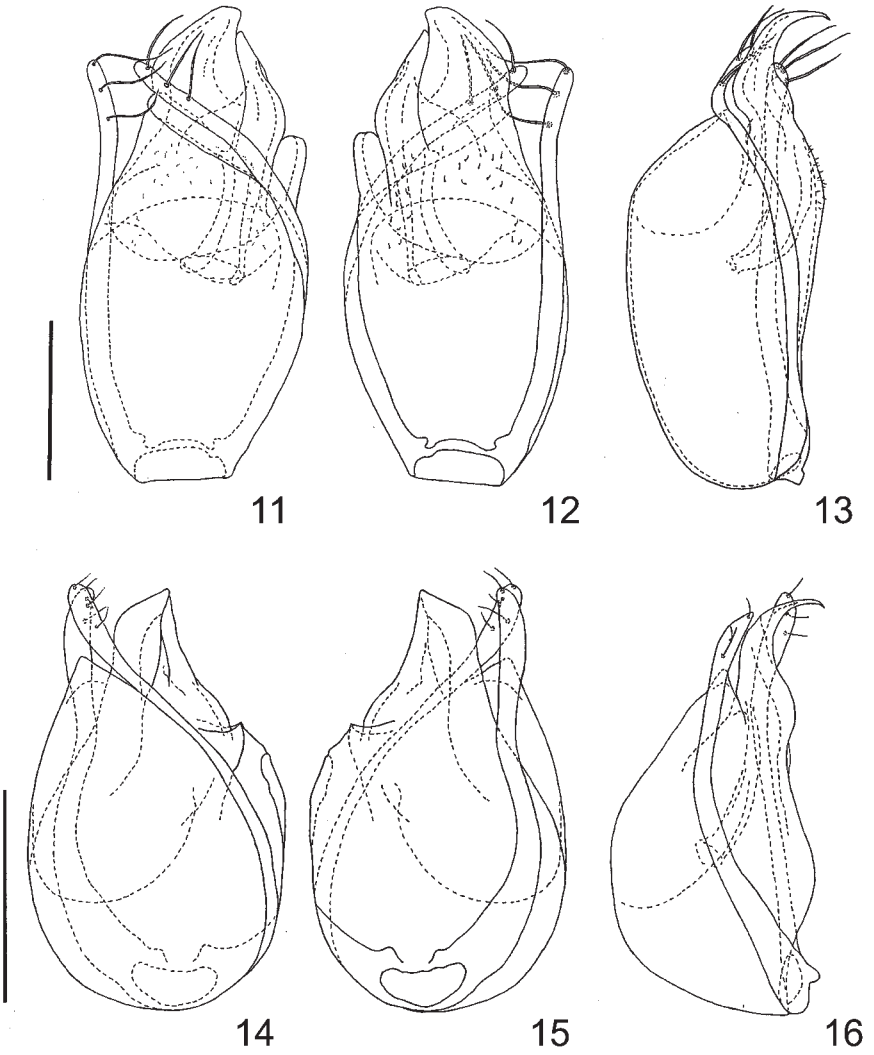


5-10. Dorsal aspect of male. 5 – *Cephennodes taurus* n. sp.; 6 – *C. tuberculifrons* n. sp.; 7 – *C. inflatipes* n. sp.; 8 – *C. spatulipes* n. sp.; 9 – *C. paramerus* n. sp.; 10 – *C. yunnanensis* n. sp. (scale bars: 0.5 mm)

Qiliqiao-Guadun road, 6. vi. 2001 ca. 1150 m., N27°70' E117°64', Leg J.Cooter & P. Hlaváč, Sieved mixed forest litter" (paratypes in PCPH and PCPJ). All paratypes with yellow printed label „*CEPHENNODES* (s. str.) *taurus* m., det. P. Jałoszyński, 2006, PARATYPUS".

Distribution

S China (Fujian Prov.).



11-13. *Cephennodes taurus* n. sp.; 14-16. *C. tuberculifrons* n. sp. Aedeagus in dorsal (11, 14), ventral (12, 15) and lateral (13, 16) views (scale bar: 0.1 mm)

Remarks

A similar modification of the head in males can be found in at least two undescribed species distributed in other parts of China and in Taiwan (Jałoszyński, unpublished observations).

Cephennodes (s. str.) *tuberculifrons* n. sp.

(Figs. 6, 14-16, 19)

Name derivation

The specific epithet reflects modifications of the head in males of this species.

Diagnosis

Males of this species differ from all other members of the genus in having frontoclypeal area separated from vertex by V-shaped transverse impression, which in middle forms a triangular convexity. Female characters unknown.

Description

Male. Body (Fig. 6) rather small, relatively elongate and moderately convex, reddish-brown with yellowish setation; body length 1.19-1.26 mm (mean 1.24 mm). Head (Fig. 19) relatively small, length 0.15-0.16 mm (mean 0.16 mm), width 0.29-0.30 mm (mean 0.295 mm); vertex convex, possibly with pair of very small tubercles in its posterior part (this character is uncertain due to very small size of head); frontoclypeal area delimited from vertex by broad, transversely elongate V-shaped groove, median part of vertex located directly posterior to bottom tip of groove is slightly raised forming indistinct tubercle, broadly raised is also median part of clypeus located anterior to groove; supraantennal tubercles slightly indistinct and moderately strongly raised; eyes moderately large. Dorsal surface of head anterior to groove is covered with distinct, large and sparse punctures, whereas punctation of vertex is fine and relatively sparse; setation composed of very thin, relatively short and sparse suberect setae. Antennae moderately slender, compact, length 0.52-0.55 mm (mean 0. 53 mm), antennomere I about twice as long as broad, II slightly shorter than I and distinctly narrower, twice as long as broad, III-IV slightly narrower than II, each about as long as broad, V-VI as broad as IV but each slightly longer than broad, VII and VIII only minimally broader than VI, so that much broader antennomeres IX-XI form well separated club, antennomere VII slightly less than twice as long as broad, VIII shorter than VII, about 1.2x as long as broad, IX about as long as broad, X distinctly transverse, much larger than IX, XI yet slightly broader and about as long as IX-X together.

Pronotum broadest near middle, moderately convex and only slightly flattened near each hind angle, length 0.37-0.40 mm (mean 0.39 mm), width 0.52-0.54 mm (mean 0.53 mm). Anterior margin relatively long, sides strongly and regularly rounded in anterior half, then straight (not concave) and slightly narrowing toward hind angles, lateral margins finely serrate; posterior margin deeply biemarginate; lateral antebasal pits located minimally closer to posterior than lateral margins; lateral carina running along posterior half of each lateral margin is very distinct and well separated from

margin. Punctation in central part of disc distinct and composed of moderately large, deep punctures separated by spaces on average shorter than puncture diameters, punctures become smaller and shallower toward anterior and posterior margins, so that narrow area along anterior margin is finely punctate, whereas narrow area along posterior margin is punctate indistinctly, also surroundings of basal pits are covered with punctures slightly less distinct than those in middle, punctures near each front angle are denser but slightly smaller and shallower than those in middle. Setation dense and long, suberect.

Elytra moderately convex, broadest between middle and anterior third, length 0.67-0.70 mm (mean 0.69 mm), width 0.57-0.60 mm (mean 0.59 mm), EI 1.16-1.17. Subhumeral lines as long as about 0.3-0.4 length of elytra, indistinctly carinate; apices of elytra separately rounded. Punctation about as dense as that on pronotum but composed of much smaller punctures; setation very similar to that on pronotum but slightly more erect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine and sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 14-16) 0.20 mm in length, *simonis* type, with regularly drop-shaped median lobe, relatively simple apical structures and broad parameres.

Female. Unknown

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Sangan env. (900 m), 30. v. - 12. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *tuberculifrons* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB). Paratypes: 1 ♂, same data as for holotype; 1 ♂, white printed label „CHINA: FUJIAN Province, Wuyi Shan Nat. Res., Guadun hill, (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt."; 1 ♂, white printed label „CHINA: Jiangxi Province, Wuyi Shan, Huangganshan, 5. vi. 2001, ca. 2000 m, N27°83' E117°76', leg J. Cooter + P. Hlaváč, Sieved mixed forest litter" (paratypes in PCPH and PCPJ). All paratypes additionally with yellow printed label „*CEPHENNODES* (s. str.) *tuberculifrons* m., det. P. Jałoszyński, 2006, PARATYPUS".

Distribution

S China (Fujian and Jiangxi Prov.).

Remarks

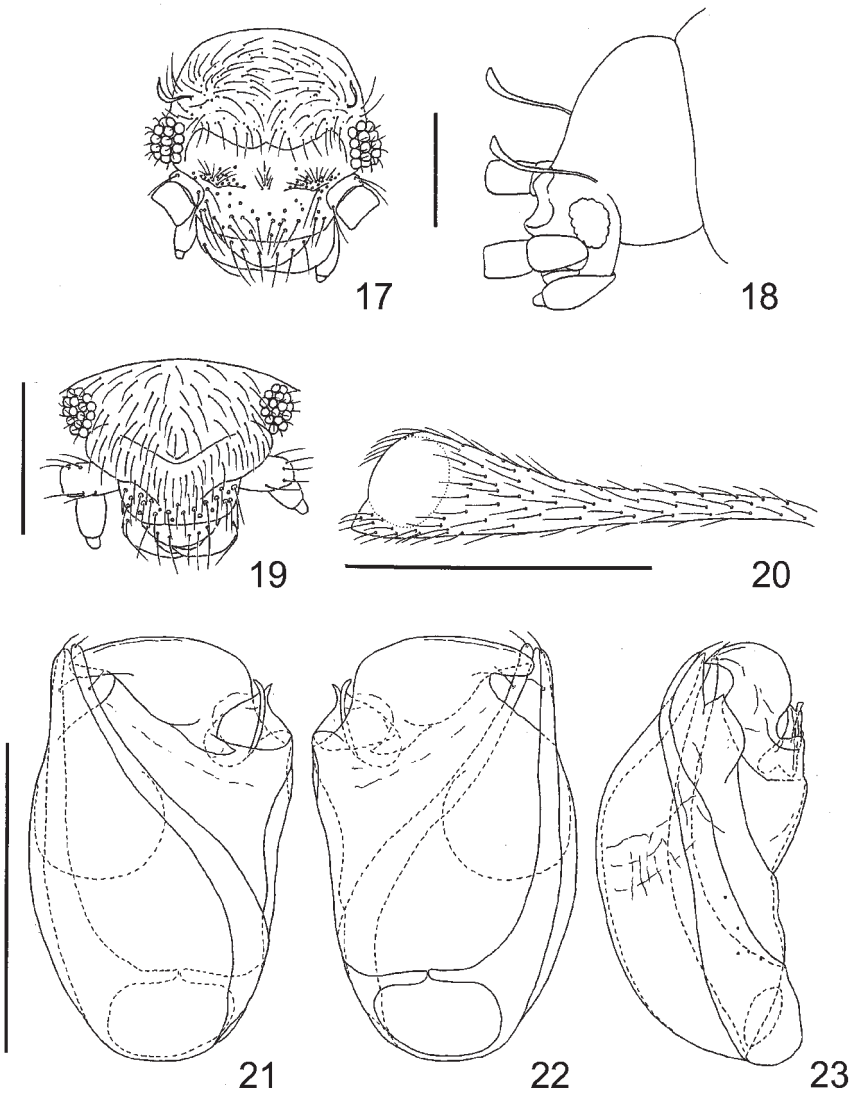
Only males of this species are known, but since they have very distinct lateral carinae on the pronotum well separated from lateral margins, it can be suspected that this character will also be found in females.

Cephennodes (s. str.) *inflatipes* n. sp.

(Figs. 7, 20-23)

Name derivation

The specific epithet refers to an odd modification of hind legs in males of this species.



17-18. *Cephennodes taurus* n. sp.; 19. *C. tuberculifrons* n. sp.; 20-23. *C. inflatipes* n. sp. Head of male in antero-dorsal (17, 19) and latero-dorsal (18) views (simplified); left metatibia of male in dorsal view (20); aedeagus in dorsal (21), ventral (22) and lateral (23) views (scale bars: 17-20 – 0.2 mm; 21-23 – 0.1 mm)

Diagnosis

The following set of characters is unique for this species: body very small, relatively elongate and slender; punctation of pronotum and elytra fine; setation only slightly suberect; subhumeral lines very short; and hind tibiae in males strongly modified, with broadened distal part, but without any tubercles. Female characters unknown.

Description

Male. Body (Fig. 7) very small, elongate and slender, moderately convex, light brown with yellowish vestiture; body length 1.23 mm. Head relatively large, length 0.16 mm, width 0.27 mm; vertex very convex, with pair of very small (barely visible under magnification 40x) tubercles in posterior part; frons convex; supraantennal tubercles very distinct, each delimited from frons by shallow impression; eyes moderately large. Punctation relatively sparse, composed of small but distinct, unevenly distributed punctures, which are distinctly larger and denser near anterior part of each supraantennal tubercle and along lateral margins of frons; setation relatively sparse, short, suberect. Antennae short and compact, with relatively distinct and large club, length 0.57 mm, antennomere I about 1.5x as long as broad, II slightly narrower and shorter than I, about 1.5x as long as broad, III-VI subequal in length and width, each distinctly narrower than II and about as long as broad or minimally longer, VII slightly broader and longer than VI, slightly longer than broad, VIII distinctly broader but slightly shorter than VII, slightly broader than long, IX much larger than VIII, minimally broader than long, X yet larger, broader than long, XI distinctly broader than X and about as long as IX-X together.

Pronotum moderately convex, minimally flattened near each hind angle, broadest near anterior third, length 0.37 mm, width 0.50 mm. Anterior margin relatively broad; sides broadly rounded up to hind angles; posterior margin shallowly emarginate; lateral antebasal foveae equally distant from lateral and posterior margins; lateral carinae very narrow, not separated from lateral margins. Punctation relatively dense but composed of small and shallow, indistinctly marked punctures, except for narrow area along posterior margin, which is impunctate, and area near each front angle, which is covered with slightly larger and denser punctures than those in central part of disc. Setation short, moderately dense, only slightly suberect.

Elytra moderately convex, broadest slightly anterior to middle, length 0.70 mm, width 0.54 mm, EI 1.30. Subhumeral lines indistinctly carinate, slightly shorter than 0.3x length of elytra; apices of elytra separately rounded. Punctation about as dense as that on central part of pronotum but punctures are even less distinct and very small; setation similar to that on pronotum, but slightly more erect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very small and sparse punctures.

Legs with strongly modified metatibiae (Fig. 20), which are gradually broadened in distal part, with nearly circular concave area near apex.

Aedeagus (Figs. 21-23) 0.14 mm in length, *simonis* type, with relatively narrow apical part of drop-shaped median lobe, very broad one of apical sclerites, with projected, rounded apex directed toward apex of median lobe and moderately slender parameres.

Female. Unknown

Type material

Holotype (male): white printed label „CHINA: N-Yunnan [CO3-15], Dali Bai Nat. Aut. Pref., Diancang Shan, 5 km SSW Dali old town, creek valley, above cablecar, 25°38.7'N, 100°08.3'E, shrubs, bamboo, moss, old flood debries, 2800 m, 26. VIII. 2003, M. Schülke", and red printed label „*CEPHENNODES* (s. str.) *inflatipes* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository NMKB).

Distribution

S China (Yunnan Prov.).

Remarks

Males of several other, yet unnamed species from Vietnam and central provinces of China have very similar modifications of hind tibiae and seem to be closely related to *C. inflatipes*. Although they have somewhat similar body shape, but clearly differ in structures of the aedeagus (Jałoszyński, unpublished observations). *Cephennodes spatulipes* n. sp., which also has modified metatibiae, has stouter, more convex body, much denser, very distinct punctation of head, pronotum and elytra, modified abdominal sternites, and a unique tubercle near apex of thickened metatibiae.

***Cephennodes* (s. str.) *spatulipes* n. sp.**

(Figs. 8, 24-28)

Name derivation

The name refers to the shape of hind tibiae in males of this species.

Diagnosis

The following set of characters is unique for this species: body moderately small, very stout and convex; punctation of pronotum very distinct and dense; setation on elytra composed of dense basic suberect vestiture and several erect setae; males have strongly modified abdominal sternites and hind tibiae, the latter with broadened distal part bearing oval tubercle with flattened surface near apex.

Description

Male. Body (Fig. 8) moderately small, stout, very convex, relatively light brown with slightly lighter vestiture; body length 1.39 mm. Head moderately large, length 0.20 mm, width 0.32 mm; vertex and frons uniformly convex, posterior part of vertex with pair of very small tubercles; supraantennal tubercles relatively small and only slightly raised; eyes moderately large. Punctation distinct and dense, composed of moderately large punctures separated one from another by spaces equal to or shorter than puncture diameters; setation short and sparse, suberect. Antennae moderately long and relatively slender, with indistinctly separated club, length 0.79 mm, antennomere I about 1.7x as long as broad, II distinctly narrower than I but similar in length, about twice as long as broad, III-IV equal in width and length, each slightly narrower than II and only slightly longer than broad, V-VI equal in width and length, each as broad as IV but slightly

longer, about 1.2x as long as broad, VII slightly broader than VI, 1.3x as long as broad, VIII broader and minimally (barely noticeably) longer than VII, about as long as broad, IX much larger than VIII, as long as broad, X slightly larger than IX, as long as broad, XI slightly broader than X, slightly shorter than IX-X together.

Pronotum relatively convex, slightly flattened near each hind angle, broadest near middle, length 0.42 mm, width 0.65 mm. Anterior margin broad; sides broadly rounded, finely serrate and distinctly narrowing from broadest place toward hind angles; posterior margin shallowly biemarginate; lateral antebasal foveae shallow and indistinctly delimited, located closer to lateral than to posterior margins; lateral carinae extremely narrow, not separated from lateral margins. Punctures covering central part of disc moderately large and deep but very distinct and dense, separated one from another by spaces shorter than puncture diameters, punctures distinctly reducing in diameter and depth toward anterior margin, very narrow area along posterior margin remains impunctate, punctures located laterally to each basal fovea are indistinct, area near each front angle bears punctures slightly denser and larger than those in middle; setation relatively short, moderately dense, only slightly suberect.

Elytra stout and very convex, broadest slightly anterior to middle, length 0.77 mm, width 0.70 mm, EI 1.10. Subhumeral lines carinate, slightly longer than 0.3x length of elytra; apices of elytra separately rounded. Punctation around suture in anterior half distinct and relatively dense, punctures slightly larger but shallower than those on central part of pronotum, separated one from another by spaces equal to or slightly shorter than puncture diameters, reducing in diameter and depth toward lateral margins and apices of elytra; setation similar to that on pronotum but slightly more suberect, additionally each elytron bears several erect setae similar in length to basic setation. Scutellum very small, barely noticeable; hind wings well developed, about twice as long as elytra.

Metasternum with oval, deep antero-lateral impressions or excavations and very convex median part, which is densely covered with moderately large, sharply marked punctures separated one from another by spaces about equal to puncture diameters.

Abdomen (Fig. 28) with sternite II short, its distal margin expanded ventrally, III distinctly longer than II, IV short and forming broad subtriangular median projection, V extremely short.

Legs with strongly modified metatibiae (Fig. 27), which are gradually thickened in distal part and each bears near apex large, oval tubercle with flattened surface.

Aedeagus (Figs. 24-26) 0.22 mm in length, variant of the *simonis* type, with narrow apical part of only roughly drop-shaped median lobe; apical sclerites broad; parameres very slender.

Female. Externally very similar to male (including lateral impressions on metasternum and pair of tiny tubercles on vertex), except for slightly larger body, non-modified metatibiae and reduced hind wings, which are shorter than elytra. Body length 1.43-1.44 mm (mean 1.435 mm), length of head 0.20 mm, width of head 0.31-0.32 mm (mean 0.315 mm), length of antennae 0.75 mm, length of pronotum 0.46-0.47 mm (mean 0.465 mm), width of pronotum 0.65-0.67 mm (mean 0.66 mm), length of elytra 0.77 mm, width of elytra 0.70 mm, EI 1.10.

Type material

Holotype (male): white printed label „Dabei (2,430 m), Gaoligongshan Mts., Tengchong X., Yunnan, [SE-CHINA], {locality repeated in Chinese characters}, 11. x. 1996, S. Nomura", and red printed label „*CEPHENNODES* (s. str.) *spatulipes* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratypes: 2 ♀♀, same data as for holotype (NSMT, PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

The aedeagus of this species has unusual shape, with the median lobe and parameres similar to those typical for the *simonis* type, but the apical structures rather remotely resembling analogous part of copulatory organs known in other species of *Cephennodes*. See also remarks at *C. inflatipes*.

Cephennodes (s. str.) *paramerus* n. sp.

(Figs. 9, 29-31)

Name derivation

The name refers to strongly asymmetrical parameres and an unusual broadening of one of them found in males of this species.

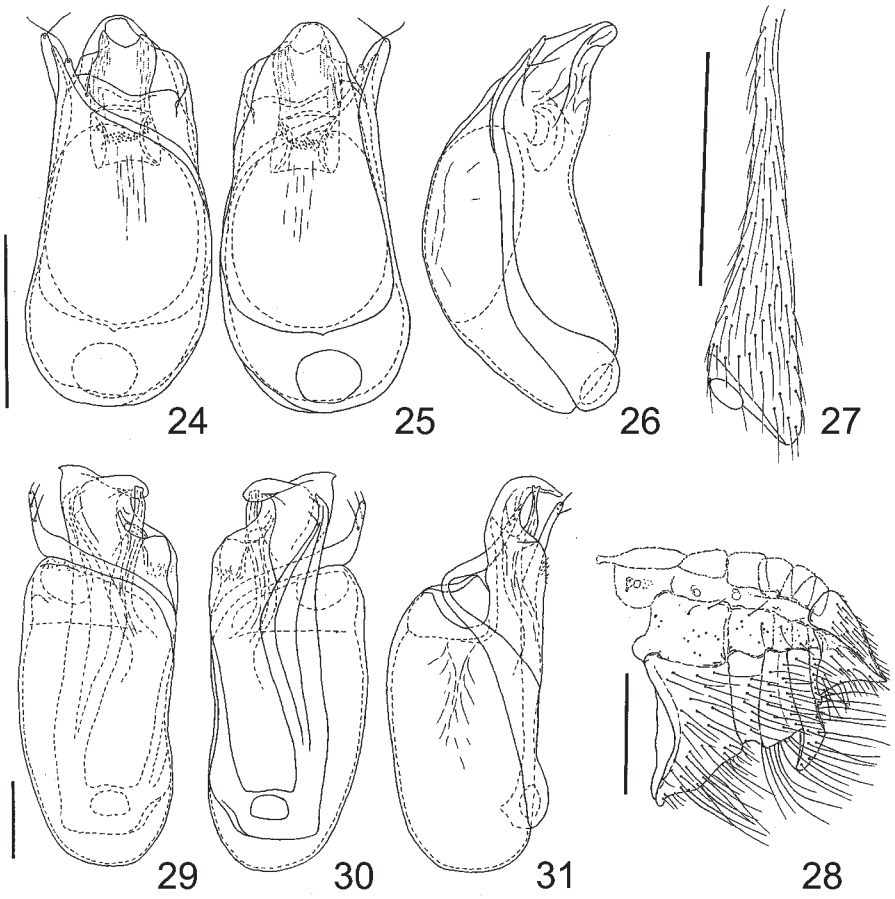
Diagnosis

A primary diagnostic character of this species is the shape of the aedeagus, which is a variant of the *simonis* type, and has oddly shaped, strongly broadened left paramere (in dorsal view); external morphology is unremarkable. Female characters remain unknown.

Description

Male. Body (Fig. 9) moderately large, strongly convex, dark brown, with light brown setation; body length 1.59-1.69 mm (mean 1.64 mm). Head large, length 0.22-0.25 mm (mean 0.24 mm), width 0.37-0.41 mm (mean 0.40 mm); vertex and frons convex, without modifications and with no noticeable tubercles; supraantennal tubercles small and only slightly raised; eyes moderately large. Punctation dense and very distinct, composed of large punctures distributed unevenly, those in median part between frons and vertex are separated one from another by spaces shorter than half diameter of punctures, slightly sparser punctures cover frons, and punctures on vertex are distinctly reducing in diameter and depth; setation short, sparse, suberect. Antennae moderately slender and relatively compact, 0.72-0.75 mm in length (mean 0.74 mm), antennomeres I and II subequal in length, each about 1.5x as long as broad, III-VI subequal in length, each slightly narrower than II and about as long as broad, or antennomeres V and VI minimally longer, VII only slightly broader than VI but longer, about 1.7x as long as broad, VIII slightly shorter than VII but distinctly broader, about as long as broad, IX larger than VIII, minimally broader than long, X slightly larger than IX, slightly broader than long, XI about as long as IX and X together.

Pronotum broadest at base, strongly convex, with slightly flattened hind angles, length 0.47-0.52 mm (mean 0.49 mm), width 0.70-0.75 mm (mean 0.72 mm). Anterior margin relatively short so that pronotum is nearly semicircular in dorsal view; sides broadly rounded, lateral margins in posterior third nearly straight or very slightly concave and finely serrate; basal margin moderately deeply biemarginate; lateral antebasal pits are located slightly closer to posterior than to lateral margins; lateral margins narrowly carinate, but carina is not separated from margin. Punctation in central part of pronotum very distinct, composed of moderately large punctures separated by spaces as long as puncture diameters or slightly longer, punctures becoming smaller and shallower toward anterior margin, narrow area along posterior margin impunctate, small area around each antebasal pit bears indistinct punctures, punctures near each front



24-28. *Cephennodes spatulipes* n. sp.; 29-31. *C. paramerus* n. sp. Aedeagus in dorsal (24, 29), ventral (25, 30) and lateral (26, 31) views; left metatibia of male in dorsal view; abdomen of male in lateral view (scale bars: 24-26, 29-31 – 0.1 mm; 27-28 – 0.2 mm)

angle are denser than those in middle and in some specimens they are partly fused one to another, forming indistinct transverse rows.

Elytra strongly convex, broadest between middle and anterior third, length 0.90-0.92 mm (mean 0.91 mm), width 0.77-0.79 mm (mean 0.78 mm), EI 1.16-1.17. Subhumeral lines carinate, about as long as 0.4x length of elytra; apices of elytra separately rounded. Punctation as dense as that on central part of pronotum but composed of very shallow, indistinct punctures; setation similar to that on pronotum but distinctly longer and much more erect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine and sparse punctures.

Legs moderately long and slender, without any peculiar characters except for very dense and large punctures covering all femora.

Aedeagus (Figs. 29-31) 0.50 mm in length, variant of *simonis* type, with very large and only roughly drop-shaped median lobe, and very small dorsal membranous area slant to long axis of aedeagus; apical structures large and oddly shaped; small subapical area on ventral wall bears numerous tiny setae; parameres strongly asymmetrical, in dorsal view left paramere is extremely broad and strongly narrowing toward apex, with two subapical setae, whereas right paramere is thick in basal half and slender in apical half, rapidly bent toward apex of median lobe and then bent again toward apex of aedeagus, with row of three setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Sangan env. (900 m), 30. v. - 12. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES paramerus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB). Paratypes: 5 ♂♂, same data as for holotype, with standard yellow „paratypus" labels (PCPH, PCPJ).

Distribution

S China (Fujian Prov.).

Remarks

Several very similar females were collected in the same spot and day, but considering a very unremarkable external morphology of males I prefer not to include them into the type series of *C. paramerus* to avoid possible misidentification.

Cephennodes (s. str.) *yunnanensis* n. sp.

(Figs. 10, 38-40)

Name derivation

Locotypical, after the Chinese province of Yunnan.

Diagnosis

This species is very small, elongate, with very short subhumeral lines on the elytra, fine but sharply marked punctures covering pronotum and elytra, anterior part of frons distinctly more convex than clypeus and vertex, and antennomere XI distinctly shorter than IX-X together. Examination of aedeagus is necessary for certain determination; females should be identified by direct comparison to males.

Description

Male. Body (Fig. 10) very small, moderately convex, relatively slender, moderately dark brown with light brown setation; body length 1.24-1.33 mm (mean 1.28 mm). Head relatively small, length 0.17 mm, width 0.29 mm; vertex and posterior part of frons regularly convex, vertex with pair of very small tubercles in posterior part, anterior part of frons is distinctly more convex than surrounding areas; supraantennal tubercles moderately large and only slightly raised; eyes moderately large. Punctation composed of small but very distinct, relatively sparse and unevenly distributed punctures; setation sparse and short, suberect. Antennae slender, with relatively distinctly separated club, length 0.62-0.68 mm (mean 0.65 mm), antennomere I slightly more than 1.5x as long as broad, II distinctly narrower and slightly shorter than I, twice as long as broad, III-IV equal in width and nearly equal in length, each distinctly narrower than II and about 1.2x as long as broad, V-VI each as broad as IV but minimally longer, VII distinctly longer but only slightly broader than VI, about 1.8x as long as broad, VIII about as broad as VII but much shorter, only slightly longer than broad, IX much broader and longer than VIII, as long as broad, X much larger than IX, about as long as broad, XI broader than X, slightly less than twice as long as broad, distinctly shorter than IX-X together.

Pronotum broadest near middle, moderately convex, only slightly flattened near hind angles, length 0.35-0.40 mm (mean 0.37 mm), width 0.50-0.55 mm (mean 0.52 mm). Anterior margin relatively broad; sides broadly rounded and distinctly narrowing from broadest place toward hind angles; posterior margin shallowly biemarginate; lateral antebasal foveae located distinctly closer to posterior than to lateral margins; lateral carinae extremely narrow and not separated from lateral margins. Punctation in central part of disc moderately dense, composed of small but sharply marked punctures separated one from another by spaces about 1.5-2x as long as puncture diameters, punctures distinctly reducing in diameter and depth toward anterior and posterior margins, reaching anterior margin but leaving impunctate narrow area along posterior margin, punctures covering area near each front angle are indistinct and slightly denser than those in middle; setation relatively short and sparse, suberect.

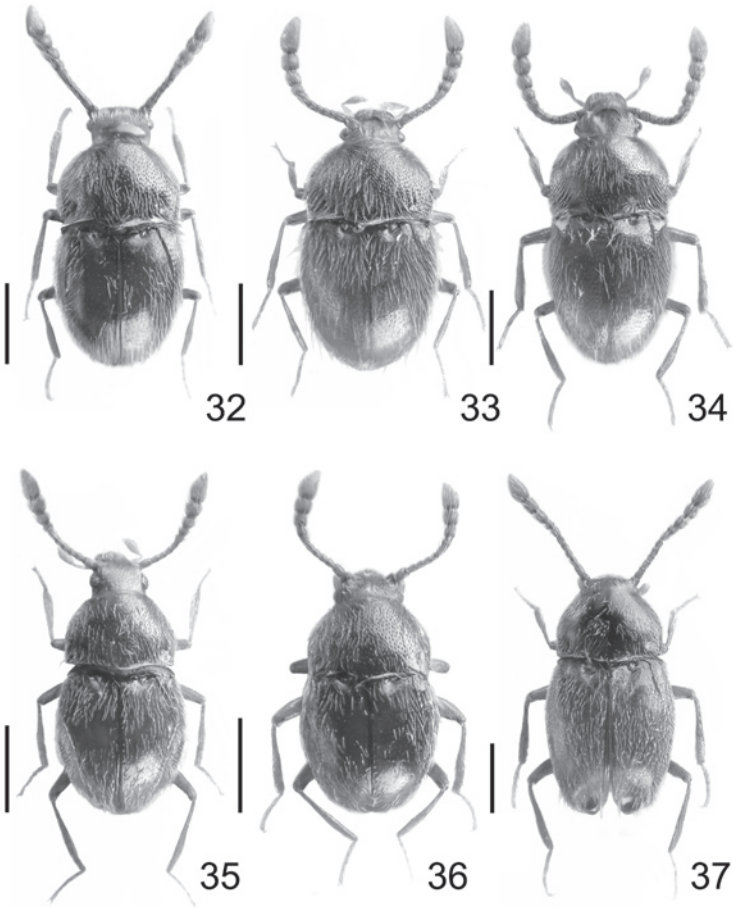
Elytra about as convex as pronotum, broadest distinctly anterior to middle, length 0.72-0.76 mm (mean 0.74 mm), width 0.58-0.60 mm (mean 0.59 mm), EI 1.24-1.27. Subhumeral lines distinctly carinate, about as long as only 0.2x length of elytra; apices of elytra separately rounded. Punctation in anterior half around suture composed of punctures minimally larger and slightly sparser than those in central part of pronotum, distinctly reducing in diameter and depth toward lateral margins and apices; setation similar as that on pronotum but setae are slightly longer and more erect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with fine and sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 38-40) 0.20 mm, with slightly asymmetrical, drop-shaped median lobe bearing subtriangular projection above base of parameres; ventroapical part of aedeagus is separated from median lobe and composed of two structures with apices bent in opposite directions; parameres asymmetrical, unequal in length, bearing 2 and 3 apical/subapical setae.

Female. Externally indistinguishable from male, differs only in minimally smaller body and lack of hind wings. Body length 1.21-1.26 mm (mean 1.25 mm), length of head 0.15-0.17 mm (mean 0.16 mm), width of head 0.26-0.27 mm (mean 0.27 mm), length of antennae 0.60-0.62 mm (mean 0.62 mm), length of pronotum 0.35-0.37 mm



32-37. Dorsal aspect of male. 32 – *Cephennodes impressifrons* n. sp.; 33 – *C. triangulifrons* n. sp.; 34 – *C. carinifrons* n. sp.; 35 – *C. elytratus* n. sp.; 36 – *C. cooteri* n. sp.; 37 – *C. excavatus* n. sp. (scale bars: 0.5 mm)

(mean 0.37 mm), width of pronotum 0.51-0.55 mm (mean 0.53 mm), length of elytra 0.71-0.72 mm (mean 0.72 mm), width of elytra 0.57 mm, EI 1.24-1.26.

Type material

Holotype (male): white printed label „Dabei (2,430 m), Gaoligongshan Mts., Tengchong X., Yunnan, [SE-CHINA], {locality repeated in Chinese characters}, 11. x. 1996, S. Nomura", and red printed label „*CEPHENNODES yunnanensis* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratypes: 1 ♂, 8 ♀♀ , same data as for holotype, with standard yellow „paratypus" labels (NSMT, PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

The aedeagus of *C. yunnanensis* shows some unique and unusual features: the median lobe is only slightly asymmetrical, but clearly drop-shaped, its dorsal wall entirely conceals the dorsal membranous area, the parameres are asymmetrical, but not as strongly as in the *simonis*-type. On the other hand, ventral apical structures differ very much from apical sclerites of *C. simonis*. The aedeagus is also morphologically distant from the *latus* type; its shape is unique within the genus.

***Cephennodes* (s. str.) *impressifrons* n. sp.**

(Figs. 32, 41-43, 44)

Name derivation

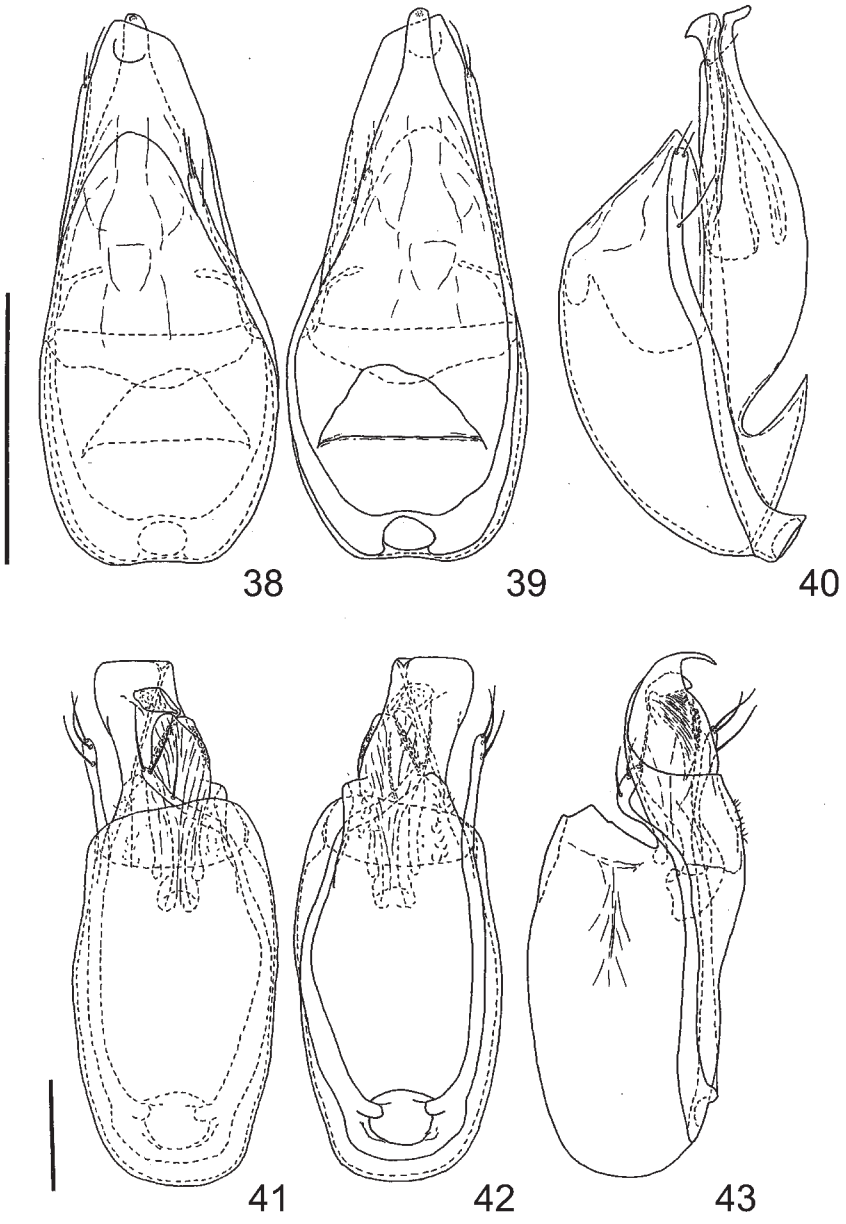
The epithet „*impressifrons*" reflects the modification of the head found in this species.

Diagnosis

Males of this species can be identified on the basis of pair of large and deep, nearly circular impressions in anterior part of vertex. Female characters remain unknown.

Description

Male. Body (Fig. 32) moderately small and convex, dark brown with yellowish-brown vestiture; body length 1.57 mm. Head (Fig. 44) relatively large, length 0.25 mm, width 0.37 mm; vertex very convex in posterior part, with pair of very small, barely noticeable tubercles, and with pair of deep, large and nearly circular impressions in anterior part; frons convex; supraantennal tubercles weakly marked; eyes moderately large. Punctation and setation as in Fig. 44. Antennae moderately slender and relatively compact, length 0.72 mm; antennomere I about 1.5x as long as broad, II distinctly narrower but only slightly shorter, about 1.5x as long as broad, II-VI equal in width, minimally increasing in length, each distinctly narrower than II; III minimally shorter than broad, VI as long as broad; antennomere VII slightly broader and much longer than VI, about 1.5x as long as broad, VIII distinctly shorter and broader than VI, about



38-40. *Cephennodes yunnanensis* n. sp.; 41-43. *C. impressifrons* n. sp. Aedeagus in dorsal (38, 41), ventral (39, 42) and lateral (40, 43) views (scale bar: 0.1 mm)

as long as broad, IX distinctly broader than VIII, broader than long, X yet larger, transverse, XI distinctly broader than X, about as long as IX and X together.

Pronotum broadest just posterior to middle, distinctly flattened near each hind angle, length 0.50 mm, width 0.67 mm. Anterior margin relatively broad; sides broadly rounded, posterior parts of lateral margins slightly convergent toward base and nearly straight; posterior margin deeply biemarginate; lateral antebasal foveae located distinctly closer to posterior than to lateral margins; lateral carinae very narrow and not separated from margins. Punctation in central part of disc composed of moderately large, very distinct and deep punctures separated one from another by variable spaces, from about 0.5 to about 2 puncture diameters; punctures becoming distinctly smaller and shallower toward anterior and posterior margins, very narrow area along posterior margin remains impunctate, also area external and posterior to each basal fovea is covered with indistinct punctures; relatively large area near each front angle is covered with punctures larger and much denser than those in middle, each puncture bears very small median granule. Setation relatively sparse, moderately long, suberect.

Elytra broadest distinctly anterior to middle, length 0.82 mm, width 0.75 mm, EI 1.09. Subhumeral lines very distinctly carinate, as long as about 0.4x length of elytra; apices of elytra separately rounded. Punctation slightly sparser than that on central part of pronotum, but punctures are very small and shallow; setation similar to that on pronotum but setae are minimally longer and much more erect, additionally each elytron bears several upright setae not longer than basic vestiture. Scutellum small, broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very small and moderately sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 41-43) 0.50 mm in length, intermediary in shape between the *simonis* and *latus* types, with voluminous, broad, slightly asymmetrical and thin-walled median lobe, long apical projections with ventral part subrectangular in dorso-ventral view; parameres slender, long and asymmetrical, each bearing two apical and one subapical setae, base of parameres with two small rounded lobes; small ventral and lateral subapical areas of median lobe bear numerous short setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA Guangxi, Dawangling, 870 m, 5. VIII. 1999, J.R. Fellowes"; small white printed label „Leaf litter"; white printed label „Rougemont collection"; and red printed label „*CEPHENNODES* (s. str.) *impressifrons* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution

S China (Guangxi Prov.).

Cephennodes (s. str.) *triangulifrons* n. sp.

(Figs. 33, 45, 46, 49-51)

Name derivation

The name reflects the subtriangular shape of the carina separating frons from clypeus in males of this species.

Diagnosis

Males of this species have unique V-shaped carina separating frons from clypeus; female characters unknown.

Description

Male. Body (Fig. 33) moderately large and convex, relatively stout, dark brown with light brown vestiture; body length 1.52-1.69 mm (mean 1.60 mm). Head (Figs. 45, 46) relatively large, length 0.15-0.22 mm (mean 0.18 mm), width 0.37-0.40 mm (mean 0.38 mm); posterior part of vertex convex, with barely noticeable pair of very small tubercles, anterior part of vertex and posterior part of frons in middle with large, concave area with longitudinal, irregular line of numerous small punctures, impression is delimited from clypeus by broadly V-shaped carina; supraantennal tubercles moderately large, well marked; eyes relatively large; punctation and setation of head as in Fig. 45. Antennae moderately long, relatively slender, club indistinctly separated, length 0.80-0.87 mm (mean 0.83 mm), antennomere I slightly more than 1.5x as long as broad, II slightly narrower and distinctly shorter than I, about 1.2x as long as broad, III-VI subequal in length and equal in width, each slightly narrower than II and 1.2-1.3x as long as broad, VII distinctly longer and broader than VI, 1.2x as long as broad, VIII distinctly broader than VII but minimally shorter, about as long as broad, IX larger than VIII, as long as broad, X yet larger, as long as broad, XI distinctly broader than X, as long as IX-X together.

Pronotum relatively strongly convex, distinctly flattened near each hind angle, broadest slightly posterior to middle, length 0.50-0.52 mm (mean 0.51 mm), width 0.72-0.75 mm (mean 0.74 mm). Anterior margin moderately broad; sides broadly rounded, slightly narrowing toward base posterior to broadest place; posterior margin moderately deeply biemarginate; lateral antebasal foveae are slightly closer to posterior than to lateral margins; lateral carinae extremely narrow and not separated from lateral margins. Punctation in central part of disc dense and distinct, punctures deep, moderately large, separated one from another by distances distinctly shorter than puncture diameters, punctures reducing in diameters near anterior margin, very narrow area along posterior margin impunctate or with several small punctures, punctures covering area lateral and posterior to each basal fovea indistinct, relatively large area near each front angle with punctures denser but slightly smaller than those in middle. Setation moderately dense, relatively long, suberect.

Elytra about as convex as pronotum, broadest slightly anterior to middle, length 0.87-0.95 mm (mean 0.91 mm), width 0.75-0.80 mm (mean 0.78 mm), EI 1.12-1.20. Subhumeral lines moderately distinctly carinate, as long as about 0.2-0.25x length of

elytra; apices of elytra separately rounded. Punctation around suture in anterior half about as dense as that on central part of pronotum, but punctures are distinctly smaller and shallower, punctures becoming smaller and shallower toward lateral margins and apices of elytra; setation about as dense as that on pronotum but composed of distinctly longer, erect setae. Scutellum broader than long, hind wings reduced, very narrow and about as long as elytra.

Metasternum covered with relatively large, distinct punctures separated one from another by spaces about as long as puncture diameters.

Legs moderately long, slender, without any peculiar characters.

Aedeagus (Figs. 49-51) 0.45 mm in length, intermediary in shape between the *simonis* and *latus* types, with voluminous, very broad, distinctly asymmetrical and thin-walled median lobe, moderately large apical projections composed of three separated structures and slender, long and asymmetrical parameres, each bearing two apical and one subapical setae, base of parameres with two small rounded lobes; small ventral and lateral subapical area of median lobe bears several short setae.

Female. Not diagnosable (see remarks).

Type material

Holotype (male): white printed label „Huanxipo (1,950 m), Tengchong X., Yunnan, [SE-CHINA], {the locality repeated in Chinese characters}, 14. x. 1996, S. Nomura"; and red printed label „*CEPHENNODES* (s. str.) *triangulifrons* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratypes: 5 ♂♂, same data as for holotype; 1 ♂, white printed label „Mt. Dayingshan (1,990 m), Tengchong X., Yunnan, [SE-CHINA], {the locality repeated in Chinese characters}, 12. x. 1996, Shun-ichi Ueno"; all paratypes with standard yellow printed „paratypus" labels (NSMT, PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

Males of this species are similar to *C. carinifrons* n. sp., which occurs in the same area. The unique modifications of the head and proportions of the elytra are clearly different in the two species. The elytra in *C. triangulifrons* are shorter, with EI 1.12-1.20, whereas *C. carinifrons* has the elytra more elongate, with EI 1.23-1.29. Also the broadest place of the pronotum is located anterior to middle in *C. triangulifrons*, and rather posterior to middle in the other species. Thirty females similar to males of both species and collected in Baihualing, Dabei, Huanxipo and Menglien were also studied. They all show a higher degree of variability in the shape of the pronotum and proportions of the elytra than males, and do not have any head modifications (the frons and vertex are uniformly convex). The most extreme forms have the elytra as stout or as elongate as the males of *C. triangulifrons* and *C. carinifrons*, respectively, but some females have the shape of the elytra intermediary between those two cases. While in the males the elytral indices do not overlap (maximum in *C. triangulifrons* is 1.20, and minimum in *C. carinifrons* 1.23), values calculated for females range from 1.09 to 1.25,

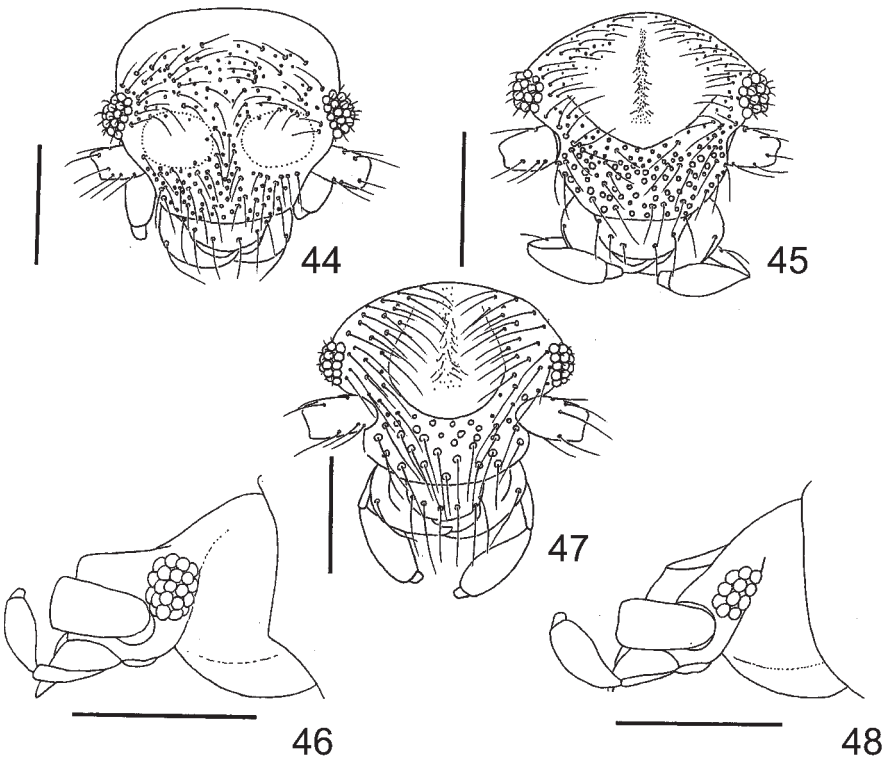
showing a gradual increase, without any gap helping in separating „morphospecies". Several other measurements were also analyzed, and it can be concluded that if the material contains females of both species, it is not possible to discriminate between them. It is possible that females with extremely long or extremely short elytra could represent respectively *C. carinifrons* and *C. triangulifrons*, but no solid evidence supports this thesis. Moreover, the region is poorly studied and an occurrence of other similar species cannot be excluded. Therefore, no females are included into type series of the two species, and they cannot be identified until reliable diagnostic characters have been found.

***Cephennodes* (s. str.) *carinifrons* n. sp.**

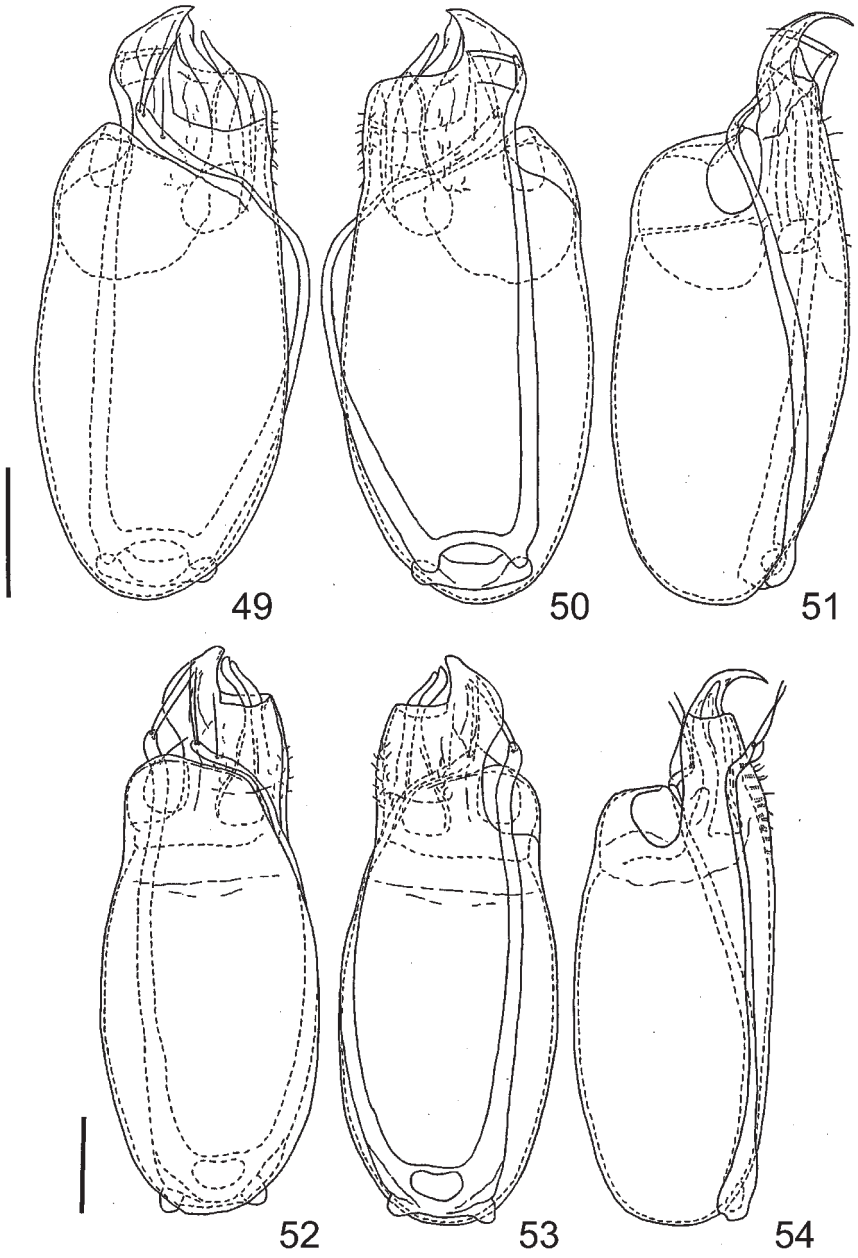
(Figs. 34, 47, 48, 52-54)

NAME DERIVATION

The name refers to the carina separating frons from clypeus in males of this species (the original meaning of the Latin word „*carina*" was „the keel of a ship").



44. *Cephennodes impressifrons* n. sp.; 45-46. *C. triangulifrons* n. sp.; 47-48. *C. carinifrons* n. sp. Head of male in antero-dorsal (44-45, 47) and lateral (46, 48) views (simplified) (scale bars: 0.2 mm)



49-51. *Cephennodes triangulifrons* n. sp.; 52-54. *C. carinifrons* n. sp. Aedeagus in dorsal (49, 52), ventral (50, 53) and lateral (51, 54) views (scale bars: 0.1 mm)

Diagnosis

Males of this species have unique, broadly U-shaped carina separating frons from clypeus; female characters remain unknown.

Description

Male. Body (Fig. 34) moderately large and convex, relatively elongate, dark brown with light brown vestiture; body length 1.60-1.83 mm (mean 1.74 mm). Head (Figs. 47, 48) relatively large, length 0.15-0.27 mm (mean 0.21 mm), width 0.41-0.42 mm (mean 0.41 mm); posterior part and sides of vertex convex, its posterior part bears pair of very small tubercles, anterior part of vertex and posterior part of frons in middle with large, relatively deep impression bearing longitudinal median line of numerous small punctures, impression is delimited from clypeus by broadly U-shaped carina; supraantennal tubercles moderately large, well marked; eyes relatively large; punctation and setation of head as in Fig. 47. Antennae moderately long, relatively slender, club indistinctly separated, length 0.87-0.97 mm (mean 0.91 mm), antennomere I about 1.5x as long as broad, II slightly narrower and shorter than I, 1.2x as long as broad, III-VI subequal in length and equal in width, each slightly narrower than II and 1.1-1.2x as long as broad, VII longer and broader than VI, 1.2-1.3x as long as broad, VIII broader than VII but slightly shorter, about as long as broad, IX distinctly larger than VIII, as long as broad, X yet larger, minimally longer than broad, XI broader than X, about as long as IX-X together.

Pronotum relatively strongly convex, slightly flattened near each hind angle, broadest slightly or distinctly anterior to middle, length 0.51-0.55 mm (mean 0.54 mm), width 0.75-0.77 mm (mean 0.76 mm). Anterior margin relatively broad; sides broadly rounded; posterior margin moderately deeply biemarginate; lateral antebasal foveae slightly closer to posterior than to lateral margins; lateral carinae extremely narrow and not separated from lateral margins. Punctation in central part of disc dense and distinct, punctures deep, moderately large, separated one from another by distances distinctly shorter than puncture diameters, punctures reducing in diameters near anterior margin, very narrow area along posterior margin impunctate or with several small punctures, punctures covering area lateral and posterior to each basal fovea are indistinct, relatively large area near each front angle bears punctures denser but slightly smaller than those in middle. Setation moderately dense, relatively long, suberect.

Elytra about as convex as pronotum, broadest slightly anterior to middle, length 0.97-1.01 mm (mean 0.99 mm), width 0.77-0.82 mm (mean 0.79 mm), EI 1.23-1.29. Subhumeral lines moderately distinctly carinate, as long as about 0.3x length of elytra; apices of elytra separately rounded. Punctation around suture in anterior half about as dense as that on central part of pronotum, but punctures are distinctly smaller and shallower, punctures reduce in diameters and depth toward lateral margins and apices of elytra; setation about as dense as that on pronotum but composed of distinctly longer, erect setae. Scutellum broader than long; hind wings reduced, very narrow and about as long as elytra.

Metasternum with dense, distinct, moderately large punctures, in median part separated one from another by spaces about twice as long as puncture diameters, on sides punctures are slightly denser.

Legs moderately long, slender, without any peculiar characters.

Aedeagus (Figs. 52-54) 0.62 mm in length, intermediary in shape between the *simonis* and *latus* types, with voluminous, moderately broad, slightly asymmetrical and thin-walled median lobe, moderately large apical projections composed of three separated structures and slender, long and asymmetrical parameres, each bearing two apical and one subapical setae; base of parameres bears two small rounded lobes; small ventral subapical area of median lobe bears several short setae.

Female. Not diagnosable (see remarks).

Type material

Holotype (male): white printed label „Dabei (2,430 m), Gaoligongshan Mts., Tengchong X., Yunnan, [SE-CHINA], {the locality is repeated in Chinese characters}, 11. x. 1996, S. Nomura"; and red printed label „*CEPHENNODES* (s. str.) *carinifrons* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratypes: 1 ♂, same data as for holotype; 3 ♂♂, white printed label „Baihualing (2,290 m), Gaoligongshan Mts., Baoshan Xian, Yunnan, [SE-CHINA], {the locality repeated in Chinese characters}, 16. x. 1996, S. Nomura"; 1 ♂, same data except for 17. x. 1996. All paratypes with standard yellow printed „paratypus" label (NSMT, PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

See remarks for *C. triangulifrons*. These two species have very similar aedeagi, but they clearly differ in external morphology (including head modifications and body outline). Several undescribed and apparently closely allied species from other parts of Asia are known to the author. They also have the aedeagi very similar one to another (and to those of *C. triangulifrons* and *C. carinifrons*), but different body shape, size and male secondary sexual characters. This group of species seems to have external characters more useful for identification than their very uniform aedeagi, which is an uncommon case within the Cephenniini.

Cephennodes (s. str.) *elytratus* n. sp.

(Figs. 35, 55-57)

Name derivation

The specific epithet refers to the modified elytra characteristic for this species.

Diagnosis

Males of *C. elytratus* can be distinguished from all other species of the genus on the basis of large, shallow, elongate and slant impression located near lateral margin of each elytron, and unique aedeagus. Females have elytra distinctly broader than pronotum, with very short subhumeral lines reaching only to anterior fourth of elytra; however, their identification may be uncertain if they have not been collected together with males.

Description

Male. Body (Fig. 35) small, moderately convex, moderately dark brown with yellowish setation; body length 1.41-1.46 mm (mean 1.44 mm). Head moderately large, length 0.20 mm, width 0.30-0.31 mm (mean 0.31 mm); vertex and frons uniformly convex, posterior part of vertex bears pair of tiny tubercles; supraantennal tubercles distinct but moderately strongly raised; eyes relatively large. Punctation composed of moderately large, dense punctures slightly larger on frons and becoming smaller toward posterior margin of vertex; setation short and sparse, suberect. Antennae 0.70-0.72 mm in length (mean 0.71 mm), relatively slender, antennomere I flattened dorso-ventrally, about 1.7x as long as broad, II distinctly narrower than I, twice as long as broad, III-VI subequal in length, each distinctly narrower than II and 1.5x as long as broad, VII larger than VI, 1.5x as long as broad, VIII slightly broader but shorter than VII, about as long as broad, IX larger than VIII, minimally broader than long, XI as long as IX and X together, minimally broader than X.

Pronotum broadest near middle, moderately convex and only slightly flattened near each hind angle, length 0.42-0.46 mm (mean 0.44 mm), width 0.57-0.60 mm (mean 0.59 mm). Anterior margin relatively short, so that pronotum in dorsal view is nearly semicircular; lateral margins rounded, near hind angles nearly straight; posterior margin moderately deeply biemarginate. Lateral antebasal pits are located closer to lateral than to posterior margins; lateral margins narrowly carinate, carina is not separated from margin. Punctation in central part of disc composed of moderately large, distinct punctures separated by spaces equal to puncture diameters, punctures become smaller in median posterior part of pronotum and narrow area along posterior margin is impunctate, surroundings of antebasal pits are covered with slightly less distinct punctures than those in middle, punctures near each front angle are much denser than those in middle. Setation moderately dense and long, only slightly suberect, each hind angle bears single long seta.

Elytra moderately convex, broadest slightly anterior to middle, length 0.79-0.80 mm (mean 0.80 mm), width 0.70-0.72 mm (mean 0.71 mm), EI 1.11-1.13. Subhumeral lines distinctly carinate, strongly slant toward lateral margins of elytra, as long as about 0.25x length of elytra; each elytron bears large, oval, slant and shallow impression near lateral margin posterior to middle, concave surface of impressions is covered with dense, small but coarse punctures and very short setae; apices of elytra separately rounded. Punctation of elytra (except for lateral impressions) composed of very indistinct, shallow punctures, as dense as those on central part of pronotum; setation (except for lateral impressions) similar to that on pronotum but slightly more erect, each elytron bears additionally several strongly erect setae in posterior half. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine and sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 55-57) 0.42 mm in length, close to the *latus* type, with nearly symmetrical, long and relatively slender median lobe with deep subtriangular emargination in apical margin of dorsal wall; apical projections asymmetrical, relatively short, with subtriangular and sharply pointed ventral part; parameres slender, nearly

symmetrical, in dorsal view right paramere with two apical setae, left paramere with one apical and one subapical seta.

Female. Very similar to male, except for lacking lateral impressions on elytra; vertex with similar tubercles as those in male. Body length 1.37-1.48 mm (mean 1.43 mm), length of head 0.20-0.22 mm (mean 0.21 mm), width of head 0.30-0.31 mm (mean 0.30 mm), length of antenna 0.65-0.70 mm (mean 0.67 mm), length of pronotum 0.42-0.46 mm (mean 0.45 mm), width of pronotum 0.55-0.60 mm (mean 0.57 mm), length of elytra 0.75-0.80 mm (mean 0.77 mm), width of elytra 0.67-0.70 mm (mean 0.68 mm), EI 1.12-1.14.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *elytratus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB). Paratypes: 1 ♂, 3 ♀♀, same data as for holotype; 1 ♂, 1 ♀ , white printed label „CHINA: Fujian Province, Wuyi Shan, ca. 850 m, Road to Masu 3 km, 6. vi. 2001, N27°75' E117°72', leg J.Cooter + P. Hlaváč, mixed forest litter" (paratypes in PCPH and PCPJ). All paratypes additionally with standard yellow printed „paratypus" label.

Distribution

S China (Fujian Prov.).

Remarks

Similar impressions of elytra in males can be found in an undescribed species from Vietnam (Jałoszyński & Nomura, in preparation). However, the shape of impressions is not the same as that in *C. elytratus*, and the aedeagus is clearly different.

Cephennodes (s. str.) *cooteri* n. sp.

(Figs. 36, 58-60)

Name derivation

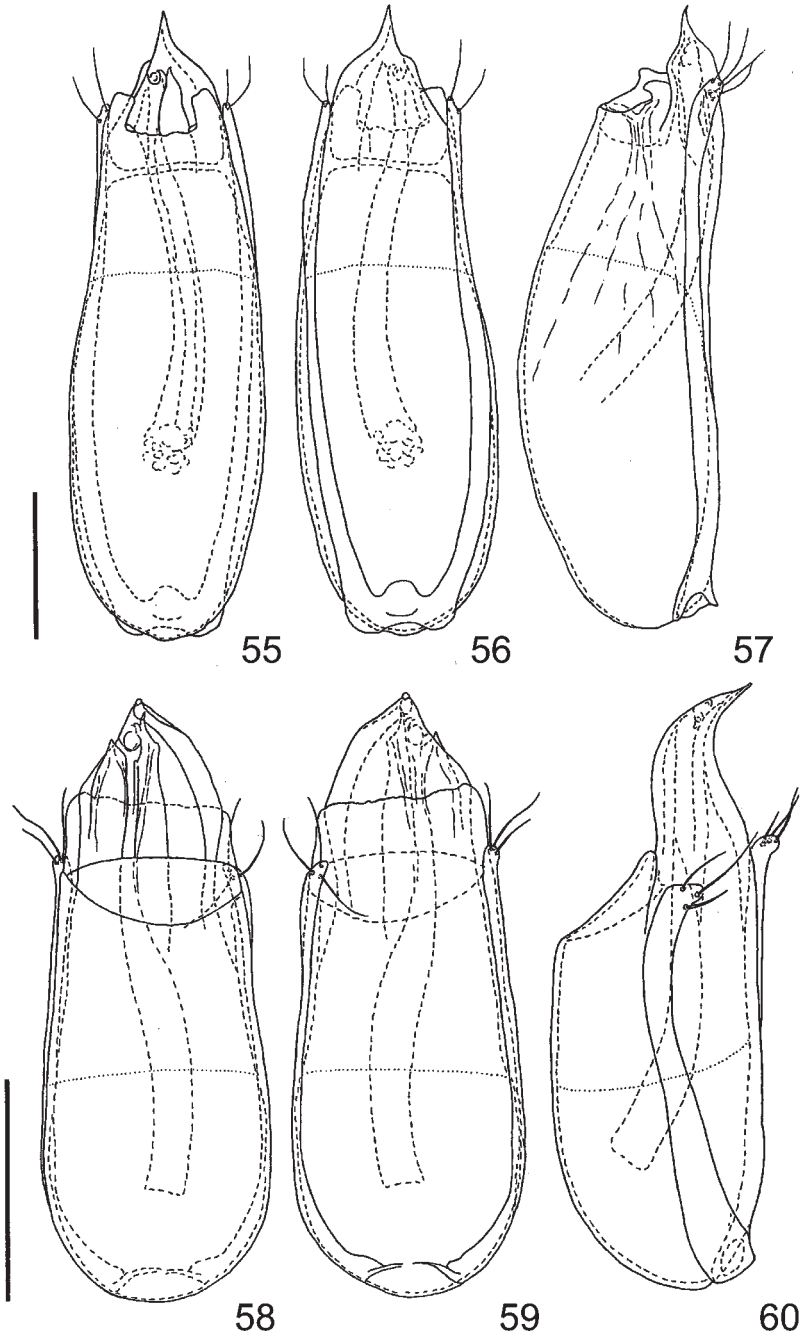
This species is dedicated to Jonathan Cooter (Oxford University Museum of Natural History, UK), who together with Peter Hlaváč collected part of the specimens used in this paper.

Diagnosis

Males of *Cephennodes cooteri* can be distinguished from all congeners by slightly flattened adsutural area near apices of elytra, subhumeral lines slightly longer than half length of elytra and unique aedeagus. Female characters unknown.

Description

Male. Body (Fig. 36) relatively small, strongly convex, dark brown with light brown setation; body length 1.27 mm. Head relatively small, length 0.20 mm, width



55-57. *Cephennodes elytratus* n. sp.; 58-60. *C. cooteri* n. sp. Aedeagus in dorsal (55, 58), ventral (56, 59) and lateral (57, 60) views (scale bars: 0.1 mm)

0.30 mm; vertex and frons convex, no tubercles found; supraantennal tubercles distinct, moderately strongly raised; eyes large. Punctation of frons and vertex dense, composed of moderately large, sharply marked punctures, supraantennal tubercles impunctate; setation short and sparse, suberect. Antennae relatively slender, 0.55 mm in length, antennomere I about 1.5x as long as broad, II distinctly narrower than I, twice as long as broad, III distinctly narrower and shorter than II, 1.5x as long as broad, IV-VI each as broad as III but slightly shorter, VII slightly larger than VI, about 1.5x as long as broad, VIII minimally shorter than VII, slightly longer than broad, IX larger than VIII, about 1.2x as long as broad, X broader than VIII, minimally (hardly noticeably) broader than long, XI yet slightly broader, as long as IX-X together.

Pronotum broadest near middle, strongly convex and only slightly flattened near each hind angle, length 0.40 mm, width 0.54 mm. Anterior margin relatively short; sides strongly rounded in anterior half and straight in posterior part, lateral margins very finely serrate (barely noticeably under magnification 40x); posterior margin moderately deeply biemarginate; lateral antebasal pits located slightly closer to lateral than to posterior margins; lateral margins narrowly carinate, carina is not separated from margin. Punctation in central part of pronotum composed of moderately large, sharply marked punctures separated by spaces slightly shorter than puncture diameters, relatively broad area along posterior margin remains impunctate, area posterior and external to each basal pit bears indistinct punctures, punctation along anterior margin is slightly finer than that on central part, punctures near front angles are denser, distances between them slightly exceed half diameter of punctures. Setation relatively short, moderately dense, only slightly suberect.

Elytra very convex and short, broadest just anterior to middle, length 0.67 mm, width 0.62 mm, EI 1.08. Subhumeral lines very narrow, carinate, slightly exceeding half length of elytra; very narrow adsutural area in basal half of each elytron is slightly raised, elytra near apices are slightly but distinctly flattened around suture; apices of elytra separately rounded. Punctation of elytra very shallow and indistinct; setation similar to that on pronotum but slightly more erect. Scutellum relatively large, broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very distinct punctation composed of moderately large punctures separated by spaces about as long as puncture diameters or slightly shorter.

Legs relatively long, without any peculiar characters.

Aedeagus (Figs. 58-60) 0.27 mm in length, close to the *latus* type, with nearly symmetrical, stout median lobe with relatively distinctly separated lighter basal part and darker apical part; apical projections asymmetrical, broad and long; parameres asymmetrical, in dorsal view left paramere is slightly longer than left one, each bears one apical and two subapical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *cooteri* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution

S China (Fujian Prov.).

Cephennodes (s. str.) *excavatus* n. sp.

(Figs. 37, 61-63, 73)

Name derivation

The name refers to deeply impressed apical area on each elytron, characteristic for males of this species.

Diagnosis

Males of this species are unique in having large and deep, oval impression near apex of each elytron, surrounded by long setae; also combination of elytra distinctly lighter than head and pronotum with extremely fine punctation of dorsal body surface are good additional diagnostic features. Female characters unknown.

Description

Male. Body (Fig. 37) moderately large, slender, relatively convex, head and major part of pronotum very dark brown, narrow area along each margin of pronotum and elytra distinctly lighter, setation on darkly pigmented parts appears silver, setae on elytra more yellowish; body length 1.73 mm. Head moderately large, length 0.22 mm, width 0.35 mm; vertex convex, with pair of small tubercles; frons in middle between supraantennal tubercles more convex than surrounding areas; supraantennal tubercles moderately large, very distinct, delimited from frons by shallow impressions; eyes relatively large. Punctation very fine, sparse; setation sparse, relatively short, suberect. Antennae moderately long, very slender, club not separated, length 0.80 mm, antennomere I about 1.5x as long as broad, II slightly narrower and longer than I, nearly twice as long as broad, III-VI equal in width, each slightly narrower than II; III about 1.3x as long as broad, IV slightly shorter, ca. 1.2x as long as broad, V and VI each as long as III, VII distinctly longer and slightly broader than VI, nearly 1.5x as long as broad, VIII slightly shorter and broader than VII, minimally longer than broad, IX broader and longer than VIII, about as long as broad, X yet larger, also about as long as broad, XI broader than X, about as long as IX-X together.

Pronotum broadest near middle, moderately convex and only slightly flattened near each hind angle, length 0.49 mm, width 0.67 mm. Anterior margin relatively broad; sides broadly rounded in anterior third, then only slightly rounded and in posterior third barely noticeably narrowing toward hind angles; posterior margin moderately deeply biemarginate; lateral antebasal foveae very shallow and indistinctly delimited, deepest point of each fovea is nearly equally distant from posterior and lateral margin; lateral carinae extremely narrow, not separated from lateral margins. Punctation extremely fine and relatively sparse, barely noticeable under magnification 40x, surface between punctures very glossy; small area lateral to each basal fovea bears several small and rounded (i.e. not coarse) granules. Setation short, moderately sparse, only slightly suberect.

Elytra more convex than pronotum, elongate, broadest distinctly anterior to middle, length 1.02 mm, width 0.82 mm, EI 1.24. Subhumeral lines indistinctly carinae (i.e. with edge rather rounded than sharp) and very short, only about 0.2x as long as elytra; apex of each elytron (Fig. 73) strongly modified, with large, oval, deep impression, adsutural margin of each impression is much lower than external margin, so that impressions are more or less connected along suture. Punctation of elytra composed of punctures relatively dense, very small and shallow, but better marked than those on pronotum; setation slightly shorter than that on pronotum, relatively dense, suberect, except for asetose apical impressions, which are surrounded by long setae. Scutellum broader than long; hind wings well developed, about 2.5x as long as elytra.

Metasternum with very fine, moderately sparse punctation.

Legs relatively long and slender, without any peculiar characters.

Aedeagus (Figs. 61-63) 0.35 mm in length, close to the *latus* type, with slightly asymmetrical, relatively stout median lobe with deep rounded emargination in apical margin of dorsal wall; apical projections broad and asymmetrical, in the holotype internal tubular copulatory piece is partly extruded; parameres relatively short and broad, each bears subapical tooth-like projection and two apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: N-Yunnan [C03-12], Zhongdian Co., pass 28 km ESE Zhongdian, devastated primary forest with young Abies, Larix, Betula, Rhodod., 27°43.9'N, 99°58.2'E, 3700-3750 m, 22. VIII. 2003, leg. M. Schülke", and red printed label „*CEPHENNODES* (s. str.) *excavatus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB).

Distribution

S China (Yunnan Prov.).

Remarks

The holotype lost its left elytron and a part of the right antenna due to an accident after it has been photographed, measured and described.

***Cephennodes* (s. str.) *bicolor* n. sp.**

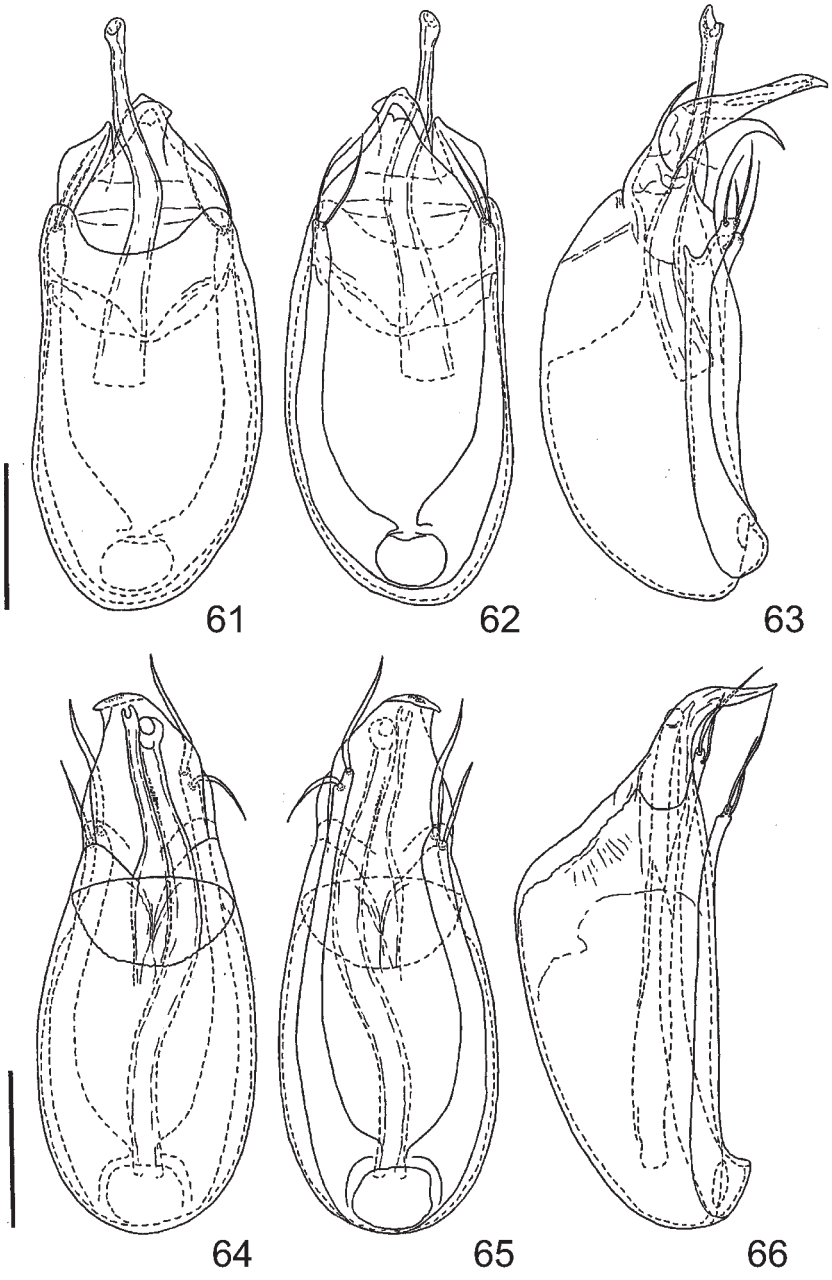
(Figs. 67, 64-66)

Name derivation

The specific epithet refers to a pigmentation of this species, which has elytra distinctly lighter than head and pronotum.

Diagnosis

Males of this species are unique in having slightly curved antennomere VI, so that antennae are not straight; also very dark head and pronotum combined with lighter



61-63. *Cephennodes excavatus* n. sp.; 64-66. *C. bicolor* n. sp. Aedeagus in dorsal (61, 64), ventral (62, 65) and lateral (63, 66) views (scale bars: 0.1 mm)

elytra and fine punctation are useful additional diagnostic characters. Female characters remain unknown.

Description

Male. Body (Fig. 67) moderately large and convex, slender, head and pronotum very dark brown, narrow area along posterior margin of pronotum is slightly lighter, elytra reddish-brown; setation moderately light brown; body length 1.55 mm. Head moderately large, length 0.20 mm, width 0.31 mm; vertex and frons convex, no tubercles found; supraantennal tubercles relatively indistinct; punctation moderately sparse, composed of very small but distinct punctures; setation short, sparse, suberect. Antennae slender, characteristically recurved near middle, club not separated, length 0.77 mm, antennomere I about 1.5x as long as broad, II only slightly narrower and shorter than I, slightly more than 1.5x as long as broad, III minimally narrower than II, about 1.3x as long as broad, IV-VI equal in length and width, each slightly shorter than III and slightly longer than broad, VI slightly curved, VII distinctly longer and slightly broader than VI, slightly more than 1.5x as long as broad, slightly curved, VIII much shorter and distinctly broader than VII, about as long as broad, IX-X gradually larger, each about as long as broad, XI slightly broader than X, about as long as IX-X together.

Pronotum moderately convex, only slightly flattened near each hind angle, broadest from about middle to base, length 0.45 mm, width 0.60 mm. Anterior margin relatively long; sides broadly rounded in anterior half, nearly straight and parallel in posterior half; posterior margin moderately deeply biemarginate; lateral antebasal foveae shallow, located closer to lateral than to posterior margins; lateral carinae extremely narrow, not separated from lateral margins. Punctation extremely fine, moderately sparse, also on areas near front angles, surface between punctures very glossy; setation relatively sparse, relatively short, suberect.

Elytra only slightly more convex than pronotum, elongate, broadest slightly anterior to middle, length 0.90 mm, width 0.75 mm, EI 1.20. Subhumeral lines moderately distinctly carinate, only about 0.25x as long as elytra; apices of elytra separately rounded. Punctation more distinct than that on pronotum, but still fine; setation relatively short, moderately sparse, only slightly suberect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine and sparse punctation.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 64-66) 0.35 mm in length, close to the *latus* type, with nearly symmetrical, relatively stout and oval median lobe; apical projections asymmetrical and relatively long; parameres asymmetrical, in dorsal view right paramere is longer and more slender than left one, each bears one apical and one subapical seta.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: N-Yunnan [C03-19B], Dali Bai Nat. Aut. Pref., Diancang Shan, 3 km W Dali old town, pine forest at „Cloud Road", right upper chairlift station, 25°41.1'N, 100°06.8'E, 2650-2750 m", white printed label

„[C03-19B] pine needles, moss (dry), in ditches, mushrooms, traps, 1. IX. 2003, leg., M. Schülke", and red printed label „*CEPHENNODES* (s. str.) *bicolor* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository NMKB).

Distribution

S China (Yunnan Prov.).

Cephennodes (s. str.) *hamatus* n. sp.

(Figs. 68, 74-76, 85-87)

Name derivation

The Latin adjective „*hamatus*" means „provided with hooks"; the name refers to hook-like projections on the terminal protarsomeres of males.

Diagnosis

Males of this species differ from all congeners in having small, hook-like projection on ventral surface of protarsomere V, shallow lateral impressions on elytra in posterior half covered with setation distinctly shorter than that on remaining parts of elytra, and distinct oval impression near apex of each elytron, provided with several long setae on external and posterior margins, and bunch of moderately long setae on adsutural margin; adsutural area just anterior to modified apices is distinctly flattened. Females can be distinguished from similar species on the basis of stout, very convex body, nearly black head and pronotum contrasting with dark reddish-brown elytra, also antennae and legs are brown.

Description

Male. Body (Fig. 68) moderately large, relatively slender, moderately convex, distinctly bicolorous - head and pronotum nearly black, elytra dark reddish-brown, appendices (including antennae) moderately dark to light brown, setation light brown, appearing golden on darkest body parts; body length 1.58-1.64 mm (mean 1.61 mm). Head moderately large, length 0.22-0.24 mm (mean 0.23 mm), width 0.35-0.37 mm (mean 0.36 mm); vertex and frons convex, posterior part of vertex bears pair of extremely small tubercles; supraantennal tubercles small and indistinct, only slightly raised; eyes moderately large. Punctation of vertex fine and moderately sparse, punctures in middle are very small but distinct, separated one from another by variable spaces, from equal to puncture diameters to several times as long, punctures near anterior internal margins of supraantennal tubercles are distinctly larger, frontoclypeal area is covered with very sparse and extremely small, but still distinct punctures; setation of head sparse and short, suberect. Antennae relatively long and slender, club indistinct, length 0.80-0.82 mm (mean 0.81 mm), antennomere I about 1.5x as long as broad, II distinctly narrower than I but nearly equal in length, twice as long as broad, III-VI equal in width and subequal in length, each slightly narrower than II and 1.8-2x as long as broad, VII slightly broader and much longer than VI, about 2.2x as long as broad, VIII minimally broader but shorter than VII, about 1.2x as long as broad, IX broader and slightly longer

than VIII, about as long as broad or minimally longer than broad, X yet larger, slightly longer than broad, XI slightly broader than X, about as long as IX-X together.

Pronotum broadest between middle and posterior third, moderately convex, only slightly flattened near each hind angle, length 0.49-0.50 mm (mean 0.50 mm), width 0.62-0.69 mm (mean 0.67 mm). Anterior margin moderately broad; sides broadly rounded and only slightly narrowing from broadest place toward hind angles; posterior margin shallowly biemarginate; lateral antebasal foveae located slightly closer to lateral than to posterior margins; lateral carinae extremely narrow, not separated from margins. Punctation on entire dorsal surface of pronotum extremely fine, barely noticeable under magnification 40x; setation very short, moderately sparse, nearly recumbent or only slightly suberect.

Elytra about as convex as pronotum, broadest distinctly anterior to middle, length 0.87-0.90 mm (mean 0.88 mm), width 0.75-0.77 mm (mean 0.76 mm), EI 1.16-1.17. Subhumeral lines indistinctly carinate, as long as only about 0.2x length of elytra, accompanied at base by very small pit at internal margin; each elytron in posterior half bears large, shallow but distinct lateral impression distant from apex (Fig. 74), and very distinct, relatively small oval apical impression or excavation. Punctation of elytra slightly more distinct than that on pronotum, but still very fine, relatively dense; setation denser and shorter than that on pronotum, suberect with several erect setae on each elytron, not longer than basic setation; posterior lateral impressions covered with much shorter setae directed partly laterally and posteriorly, partly toward suture and posteriorly; additionally apical impressions are provided with several long setae on external and posterior margins and bunch of moderately long setae on adsutural margin. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine and sparse punctures.

Legs long and slender, with relatively short and thick tarsi, especially protarsi are very short and very thick, with tarsomere V (Fig. 75) bearing small hook-like projection on ventral surface; protibiae (Fig. 76) swollen in middle, with indistinct broad tooth on internal surface; metatibiae slightly recurved.

Aedeagus (Figs. 85-87) 0.45 mm in length, close to the *latus* type, with nearly symmetrical, relatively stout and oval median lobe; apical projections asymmetrical, with particularly long ventral part; parameres asymmetrical, in dorsal view right paramere is longer than left one, each bears two apical setae.

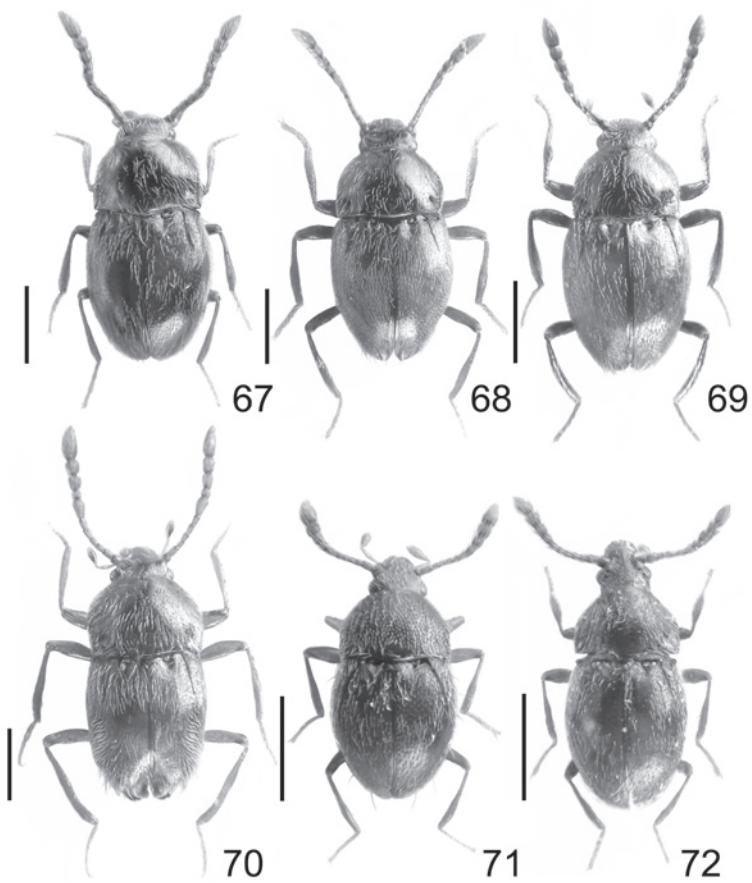
Female. Similar to male, except for distinctly stouter, more convex body, more slender (but still short) protarsi with non-modified tarsomere V; protibiae indistinctly swollen in middle; metatibiae slightly shorter than those in male; wings reduced, very narrow and only as long as about 1/4x length of elytra. Body length 1.52-1.66 mm (mean 1.58 mm), length of head 0.22-0.25 mm (mean 0.24 mm), width of head 0.36-0.37 mm (mean 0.37 mm), length of antenna 0.75-0.80 mm (mean 0.79 mm), length of pronotum 0.50-0.54 mm (mean 0.51 mm), width of pronotum 0.71-0.74 mm (mean 0.73 mm), length of elytra 0.80-0.87 mm (mean 0.83 mm), width of elytra 0.75-0.80 mm (mean 0.77 mm), EI 1.04-1.09.

Type material

Holotype (male): two white printed labels: „CHINA: N-Yunnan [C2005-16], Nujiang Lisu Aut. Pref. Gongshan Co., Gaoligong Shan, sidevalley, 3000-3050 m, 27°47.90'N, 98°30.19'E", „cornif. forest with *Rhododendron*, broad leaved bushes, litter, moss, dead wood sifted along creek and snowfields, 21. VI. 2005, M. Schülke [C2005-16]", and red printed label „*CEPHENNODES* (s. str.) *hamatus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB). Paratypes: 4 ♂♂, 8 ♀♀, same data as for holotype, all with standard yellow printed „paratypus" label (PCMS, PCPJ).

Distribution

S China (Yunnan Prov.).



67-72. Dorsal aspect of male. 67 – *Cephennodes bicolor* n. sp.; 68 – *C. hamatus* n. sp.; 69 – *C. spinosus* n. sp.; 70 – *C. superlatus* n. sp.; 71 – *C. guadunanus* n. sp.; 72 – *C. masuanus* n. sp. (scale bars: 0.5 mm)

Cephennodes (s. str.) *spinosus* n. sp.
(Figs. 69, 77-80, 88-90)

Name derivation

The name refers to extended median part of the last visible abdominal sternite of males, which forms a short mucro.

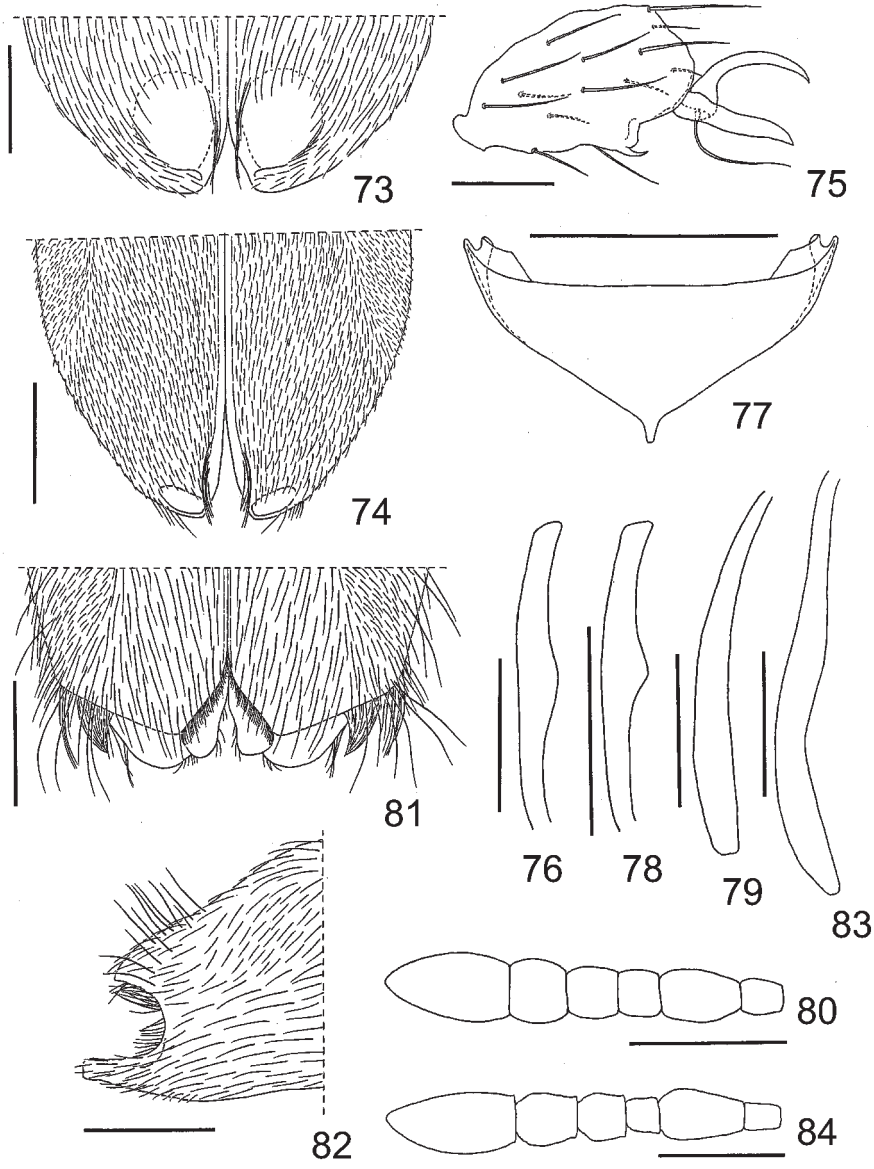
Diagnosis

Both males and females of this species differ from all congeners in having nearly black antennae, as dark as head and pronotum, contrasting with dark brown or reddish-brown elytra, also maxillary palpi are very dark. Moreover, male are unique in having broad subtriangular tooth in middle of internal margin of protibiae, distinctly flattened adsutural area on each elytron just anterior to apex, apex of each elytron with numerous straight, long setae directed posteriorly and slightly toward suture, and last visible abdominal sternite with apex projected posteriorly, forming median mucro.

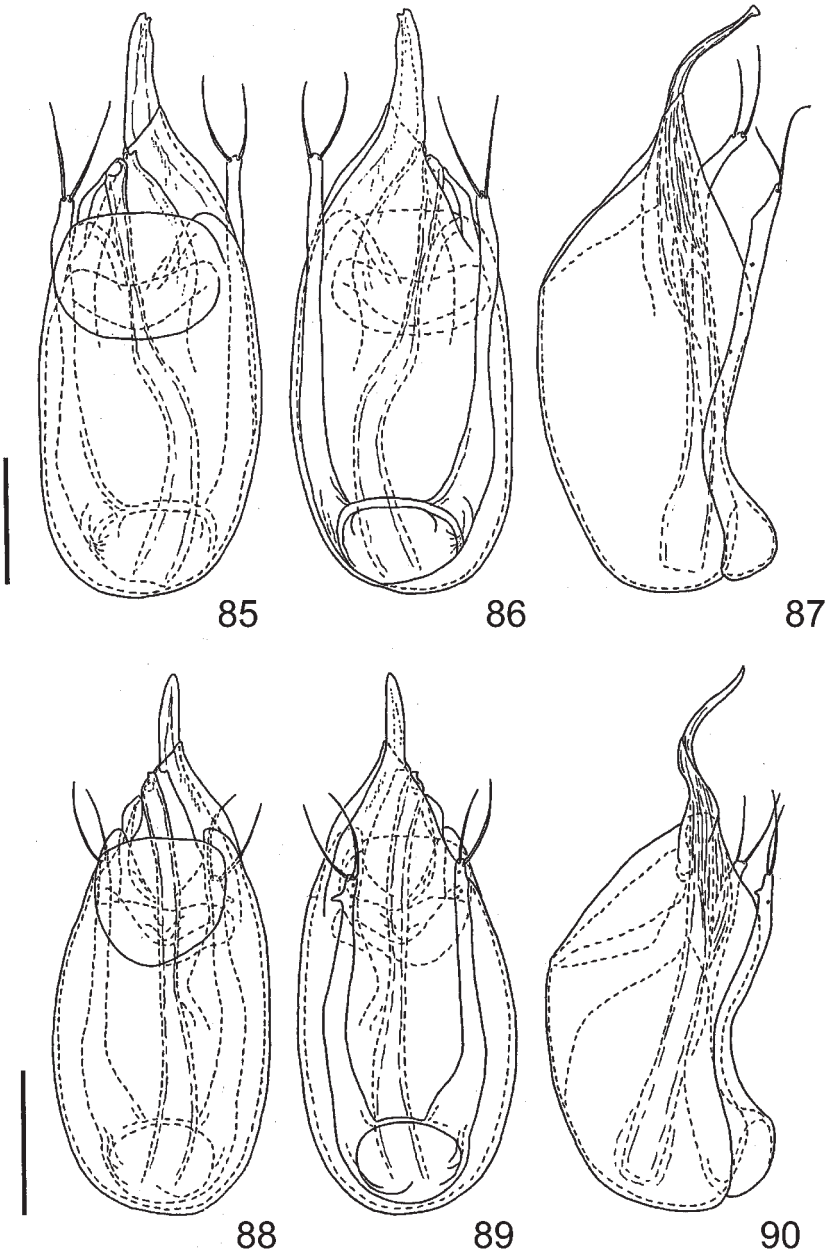
Description

Male. Body (Fig. 69) moderately small, relatively slender and very convex; head, pronotum, antennae and major part of legs nearly black, elytra dark reddish-brown with darkened suture, mandibles distinctly lighter than head, maxillary palpi slightly lighter than head but still very dark, tibiae becoming gradually lighter from middle toward apices, tarsi brown; setation light brown to golden; body length 1.44 mm. Head moderately large, length 0.25 mm, width 0.30 mm; vertex and frons convex, posterior part of vertex with pair of very small tubercles; supraantennal tubercles relatively small, moderately raised; eyes moderately large. Punctation distinct and relatively dense, punctures moderately small, distributed unevenly, most of them are separated by spaces about equal to puncture diameters; setation short and sparse, suberect. Antennae (Fig. 80) moderately long, slender, club not separated, length 0.75 mm, antennomere I slightly less than 1.5x as long as broad, II distinctly narrower than I and nearly equal in length, slightly less than twice as long as broad, III-IV equal in length and width, each slightly narrower than II and about 1.2x as long as broad, V-VI equal in width and length, each minimally longer than IV, VII much broader and longer than VI, about 1.5x as long as broad, VIII distinctly narrower and much shorter than VII, about as long as broad, IX only slightly larger than VIII, as long as broad, X larger than IX, about as long as broad, XI slightly broader than X, about as long as IX-X together.

Pronotum broadest near middle, moderately convex, only slightly flattened near each hind angle, length 0.42 mm, width 0.80 mm. Anterior margin moderately broad; sides broadly rounded and only slightly narrowing from broadest place toward hind angles; posterior margin very shallowly biemarginate; lateral antebasal foveae located much closer to lateral than to posterior margins; lateral carinae extremely narrow, not separated from margins. Punctation extremely fine, barely noticeable under magnification 40x; setation very short, moderately sparse, nearly recumbent.



73. *Cephennodes excavatus* n. sp.; 74-76. *C. hamatus* n. sp.; 77-80. *C. spinosus* n. sp.; 81-84. *C. superlatus* n. sp. Apex of elytra of male in dorsal (73, 74, 81) and lateral (82) views (simplified); left protarsomere V of male in lateral view (75); abdominal sternite VI of male in ventral view (77); left protibia of male in dorsal view (76, 78); left metatibia of male in dorsal view (79, 83); antennomeres VI-XI of male in dorsal view (80, 84) (scale bars: 73-74, 76-84 – 0.2 mm; 75 – 0.02 mm)



85-87. *Cephennodes hamatus* n. sp.; 88-90. *C. spinosus* n. sp. Aedeagus in dorsal (85, 88), ventral (86, 89) and lateral (87, 90) views (scale bars: 0.1 mm)

Elytra more convex than pronotum, broadest slightly anterior to middle, length 0.77 mm, width 0.70 mm, EI 1.10. Subhumeral lines carinate, as long as only about 0.2-0.3x length of elytra, accompanied at base by very small pit at internal margin; apices of elytra separately rounded, adsutural area above apices distinctly flattened. Punctation only slightly more distinct than that on pronotum, punctures are very small and shallow but relatively dense, each elytron bears row of distinct punctures along suture in anterior half; setation slightly shorter but more suberect than that on pronotum, except for apices, which bear numerous long and straight setae directed posteriorly and toward suture. Scutellum very small, broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with extremely fine punctures.

Legs long and slender, protibiae (Fig. 78) with large, broad subtriangular tooth near middle of internal surface, mesotibiae slightly curved, metatibiae (Fig. 79) strongly curved, protarsi short and broad.

Terminal visible abdominal sternite (Fig. 77) bears short median projection on apical margin.

Aedeagus (Figs. 88-90) 0.37 mm in length, close to the *latus* type, with nearly symmetrical, relatively stout and oval median lobe; apical projections asymmetrical, with long ventral part; parameres asymmetrical, in dorsal view right paramere is shorter than left one and bears subapical tooth-like projection, left paramere has no projection, each paramere bears two apical setae.

Female. Similar to male, except for stouter body, antennomere VII not broader than VIII, protibiae only slightly expanded in middle, without tooth, mesotibiae nearly straight, metatibiae only slightly curved and not as long as those in male, protarsi slightly more slender, apices of elytra without long setae. Body length 1.52 mm, length of head 0.24 mm, width of head 0.30 mm, length of antenna 0.67 mm, length of pronotum 0.49 mm, width of pronotum 0.60 mm, length of elytra 0.79 mm, width of elytra 0.70 mm, EI 1.13.

Type material

Holotype (male): two white printed labels: „CHINA: N-Yunnan [C2005-16], Nujiang Lisu Aut. Pref. Gongshan Co., Gaoligong Shan, sidevalley, 3000-3050 m, 27°47.90'N, 98°30.19'E", „cornif. forest with *Rhododendron*, broad leaved bushes, litter, moss, dead wood sifted along creek and snowfields, 21. VI. 2005, M. Schülke [C2005-16]", and red printed label „*CEPHENNODES* (s. str.) *spinosus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB). Paratype: 1♀, same data as for holotype, with yellow printed label „*CEPHENNODES* (s. str.) *spinosus* m., det. P. Jałoszyński, 2006, PARATYPUS" (PCMS).

Distribution

S China (Yunnan Prov.).

Cephennodes (s. str.) *superlatus* n. sp.
(Figs. 70, 81-84, 91-93)

Name derivation

The name reflects an unusual number of odd modifications of antennae, elytra and legs of this species; Latin „*superlatus*" means „extravagant, excessive, exaggerated".

Diagnosis

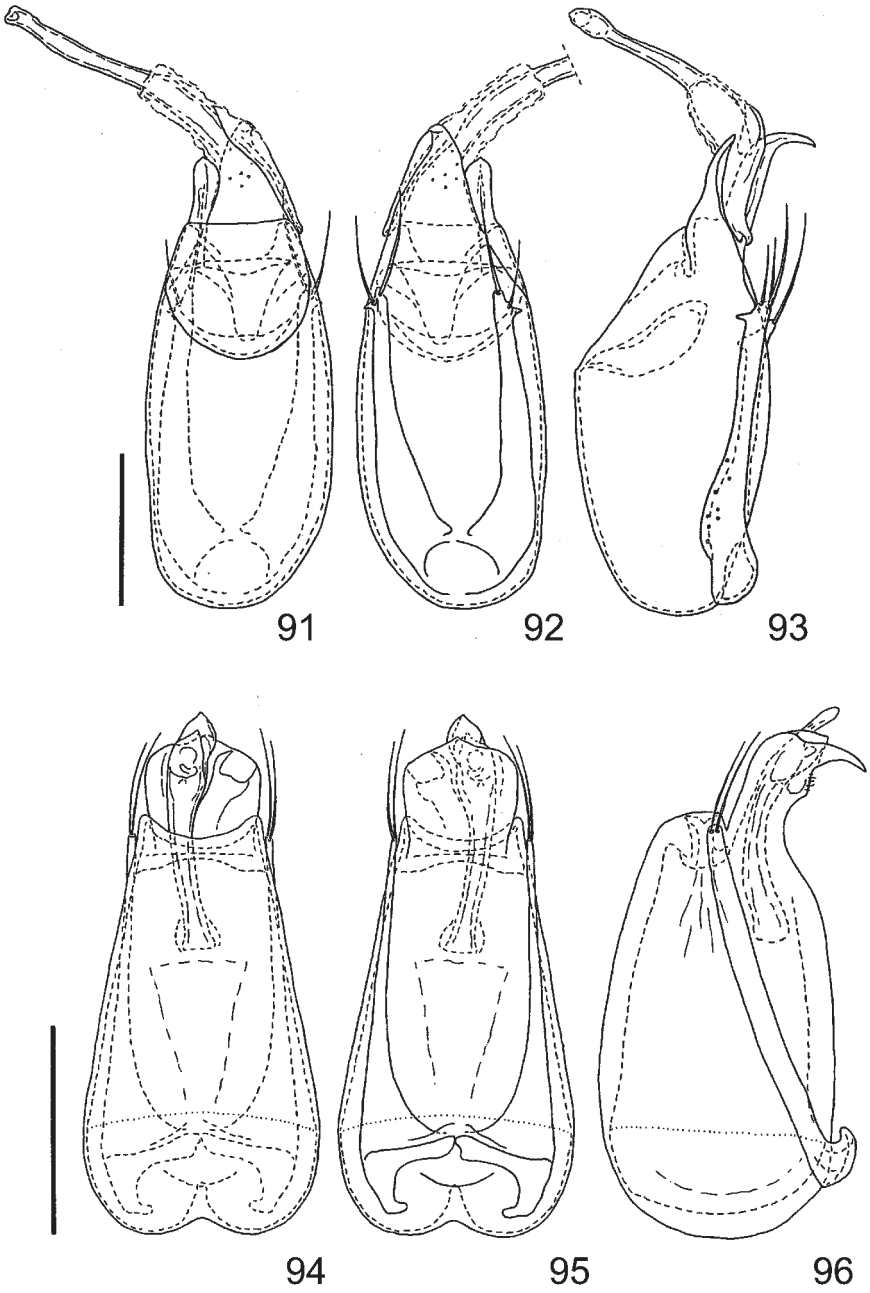
Males of this species are very characteristic and unique in having strongly broadened antennomere VII, flattened sides of elytra in posterior half covered with peculiar vestiture, deeply excavated apices of elytra bearing odd projections, dense brushes of setae and long, erect setae, and long, recurved metatibiae. Female characters unknown.

Description

Male. Body (Fig. 70) moderately large, strongly convex and elongate, moderately dark brown with light brown setation; body length 1.67 mm. Head moderately large, length 0.25 mm, width 0.40 mm; vertex and frons convex, no tubercles found; supraantennal tubercles moderately large, only slightly raised; eyes large. Punctation moderately dense, composed of small but very distinct punctures, except for median part of clypeus, which remains impunctate; setation sparse, moderately long, suberect. Antennae (Fig. 84) long and very slender, length 0.97 mm, antennomere I slightly less than 1.5x as long as broad, II slightly narrower and slightly longer than I, twice as long as broad, III distinctly narrower and shorter than II, about twice as long as broad, IV as broad as III but distinctly shorter, about 1.5x as long as broad, V minimally broader and distinctly longer than IV, about twice as long as broad, VI minimally shorter than V, VII strongly enlarged, nearly twice as long and broad as VI, slightly more than 1.5x as long as broad, VIII much shorter and narrower than VII, slightly longer than broad, IX distinctly longer and slightly broader than VIII, distinctly longer than broad, X slightly larger than IX, similar in shape, XI broader than X and very long, more than twice as long as broad, about as long as IX-X together.

Pronotum broadest slightly anterior to middle, strongly convex and only slightly flattened near each hind angle, length 0.52 mm, width 0.74 mm. Anterior margin moderately broad; sides strongly rounded, relatively strongly narrowing from broadest place toward hind angles, sides in posterior third nearly straight; posterior margin shallowly biemarginate; lateral antebasal foveae nearly equally distant from lateral and posterior margins; lateral carinae extremely narrow, not separated from lateral margins. Punctation extremely fine, punctures are barely noticeable under magnification 40x; setation moderately short and dense, nearly recumbent.

Elytra very convex and elongate, broadest distinctly anterior to middle, length 0.90 mm, width 0.76 mm, EI 1.18. Subhumeral lines carinate, as long as about 0.25x length of elytra; side of each elytron in posterior half bears large, oval, slightly impressed area distant from apex; apex of each elytron (Figs. 81, 82) strongly modified, with very deep excavation, its upper margin with rounded projection near suture and large brush of dense setae closer to lateral margin of elytra. Punctation more distinct than



91-93. *Cephennodes superlatus* n. sp.; 94-96. *C. guadunanus* n. sp. Aedeagus in dorsal (91, 94), ventral (92, 95) and lateral (93, 96) views (scale bars: 0.1 mm)

that on pronotum, composed of very shallow, very small, moderately dense punctures; basic setation similar to that on pronotum but slightly more suberect, additionally each elytron bears several very long, strongly erect setae on lateral impression and similar, numerous setae just anterior to modified apex, lateral impressions are covered with setae more recumbent and shorter than those on surrounding areas, setae on impressions are directed posteriorly and laterally. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very fine punctures.

Legs long and slender, hind tibiae (Fig. 83) strongly recurved.

Aedeagus (Figs. 91-93) 0.32 mm in length, close to the *latus* type, with nearly symmetrical, long and moderately slender median lobe with nearly straight, tapered apical margin of dorsal wall; apical projections asymmetrical, relatively short, in the holotype internal tubular copulatory piece is extruded; parameres relatively short and broad, nearly symmetrical, each with subapical tooth-like lateral projection, one apical and one subapical seta.

Female. Unknown.

Type material

Holotype (male): two white printed labels: „CHINA: N-Yunnan [C2005-13], Nujiang Lisu Aut. Pref. Gongshan Co., Gaoligong Shan, above „ranger station", „27°47.65'N, 98°35.41'E, 2000 m, broadleaved forest remnant, litter & moss sifted, 19. VI. 2005, M. Schülke [C2005-13]", and red printed label „*CEPHENNODES* (s. str.) *superlatus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB).

Distribution

S China (Yunnan Prov.).

***Cephennodes* (s. str.) *guadunanus* n. sp.**

(Figs. 71, 94-96)

Name derivation

Locotypic, after the type locality, Guadun Hills.

Diagnosis

Males of this species are unique in having antennomere I shorter than II. However, most unambiguous diagnostic character is the shape of the male copulatory organ; female characters remain unknown.

Description

Male. Body (Fig. 71) very small, strongly convex, moderately dark brown, with yellowish setation; body length 1.10 mm. Head small, length 0.15 mm, width 0.25 mm; vertex and frons uniformly convex, posterior part of vertex with pair of tiny tubercles; supraantennal tubercles small and only slightly convex; eyes moderately

large. Punctation very dense, composed of large, sharply marked punctures separated one from another by spaces shorter than half diameter of punctures; setation relatively short, sparse, suberect. Antennae slender, 0.50 mm in length; antennomere I about as long as broad, II slightly narrower but distinctly longer than I, 2.2x as long as broad, III-VI equal in width and each distinctly narrower than II; III and IV about 1.2x as long as broad, V 1.5x as long as broad, VI 1.2x as long as broad; antennomere VII slightly broader and longer than VI, about 1.6x as long as broad, VIII slightly broader than VII but distinctly shorter, minimally longer than broad, IX distinctly broader than VIII, about as long as broad, X distinctly broader than IX, minimally broader than long, XI slightly shorter than IX-X together, slightly broader than X.

Pronotum very convex, only slightly flattened near each hind angle, broadest in posterior half (equally broad from about middle up to base), length 0.35 mm, width 0.50 mm. Anterior margin short, so that pronotum in dorsal view appears almost semicircular; lateral margins rounded in anterior part and straight in posterior half; posterior margin shallowly biemarginate; lateral antebasal foveae equally distant from lateral and posterior margins; lateral carinae extremely narrow, not separated from lateral margins. Punctation in central part of disc dense and very distinct, composed of moderately large, sharply marked punctures separated one from another by spaces slightly shorter than puncture diameters; punctures reducing in diameter and depth toward anterior margin of pronotum, but not toward base, where narrow area along posterior margin remains impunctate; surroundings of basal foveae with indistinct punctures; punctation near each front angle is distinctly denser than that in middle. Setation relatively short, moderately sparse, nearly recumbent.

Elytra very convex, broadest distinctly anterior to middle, length 0.60 mm, width 0.55 mm, EI 1.09. Subhumeral lines distinctly carinate, as long as about 0.4x length of elytra; apices of elytra separately rounded. Punctation slightly sparser than that in central part of pronotum, but composed of very small and very shallow, slightly irregular punctures; basic setation composed of nearly recumbent setae very similar to those on pronotum, additionally each elytron bears several much longer and erect setae. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with distinct, relatively dense punctation; punctures are separated one from another by spaces about as long as puncture diameters.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 94-96) 0.25 mm in length, variant of the *latus* type, with symmetrical median lobe broadest near base, its small basal part has thinner and lighter walls than thick-walled and dark distal part; apical projections asymmetrical, broad and relatively long; parameres symmetrical, each bears two apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *guadunanus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution
S China (Fujian Prov.).

Cephennodes (s. str.) *masuanus* n. sp.
(Figs. 72, 97-99)

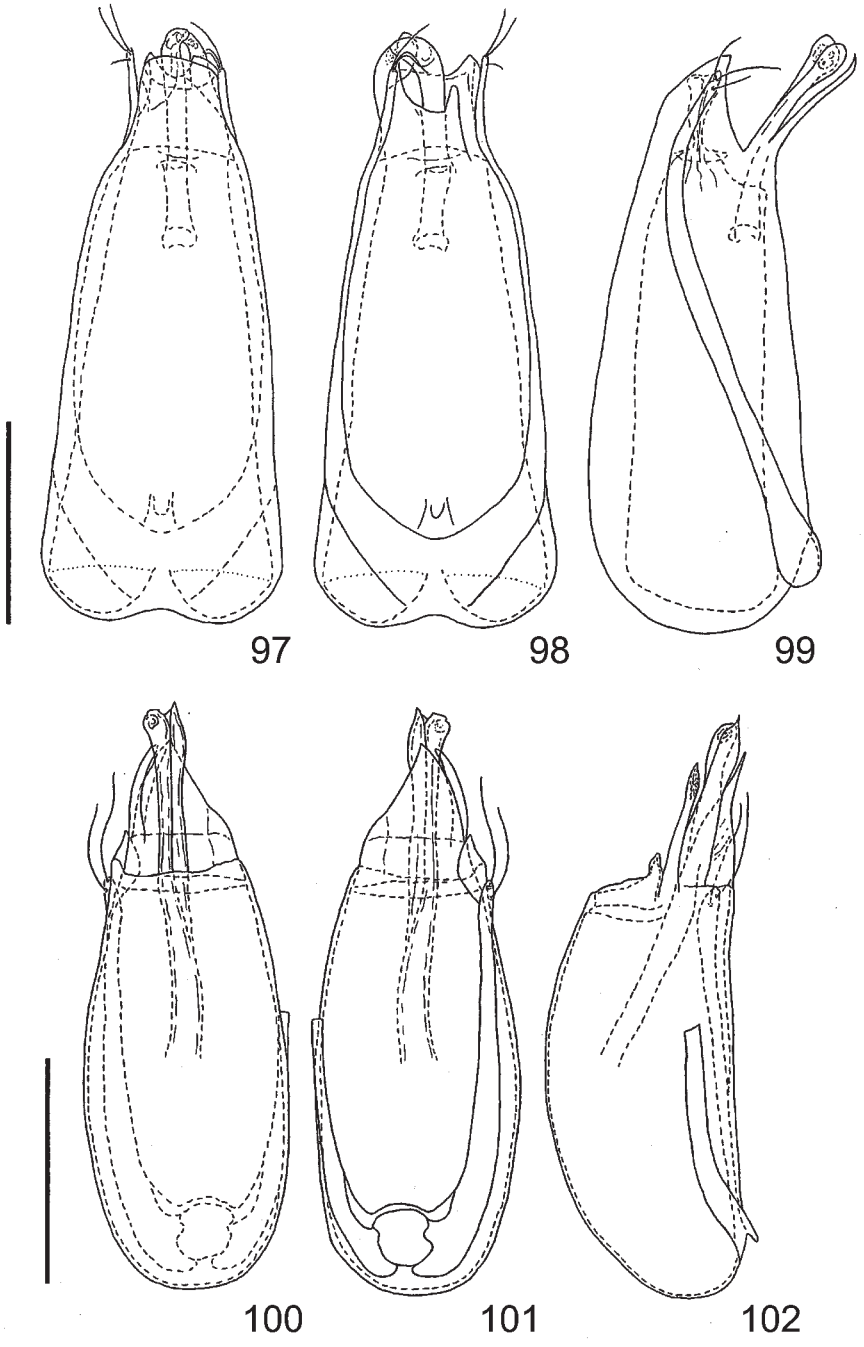
Name derivation
Locotypical, after Masu, the type locality of the new species.

Diagnosis
This species is relatively unremarkable and external characters (very small body, pronotum distinctly narrower than elytra, antennomere XI slightly shorter than IX-X together, subhumeral lines on elytra very short and not carinate, with rounded edge) have secondary importance for identification; examination of its unique aedeagus is necessary. Female characters remain unknown.

Description
Male. Body (Fig. 72) small, moderately convex, moderately dark brown with yellowish setation; body length 1.12 mm. Head small, length 0.16 mm, width 0.25 mm; vertex weakly convex in posterior part and nearly flat anteriorly, no tubercles found; frons convex; supraantennal tubercles distinct but only slightly raised; eyes large. Punctation distinct, composed of moderately large punctures, which are denser near antero-internal part of each supraantennal tubercle; setation sparse and relatively short, suberect. Antennae slender, 0.29 mm in length, antennomere I 1.5x as long as broad, distinctly flattened dorso-ventrally, II slightly narrower than I but only minimally shorter, about twice as long as broad, III-VI each equal in width and distinctly narrower than II, their lengths are gradually reducing so that antennomere III is about 1.5x as long as broad and VI about 1.2x as long as broad, VII distinctly longer and slightly broader than VI, about 1.5x as long as broad, VIII slightly shorter and distinctly broader than VII, nearly as long as broad, IX larger than VIII, minimally longer than broad, X larger than IX, as long as broad, XI yet broader, slightly shorter than IX-X together.

Pronotum broadest near middle, only slightly flattened near each hind angle, length 0.31 mm, width 0.47 mm. Anterior margin relatively short; sides strongly rounded and from widest place distinctly narrowing toward hind angles; posterior margin only weakly biemarginate; lateral antebasal foveae nearly equally distant from lateral and posterior margins; lateral carinae narrow, not separated from margins. Punctation in central part of disc fine and sparse, punctures are distinctly larger and denser near each front angle; setation moderately sparse and long, nearly recumbent.

Elytra more convex than pronotum, broadest slightly anterior to middle, length 0.65 mm, width 0.54 mm, EI 1.20. Subhumeral line on each elytron as long as only about 0.2x length of elytra, with rounded (not carinate) edge; apices of elytra separately rounded. Punctation moderately sparse, punctures very small and very shallow; setation similar to that on pronotum, nearly recumbent, additionally with 3-4 erect setae on each elytron. Scutellum broader than long; hind wings well developed, about twice as long as elytra.



97-99. *Cephennodes masuanus* n. sp.; 100-102. *C. nitens* n. sp. Aedeagus in dorsal (97, 100), ventral (98, 101) and lateral (99, 102) views (scale bars: 0.1 mm)

Metasternum with very fine and sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 97-99) 0.29 mm in length, variant of the *latus* type; median lobe broadest near base, with very small thin-walled basal part relatively well delimited from very thick walls (especially ventral and dorsal) of remaining part of median lobe, apical margin of dorsal wall is projected and tapered, slightly asymmetrical, ventral apical projections asymmetrical, composed of three separate, slender structures; parameres very long and slender, nearly symmetrical, each with three apical/subapical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Masu (1100 m), 6. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *masuanus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution

S China (Fujian Prov.).

Cephennodes (s. str.) *nitens* n. sp.

(Figs. 100-103)

Name derivation

The name refers to a relatively glossy, very finely punctate body; after Latin adjective „*nitens*" meaning „shining".

Diagnosis

The following combination of characters is unique for this species: body very small (about 1 mm in length) and slender; frons impunctate in median anterior part, sides and posterior part of frons and entire vertex with distinct punctation; subhumeral lines on elytra very short; punctation of pronotum and elytra very fine and sparse; setation very short. Examination of aedeagus may be necessary to confirm identification.

Description

Male. Body (Fig. 103) very small and relatively elongate, moderately convex, moderately light brown with yellowish setation; body length 1.02 mm. Head small, length 0.15 mm, width 0.24 mm; vertex and frons regularly convex, without noticeable tubercles; supraantennal tubercles distinct but only slightly raised; eyes moderately large. Punctation very distinct, composed of moderately large punctures separated one from another by spaces 1.5-2x as long as puncture diameters, except for central anterior part of frons, which is impunctate; setation relatively short and sparse, suberect. Antennae moderately long, with slender flagellum and broad, distinct club, length 0.55 mm, antennomere I about 1.5x as long as broad, II distinctly narrower and slightly shorter than I, about twice as long as broad, III-VI subequal in length and width, each

distinctly narrower than II and about 1.2x as long as broad, VII distinctly longer and broader than VI, about 1.5x as broad as long, VIII as broad as VII but distinctly shorter, about as long as broad, IX much broader and longer than VIII, about as long as broad, X yet longer, slightly broader than long, XI slightly broader than X and slightly longer than IX-X together.

Pronotum moderately convex and only slightly flattened near each hind angle, broadest slightly anterior to middle, length 0.32 mm, width 0.42 mm. Anterior margin short; sides broadly rounded in anterior half and only slightly rounded in posterior half, distinctly narrowing toward base; posterior margin very shallowly biemarginate; lateral antebasal foveae located slightly closer to lateral than to posterior margins; lateral carinae narrow, not separated from lateral margins. Punctation very fine and sparse, except for area near each front angle, where punctures are slightly larger and denser, but still shallow and indistinctly delimited; setation very short, moderately sparse, only slightly suberect.

Elytra moderately convex, broadest near middle, length 0.55 mm, width 0.50 mm, EI 1.10. Subhumeral lines carinate, about as long as 0.3x length of elytra; apices of elytra separately rounded. Punctation and setation very similar to those on pronotum. Scutellum broader than long; hind wings about twice as long as elytra.

Metasternum extremely finely punctate.

Legs moderately long, slender, without particular characters.

Aedeagus (Figs. 100-102) 0.26 mm in length, close to the *latus* type, with nearly symmetrical, moderately slender median lobe; apical projections asymmetrical, relatively long, with subtriangular and pointed ventral part; parameres moderately slender, in the holotype apical part of one paramere is missing, the remaining paramere bears one apical and one subapical seta.

Female. Externally indistinguishable from male, body length 1.04 mm, length of head 0.15 mm, width of head 0.25 mm, length of antennae 0.52 mm, length of pronotum 0.32 mm, width of pronotum 0.45 mm, length of elytra 0.57 mm, width of elytra 0.50 mm, EI 1.14.

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (s. str.) *nitens* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB). Paratype: 1 ♀, same data as for holotype, with standard yellow printed „paratypus" label (PCPJ).

Distribution

S China (Fujian Prov.).

***Cephennodes* (s. str.) *longipes* n. sp.**

(Figs. 104, 109-112)

Name derivation

The name refers to unusually long legs of this species.

Diagnosis

Males of *C. longipes* are very characteristic and can be easily identified on the basis of very convex body, extremely slender antennae with antennomere VII over 3x as long as broad, long legs, and modified apices of elytra - each elytron has oval impression near apex, delimited posteriorly by expanded posterior margin of elytron. Female characters remain unknown.

Description

Male. Body (Fig. 104) moderately large, very convex, with dark brown head and pronotum and slightly lighter elytra, setation light brown; body length 1.62 mm. Head moderately large, length 0.22 mm, width 0.39 mm; vertex and frons regularly convex, without tubercles; supraantennal tubercles indistinct; eyes moderately large. Punctation of frons and vertex dense, composed of relatively small, but very distinct punctures separated one from another by spaces about equal to puncture diameters; setation sparse and short, suberect. Antennae very long and slender, length 1.05 mm, antennomere I about 1.5x as long as broad, II slightly longer and narrower than I, about twice as long as broad, III-VI subequal in width, each slightly narrower than II, minimally increasing in length from III, which is twice as long as broad to VI, which is 2.2x as long as broad, VII minimally broader than VI, extremely long, its length equals to about 3.2x width, VIII distinctly shorter and slightly broader than VII, about twice as long as broad, IX longer and broader than VIII, slightly more than twice as long as broad, X only slightly longer and broader than IX, about twice as long as broad, XI broader than X, distinctly shorter than IX-X together.

Pronotum very convex, only slightly flattened near each hind angle, broadest near anterior third, length 0.50 mm, width 0.64 mm. Anterior margin moderately broad; sides in slightly more than anterior third broadly rounded, then barely noticeably narrowing toward hind angles, minimally constricted near posterior third; posterior margin very shallowly biemarginate; lateral antebasal foveae very small, located much closer to lateral than to posterior margins; narrow area along each lateral margin posterior to antebasal fovea is slant and separated by narrow carina. Punctation in central part of disc dense, composed of relatively small but distinctly marked punctures, separated one from another by spaces equal to or slightly shorter than puncture diameters, near anterior margin punctures are slightly smaller than those in middle, narrow area along posterior margin remains impunctate, except for several unevenly distributed punctures, relatively large area near each front angle bears punctures slightly larger and denser than those in central part, area lateral and posterior to each basal fovea bears several large, dense punctures, about twice as large as those in central part of disc. Setation short, relatively sparse, suberect, additionally each lateral margin near middle bears long seta directed laterally.

Elytra very convex, broadest slightly anterior to middle, length 0.90 mm, width 0.82 mm, EI 1.10. Subhumeral lines distinctly carinate, as long as about 0.4x length of elytra; apex of each elytron (Fig. 112) modified, with shallow oval impression posteriorly delimited by expanded posterior margin of elytron. Punctation slightly sparser than that on central part of pronotum, composed of much smaller and shallower, moderately

distinct punctures; basic setation similar to that on pronotum but slightly denser and more erect, additionally each elytron bears several long, erect setae. Scutellum large, broader than long; hind wings well developed, about twice as long as elytra.

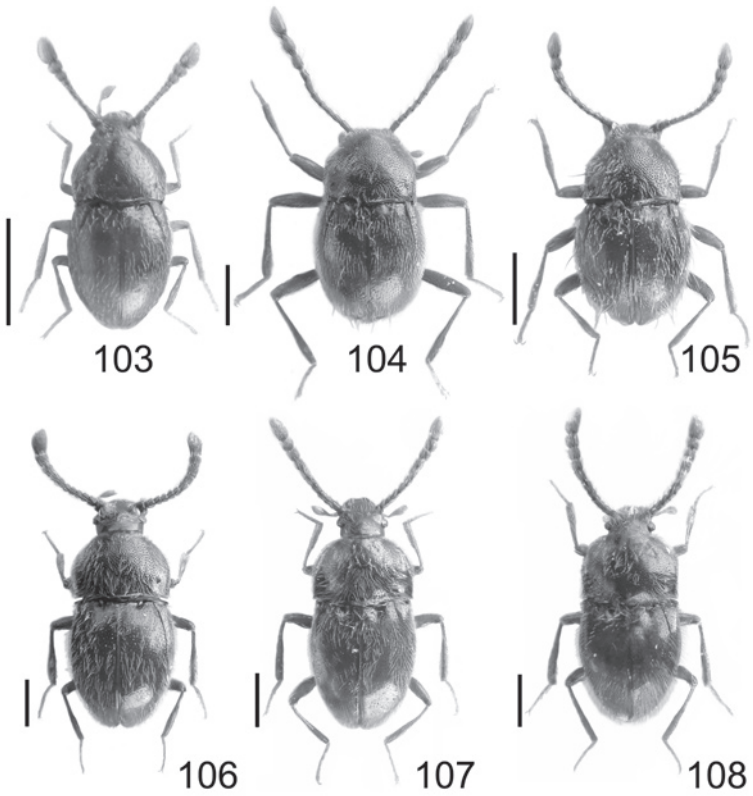
Posterior margin of pygidium bears pair of long, slightly curved setae directed posteriorly.

Metasternum with sides covered with fine and sparse punctures, central part with moderately small and relatively dense punctures, posterior part behind paracoxal sutures with very dense punctures.

Legs very long and slender, without any peculiar characters.

Aedeagus (Figs. 109-111) 0.35 mm in length, variant of the *latus* type, with nearly symmetrical median lobe broadest near base, its small basal part has thinner and lighter walls than thick-walled and dark distal part, apical margin of dorsal wall with deep subrectangular notch; apical projections asymmetrical and long; parameres nearly symmetrical, each bears two apical setae.

Female. Unknown.



103-108. Dorsal aspect of male. 103 – *Cephennodes nitens* n. sp.; 104 – *C. longipes* n. sp.; 105 – *C. penicillatus* n. sp.; 106 – *C. hippopotamus* n. sp.; 107 – *C. malleiphallus* n. sp.; 108 – *C. rectangulicollis* n. sp. (scale bars: 0.5 mm)

Type material

Holotype (male): white printed label „ab Liangshui (1,710 m), Mt. Miao'ershan, Xing'an Xian", another white printed label „[Guangxi, CHINA], {locality from the first label repeated in Chinese characters}, 26. v. 1996, Y. Nishikawa", and red printed label „*CEPHENNODES* (s. str.) *longipes* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT).

Distribution

S China (Guangxi Prov.).

Remarks

This species is most similar to *C. penicillatus* n. sp. Both of them share a moderately large, very stout and very convex body with the pronotum narrower than the elytra, very long and slender antennae and legs, dense punctation of the head and the pronotum, extremely narrow lateral carinae on the pronotum, moderately long subhumeral lines, and males have modified apices of the elytra. Also their aedeagi are similar. The apical impressions in *C. longipes* and the subapical bunches of setae in *C. penicillatus* are unambiguous key characters to discriminate between these species.

***Cephennodes* (s. str.) *penicillatus* n. sp.**

(Figs. 105, 113-115)

Name derivation

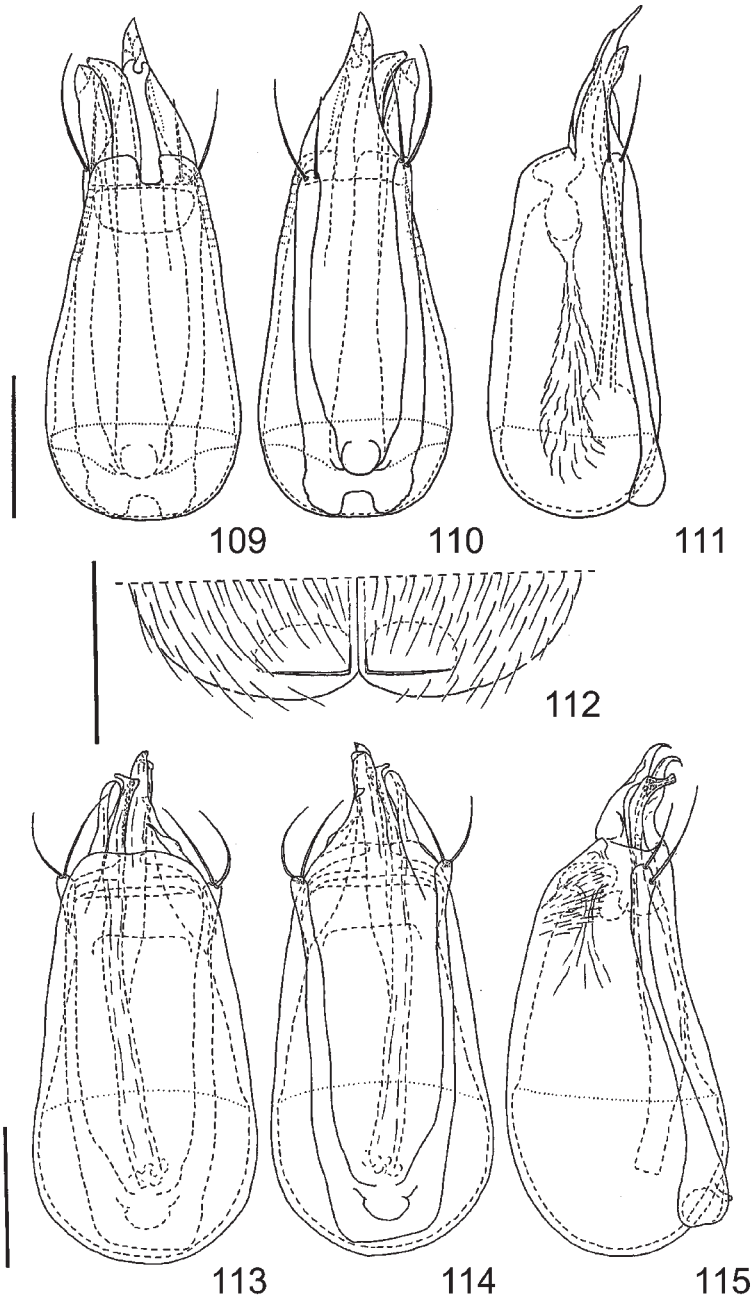
Latin „*penicillum*" means „a brush"; the epithet was chosen to reflect the unique setation of elytra in males of this species.

Diagnosis

Males of this species are unique within the genus in having a conical bunch of long setae in posterior part of each elytron, adsutural area between these bunches and posterior to them is shallowly impressed, and apices of elytra are slightly projected posteriorly. Moreover, *C. penicillatus* has a very convex body with very long and slender legs and antennae, single long lateral seta near middle of each side of pronotum and several long erect setae on each elytron amongst shorter and less erect basic vestiture. Female characters remain unknown.

Description

Male. Body (Fig. 105) moderately small, very convex, head and pronotum very dark brown, nearly black, elytra dark reddish-brown, setation yellowish-brown; body length 1.43 mm. Head relatively small, length 0.22 mm, width 0.30 mm, vertex only slightly convex, appears nearly flat, no tubercles found; frons slightly convex; supraantennal tubercles weakly marked, only slightly raised; eyes moderately large. Punctation very dense, composed of moderately large, very distinct punctures; setation sparse, relatively short, suberect. Antennae long and slender, length 0.77 mm; antennomere I about 1.5x as long as broad, II distinctly narrower and slightly shorter than I, about 1.7x as long as broad, III-VI nearly equal in length and width (only III minimally broader than IV-



109-112. *Cephennodes longipes* n. sp.; 113-115. *C. penicillatus* n. sp. Aedeagus in dorsal (109, 113), ventral (110, 114) and lateral (111, 115) views; apex of elytra of male in dorsal view (112) (scale bars: 109-111, 113-115 – 0.1 mm; 112 – 0.2 mm)

VI), each distinctly narrower than II and 1.4-1.5x as long as broad, VII slightly broader and much longer than VI, about 2.2x as long as broad, VIII slightly broader than VII but distinctly shorter, about 1.5x as long as broad, IX broader and slightly longer than VIII, about 1.3x as long as broad, X broader and longer than IX, about 1.2x as long as broad, XI about as long as IX-X together, distinctly broader than X.

Pronotum broadest between middle and anterior third, strongly convex and only slightly flattened near each hind angle, length 0.42 mm, width 0.65 mm. Anterior margin relatively short; sides in anterior third broadly rounded, then nearly straight and barely noticeably narrowing toward hind angles; posterior margin shallowly biemarginate; lateral antebasal foveae located much closer to lateral than to posterior margins; lateral carinae very narrow, not separated from lateral margins. Punctation of central part of disc very distinct, composed of moderately large, densely distributed punctures separated one from another by spaces equal to or shorter than puncture diameters, punctures becoming distinctly smaller and shallower toward anterior margin and only slightly smaller toward base, where narrow area along posterior margin remains impunctate (except for several unevenly distributed and very small punctures), surroundings of basal foveae with indistinct punctation, relatively large area near each front angle is covered with punctures larger and denser than those in central part of disc. Setation relatively short, moderately dense, suberect, additionally each lateral margin bears long and laterally directed seta just posterior to middle.

Elytra very convex, broadest distinctly anterior to middle, length 0.79 mm, width 0.74 mm, EI 1.07. Subhumeral lines distinctly carinate, nearly as long as half length of elytra; elytra near apices distinctly flattened around suture, apices of elytra slightly protruding posteriorly and separately rounded. Punctation composed of very small, sharply marked punctures distributed slightly sparser than those in central part of pronotum; basic setation about as dense as that on pronotum but slightly longer and slightly more erect, additionally each elytron bears several much longer upright setae, and conical bunch of long setae directed posteriorly located close to apex (each bunch is composed of setae with bases distant one to another but approximate apices); setae on posterior adsutural flattening are very short and nearly recumbent. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very small and sparse punctures covering each side, and slightly larger and much denser punctures in central area, where distances between punctures are equal to or slightly shorter than puncture diameters; posterior part of sternum behind paracoxal sutures is covered with very dense, large punctures.

Legs very long, with relatively thick and short tarsi.

Aedeagus (Figs. 113-115) 0.37 mm in length, close to the *latus* type, with nearly symmetrical, relatively stout median lobe, its large basal part has thinner and lighter walls whereas distal part is darker and thick-walled; apical projections asymmetrical and relatively short; parameres nearly symmetrical, each bears two apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: Fujian Province, Wuyi Shan, ca. 800 m, Sangan, 2. vi. 2001, N27°75' E117°68', leg J.Cooter + P. Hlaváč, Sieved mixed

forest litter", and red printed label „*CEPHENNODES* (s. str.) *penicillatus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution
S China (Fujian Prov.).

Remarks
See remarks for *C. longipes*.

Subgenus *Fusionodes* n. subgen.

Name derivation
The name refers to the parameres fused with the median lobe, characteristic for this subgenus (gender masculine).

Diagnosis
Parameres symmetrical, fused to median lobe, so that usually only very short apical parts are recognizable; or parameres entirely reduced; median lobe symmetrical or only slightly asymmetrical, with ventral orifice located near middle.

Description
External characters as in generic diagnosis.

Aedeagus variously shaped, with large and symmetrical median lobe; usually only very short apical parts of parameres with 2-3 apical setae are recognizable, sometimes parameres are entirely reduced; median lobe with small basal part having thin walls, whereas remaining part of median lobe has thick (sometimes very thick), darkly sclerotized walls; apical structures can be divided into ventral part composed of variously developed, but usually well visible subtriangular, subtrapezoidal, subrectangular or bilobate projection formed by ventral wall of median lobe, and median structures showing a wide range of shapes, often being very complicated and massive, usually symmetrical, but sometimes with asymmetrical parts; endophallus usually not visible due to dark pigmentation of thick walls, in some case relatively short and rather indistinct tubular structure can be seen as internal continuation of one of external elements of apical projections.

Remarks
There is only one species of *Fusionodes*, including those described below, having a modification that can be recognized as a male secondary sexual character (*C. malleiphallus*), and it is a small tubercle on the metasternum. In *Cephennodes* s. str., in contrast, a remarkable variety of male secondary sexual characters was found, located on the head, antennae, elytra, legs or abdominal sternites. Further study and descriptions of more species must be undertaken to verify whether lack of modifications of the head, elytra and legs is typical for *Fusionodes*.

Cephennodes (*Fusionodes*) *hippopotamus* n. sp.
(Figs. 106, 116-118)

Name derivation

The name was selected to reflect the large body of the new species.

Diagnosis

This species can be distinguished from all other members of the genus on the basis of its remarkably large body which exceeds 2.3 mm in length, and unique aedeagus. Female diagnostic characters remain unknown.

Description

Male. Body (Fig. 106) very large and convex, dark brown, clothed with golden-brown setation; body length 2.32 mm. Head large, length 0.37 mm, width 0.51 mm; vertex convex, with pair of very tiny tubercles; frons convex; supraantennal tubercles large, raised; eyes moderately large. Frons and anterior part of vertex with large, moderately dense punctures which become smaller in median and posterior parts of vertex; setation moderately dense, short, suberect. Antennae 1.12 mm in length, relatively compact, antennomere I 1.5x as long as broad, II distinctly smaller than I, 1.5x as long as broad, III slightly narrower than II, about as long as broad, IV-VI equal in length and width, each minimally shorter than broad, VII larger than VI, 1.5x as long as broad, VIII shorter but broader than VIII, about as long as broad, IX larger than VIII, slightly longer than broad, X larger than VIII, slightly longer than broad, XI yet broader, as long as IX and X together.

Pronotum broadest in middle, very convex in central part and strongly flattened near each hind angle, length 0.70 mm, width 0.95 mm. Anterior margin very broad; sides broadly rounded in anterior 2/3, in posterior third lateral margins slightly concave and finely serrate; basal margin deeply biemarginate; lateral antebasal pits located closer to lateral than to basal margins; lateral margins narrowly carinate, carinae not separated from margins. Disc covered with moderately large and dense punctures, in median part separated one from another by distances slightly shorter than puncture diameters, punctures become smaller toward base, narrow area along posterior margin and around antebasal pits is covered with very fine and sparse punctures barely noticeable under magnification 40x, punctures on sides of disc are slightly oval, elongated longitudinally and denser than those in middle, front angles are covered with particularly dense punctures, separated one from another by spaces as short as 1/4 of puncture diameters. Setation moderately long and dense, suberect.

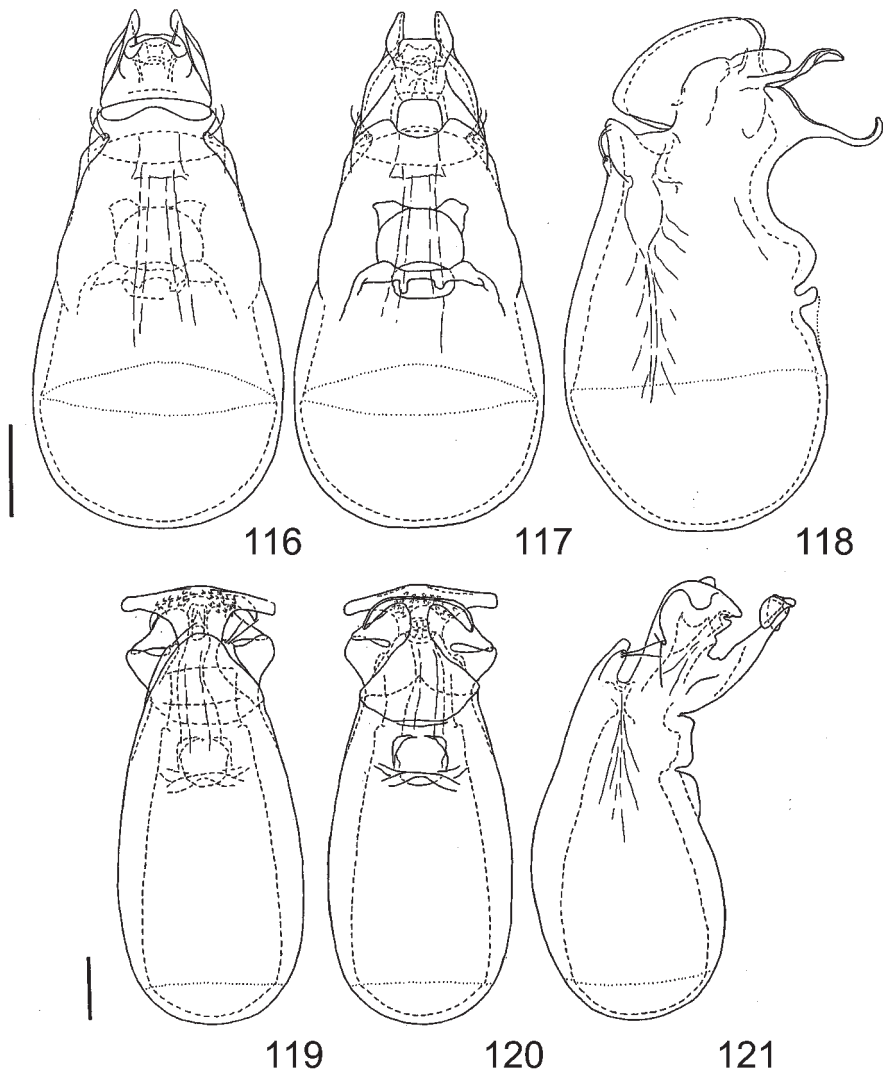
Elytra strongly convex, broadest anterior to middle, length 1.25 mm, width 1.04 mm, EI 1.20. Subhumeral lines distinctly carinate, slightly shorter than half length of elytra; apices of elytra separately rounded. Punctation much finer and sparser than that on pronotum, punctures are shallow but distinct and well visible on entire surface of elytra; setation similar to that on pronotum but distinctly more erect. Scutellum broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with very small and sparse punctures.

Legs moderately long and slender; all femora covered with very dense and large punctures.

Aedeagus (Figs. 116-118) 0.50 mm in length, broad at base and strongly narrowing toward apex, with two large, apical lobes oval in lateral view and two very long ventral subapical projections; basal thin-walled part relatively large; apices of parameres slender, each with two short apical setae.

Female. Unknown.



116-118. *Cephennodes hippopotamus* n. sp.; 119-121. *C. malleiphallus* n. sp. Aedeagus in dorsal (116, 119), ventral (117, 120) and lateral (118, 121) views (scale bars: 0.1 mm)

Type material

Holotype (male): white printed label „CHINA: FUJIAN prov., Wuyi Shan Nat. Res., Guadun hill (900-1300 m), 1-2. vi. 2001, Hlaváč&Cooter lgt.", and red printed label „*CEPHENNODES* (*FUSIONODES*) *hippopotamus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCPH, final depository SNMB).

Distribution

S China (Fujian Prov.).

Remarks

This is the largest species of *Cephennodes* known from China.

Cephennodes (*Fusionodes*) *malleiphallus* n. sp.

(Figs. 107, 119-121)

Name derivation

The name refers to an unusual, hammer-shaped apex of the aedeagus found in this species; after Latin noun „*malleus*" meaning „a hammer".

Diagnosis

This species is unique in having broad lateral carinae on pronotum marked not in posterior part of lateral margins, as in all other species, but well visible nearly up to front angles and disappearing near antebasal foveae, so that posterior 1/5 of each lateral margin is without carina. Moreover, lateral antebasal foveae on pronotum are rather broad and indistinctly delimited impressions than typical small pits, metasternum in males bears small tubercle, and aedeagus has an odd T-shaped apical projection. Female characters remain unknown.

Description

Male. Body (Fig. 107) large, moderately convex, dark brown, with yellowish setation; body length 2.04 mm. Head large, length 0.27 mm, width 0.42 mm; vertex very convex, without noticeable tubercles; frons only slightly convex; supraantennal tubercles large but moderately raised; eyes relatively large. Punctation on posterior part of vertex, supraantennal tubercles and anterior part of frons extremely fine and sparse, barely noticeable under magnification 40x, punctures on posterior part of frons and anterior part of vertex very distinct, moderately large, unevenly distributed, separated one from another by spaces from about half puncture diameters to about twice as long; setation relatively sparse and short, suberect. Antennae moderately long, very compact, length 1.04 mm, antennomere I relatively short, only slightly longer than broad, II minimally narrower and slightly shorter than I, about 1.2x as long as broad, III minimally narrower than II, about as long as broad, IV as broad as II, slightly longer than III, slightly less than 1.2x as long as broad, V-VI equal in length and width, each about as broad as IV but slightly longer, VII slightly longer and broader than VI, about 1.2x as long as broad, VIII minimally (barely noticeably) shorter than VII and slightly broader, only

slightly longer than broad, IX slightly broader than VIII but about equally long, about as long as broad, X slightly broader and longer than IX, about as long as broad, XI slightly shorter than IX-X, only slightly broader than X.

Pronotum moderately convex, strongly flattened near each hind angle and along lateral margins, broadest in posterior 1/4-1/5, length 0.60 mm, width 0.85 mm. Anterior margin very broad; sides broadly rounded and finely serrate, very short posterior part of lateral margins barely noticeably concave and convergent; posterior margin deeply biemarginate; lateral antebasal foveae indistinctly delimited, forming rather broad elongate impressions than pits, their centers are located closer to lateral than to posterior margins; lateral carina along each lateral margin broad and very distinct from posterior 1/5 nearly up to front angle, not separated from margin, short part of lateral margins posterior to basal foveae not carinate. Punctation on central part of disc composed of small but dense punctures separated one from another by spaces slightly longer than puncture diameters, very narrow area along posterior margin impunctate, surroundings of basal foveae are covered with indistinct punctures, relatively large area near each front angle bears punctures distinctly larger and denser than those in central part of disc. Setation moderately long and dense, suberect.

Elytra more convex than pronotum, broadest distinctly anterior to middle, length 1.17 mm, width 0.97 mm, EI 1.21. Subhumeral lines distinctly carinate, as long as about 0.3x length of elytra; apices of elytra separately rounded. Punctation about as dense as that on central part of pronotum but composed of very small punctures; setation very similar to that on pronotum but slightly more erect. Scutellum small, barely visible; hind wings well developed, about twice as long as elytra.

Metasternum with concave sides and very convex, broadly subtriangular median part bearing distinct, slightly elongate and pointed median tubercle near posterior margin; small area posterior to tubercle impunctate, remaining parts of sternum with fine, moderately dense punctures, concave sides with setae longer than those in convex median part.

Legs moderately long and slender without any peculiar characters.

Aedeagus (Figs. 119-121) large, 0.52 mm in length, with extremely thick and very darkly sclerotized walls, small basal thin-walled part of median lobe only slightly lighter, ventral wall of median lobe forms large projection with broad, rhomboidal base and slender, T-shaped distal part with arms curved toward base, median apical projections massive, T- or hammer-shaped, minimally asymmetrical; apices of parameres long, each bears two apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „Dabei (2,430 m), Gaoligongshan Mts., Tengchong X., Yunnan, [SE - CHINA]; {locality repeated in Chinese characters}; 11. x. 1996, S. Nomura", and red printed label „*CEPHENNODES* (*FUSIONODES*) *malleiphallus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT).

Distribution
S China (Yunnan Prov.).

Cephennodes (*Fusionodes*) *rectangulicollis* n. sp.
(Figs. 108, 122-124)

Name derivation
The name refers to the very broad, nearly rectangular pronotum of this species.

Diagnosis
The following set of characters is unique for *C. rectangulicollis*: large body; pronotum nearly rectangular, with short parts of lateral margins near hind angles distinctly expanded laterally; and very characteristic apical structures of aedeagus. Female diagnostic characters remain unknown.

Description
Male. Body (Fig. 108) large and convex, elongate, dark brown with light brown setation; body length 1.97 mm. Head moderately large, length 0.25 mm, width 0.42 mm; vertex regularly convex, with pair of very small but distinct tubercles in posterior part; frons convex; supraantennal tubercles large, well marked; eyes moderately large. Punctures covering head small and moderately dense, except for internal margins of supraantennal tubercles and anterior part of frontoclypeal area, which bear large and dense punctures; setation moderately dense, short, suberect. Antennae moderately long, relatively slender, club not delimited, length 1.00 mm, antennomere I slightly longer than broad, II slightly narrower than I, about 1.2x as long as broad, III-V nearly equal in length and width, each slightly narrower than II and slightly longer than broad, VI slightly longer and minimally broader than V, slightly longer than broad, VII distinctly longer but not broader than VI, about 1.5x as long as broad, VIII shorter but broader than VII, about as long as broad, IX slightly larger than VIII, about as long as broad, X larger than IX, as long as broad, XI yet broader, about as long as IX-X together.

Pronotum very convex in central part and strongly flattened near each hind angle and along lateral margins, broadest at base, length 0.62 mm, width 0.80 mm. Anterior margin very broad so that pronotum in dorsal view appears nearly rectangular; sides broadly rounded in anterior half, then nearly straight and their short posterior parts expanded laterally (i.e. sides are divergent near hind angles); posterior margin moderately deeply biemarginate; lateral antebasal fovea marked as broad, elongate impressions rather than typical pits, their centers are located slightly closer to lateral than to posterior margins; lateral carinae relatively broad, but not separated from lateral margins. Punctation in central part of disc relatively dense, composed of small, distinct punctures separated one from another by spaces equal to or slightly longer than puncture diameters, punctures near anterior margin are slightly smaller than those on central part, narrow area along posterior margin impunctate, moderately large area near each front angle covered with punctures much larger and denser than those in middle. Setation moderately dense and long, suberect.

Elytra very convex, broadest near anterior third, length 1.10 mm, width 0.92 mm, EI 1.20. Subhumeral lines carinate, as long as about 0.3x length of elytra; apices of elytra separately rounded. Punctation slightly sparser than that on central part of pronotum, composed of very small, sharply marked punctures; setation distinctly longer and much more erect than that on pronotum, similarly dense. Scutellum very small, barely visible; hind wings entirely reduced.

Metasternum with very small and sparse punctures, barely noticeable under magnification 40x.

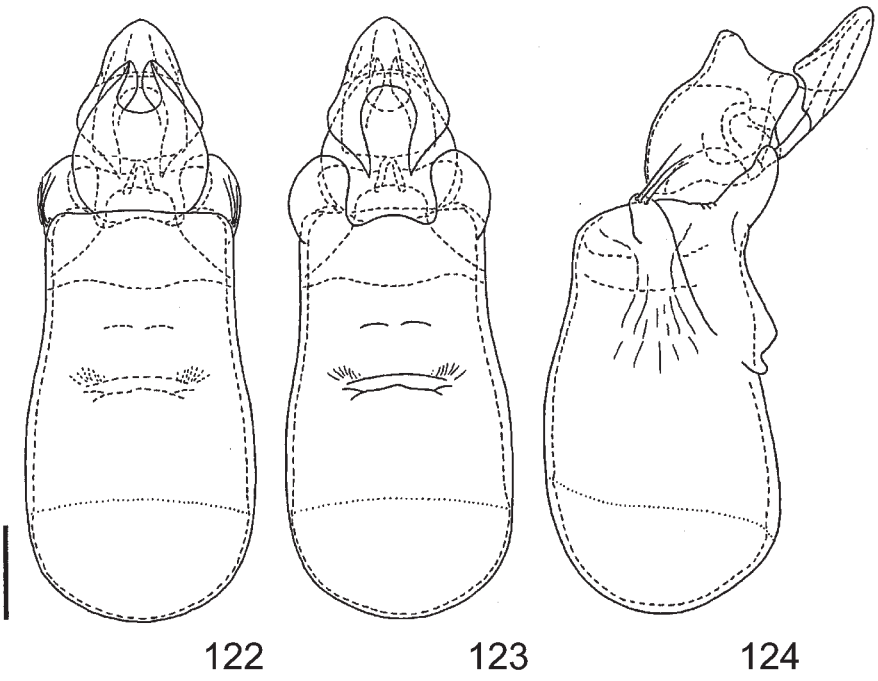
Legs relatively long, without any peculiar characters.

Aedeagus (Figs. 122-124) 0.65 mm in length, median lobe only slightly narrowing toward apex, with bilobate ventral apical projection and large median apical structures with long ventral part; apices of parameres relatively broad, each with three apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „Baihualing (2,290 m), Gaoligongshan Mts., Baoshan Xian, Yunnan", another white, printed label „[SE-CHINA], {locality from the first label repeated in Chinese characters}, 16. x. 1996, S. Nomura", and red printed



122-124. *Cephennodes rectangulicollis* n. sp. Aedeagus in dorsal (122), ventral (123) and lateral (124) views (scale bar: 0.1 mm)

label „*CEPHENNODES* (*FUSIONODES*) *rectangulicollis* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT).

Distribution
S China (Yunnan Prov.).

Cephennodes (*Fusionodes*) *schuelkei* n. sp.
(Figs. 125, 129-131)

Name derivation
This species is dedicated to Michael Schülke, a specialist on Staphylinidae, who collected in China many undescribed species of Cephenniini, including the type material of *C. schuelkei*.

Diagnosis
As other similar species of *Fusionodes*, *C. schuelkei* has large and elongate body, very short subhumeral lines on elytra, and relatively small punctures covering head, pronotum and elytra; examination of its unique aedeagus is necessary for unambiguous determination. Females can be identified only by direct comparison to males.

Description
Male. Body (Fig. 125) relatively large, elongate, moderately convex, moderately dark brown with light brown setation; body length 1.81-1.99 mm (mean 1.89 mm). Head moderately large, length 0.26-0.27 mm (mean 0.265 mm), width 0.40-0.42 mm (mean 0.41 mm); vertex and frons uniformly convex, posterior part of vertex with pair of very small tubercles; supraantennal tubercles relatively large but moderately raised; eyes relatively large. Punctation moderately dense, composed of punctures of various diameters but on average very small; setation moderately sparse, relatively short, suberect. Antennae moderately slender and long, club not separated, length 0.97-1.05 mm (mean 1.01 mm), antennomere I about 1.5x as long as broad, II distinctly narrower and about as long as I, ca. 1.7x as long as broad, III-VI subequal in length and equal in width, each slightly narrower than II and 1.2-1.3x as long as broad, VII distinctly longer and slightly broader than VI, slightly more than 1.5x as long as broad, VIII shorter and broader than VII, slightly longer than broad, IX slightly longer and distinctly broader than VIII, about as long as broad, X larger than IX, about as long as broad, XI distinctly broader than X, about as long as IX-X together.

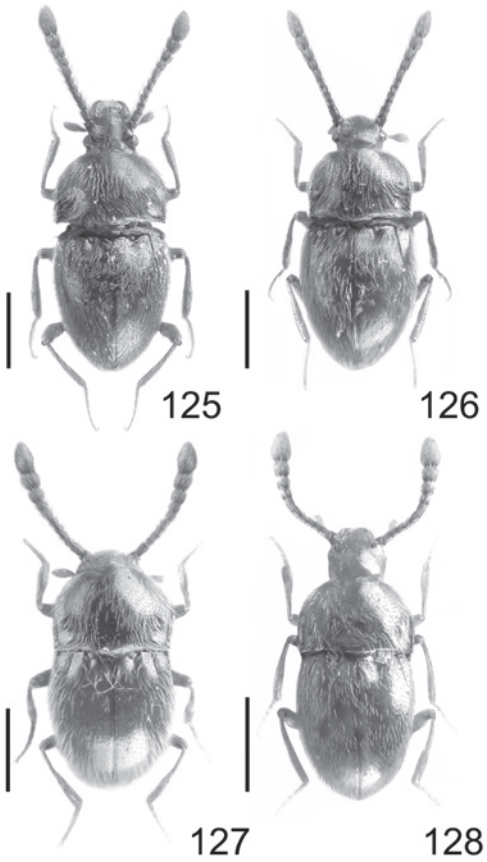
Pronotum moderately convex, relatively strongly flattened near each hind angle, broadest near middle or equally broad from about middle to hind angles, length 0.50-0.57 mm (mean 0.53 mm), width 0.78-0.87 mm (mean 0.82 mm). Anterior margin very broad, so that in dorsal view pronotum appears nearly rectangular; sides broadly rounded in anterior half, from middle parallel or barely noticeably narrowing toward hind angles; posterior margin moderately deeply biemarginate; lateral antebasal foveae relatively deep, about equally distant from lateral and posterior margins; lateral carinae very narrow, not separated from lateral margins. Punctation in central part of disc

relatively dense but composed of very small and shallow punctures separated one from another by spaces longer than puncture diameters, punctation near anterior and posterior margins finer, punctures in area lateral and posterior to each basal fovea indistinct, punctures near each front angle larger and denser than those in middle, but still very shallow. Setation short but relatively dense, slightly suberect.

Elytra more convex than pronotum, broadest near anterior third and strongly narrowing toward apices, length 1.05-1.15 mm (mean 1.10 mm), width 0.85-0.95 mm (mean 0.90 mm), EI 1.21-23. Subhumeral lines carinate, only as long as about 0.2x length of elytra; apices of elytra separately rounded. Punctation very dense but composed of extremely small, moderately sharply marked punctures; setation similar to that on pronotum. Scutellum relatively small, broader than long; hind wings entirely reduced.

Metasternum with dense, but very small punctures.

Legs moderately long, without any peculiar characters.



125-128. Dorsal aspect of male. 125 – *Cephennodes schuelkei* n. sp.; 126 – *C. testudo* n. sp.; 127 – *C. brachylinguis* n. sp.; 128 – *C. microphthalmus* n. sp. (scale bars: 0.5 mm)

Aedeagus (Figs. 129-131) 0.60 mm in length, median lobe with indistinctly delimited thin-walled basal part; ventral apical projection relatively small, in ventral view subtriangular; median apical projection very large and complicated, asymmetrical, with median ventral part surrounded by broad lobes of dorsal part; apices of parameres relatively broad, each bears two apical setae.

Female. Externally indistinguishable from male, wingless, body length 1.92-2.03 mm (mean 1.97 mm), length of head 0.25-0.26 mm (mean 0.255 mm), width of head 0.42-0.47 mm (mean 0.45 mm), length of antennae 1.00-1.05 mm (mean 1.025 mm), length of pronotum 0.60-0.62 mm (mean 0.61 mm), width of pronotum 0.82-0.90 mm (mean 0.86 mm), length of elytra 1.07-1.15 mm (mean 1.11 mm), width of elytra 0.87-0.96 mm (mean 0.91 mm), EI 1.20-1.23.

Type material

Holotype (male): white printed label „CHINA: N-Yunnan [C03-13], Zhongdian Co., 36 km ESE Zhongdian, overgrown rock hillside with old mixed forest, bamboo, dead wood, mushrooms, 27°40.9'N, 100°01.5'E, 3500-3550 m, 23. VIII. 2003, leg. M. Schülke", and red printed label „*CEPHENNODES* (*FUSIONODES*) *schuelkei* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB). Paratypes: 1 ♀, same data as for holotype; 1 ♂, 1 ♀, white printed label „CHINA: N-Yunnan [C03-12], Zhongdian Co., pass 28 km ESE Zhongdian, devastated primary forest with young Abies, Larix, Betula, Rhodod., 27°43.9'N, 99°58.2'E, 3700-3750 m, 22. VIII. 2003, leg. M. Schülke"; all paratypes with standard yellow printed „paratypus" label (PCMS, PCPJ).

Distribution

S China (Yunnan Prov.).

Cephennodes (*Fusionodes*) *testudo* n. sp.

(Figs. 126, 132-134)

Name derivation

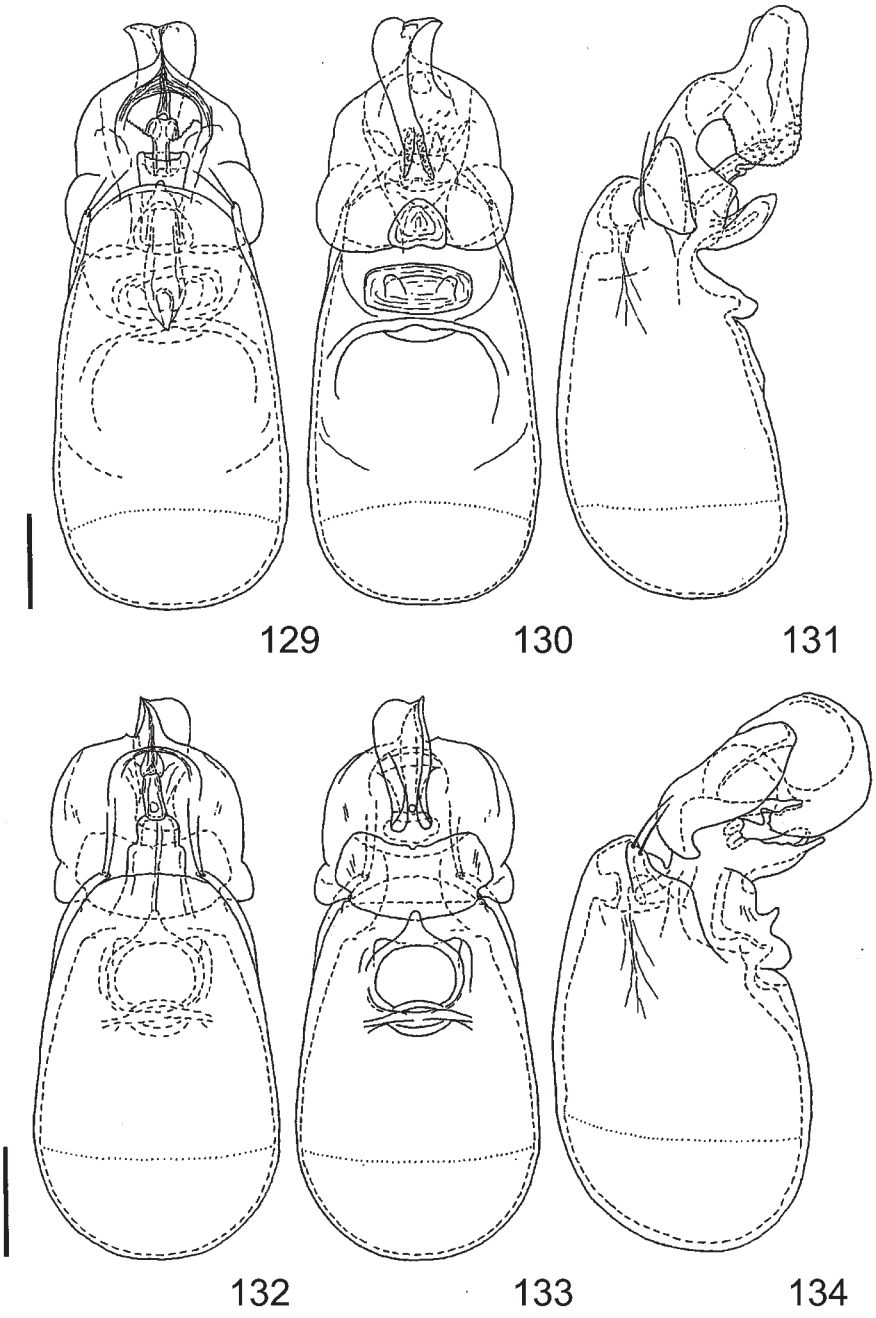
The name „*testudo*", meaning „a tortoise" in Latin, reflects the compact and stout body shape of this species.

Diagnosis

The most important diagnostic character of this new species is its unique shape of apical structures of the aedeagus; external features are unremarkable. Female characters remain unknown.

Description

Male. Body (Fig. 126) moderately large, elongate, moderately convex, dark brown with light brown setation; body length 1.75-1.80 mm (mean 1.77 mm). Head moderately large, length 0.25 mm, width 0.37 mm; vertex and frons uniformly convex, vertex with pair of very small tubercles in posterior part; supraantennal tubercles relatively large,



129-131. *Cephennodes schuelkei* n. sp.; 132-134. *C. testudo* n. sp. Aedeagus in dorsal (129, 132), ventral (130, 133) and lateral (131, 134) views (scale bars: 0.1 mm)

moderately raised; eyes moderately large. Punctation of frontoclypeal area relatively dense and composed of moderately large punctures, posterior part of frons and vertex with very small, sparse punctures; setation relatively sparse and short, suberect. Antennae moderately long, relatively slender, club not separated, length 0.90-0.92 mm (mean 0.91 mm); antennomere I about 1.5x as long as broad, II slightly narrower and shorter than I, about 1.5x as long as broad, III slightly narrower and distinctly shorter than II, only slightly longer than broad, IV-VI equal in length and width, each as broad as III but minimally longer than broad, VII distinctly longer but only minimally broader than VI, about 1.7x as long as broad, VIII slightly broader but distinctly shorter than VII, about 1.2x as long as broad, IX broader and slightly longer than VIII, slightly longer than broad or about as long as broad, X larger than IX, about as long as broad, XI yet broader, slightly shorter than IX-X together.

Pronotum moderately convex, relatively strongly flattened near each hind angle, broadest near posterior third or just posterior to middle, length 0.50 mm, width 0.75 mm. Anterior margin very broad, so that in dorsal view pronotum appears nearly rectangular; sides finely serrate, broadly rounded in anterior half, then only slightly rounded and slightly narrowing toward hind angles; posterior margin moderately deeply biemarginate; lateral antebasal foveae relatively shallow, about equally distant from lateral and posterior margins; lateral carinae very narrow, not separated from lateral margins. Punctation on central part of disc composed of small, moderately sharply marked punctures separated one from another by spaces 1-2x as long as puncture diameters, punctures near anterior margin are smaller and sparser than those in middle, narrow area along posterior margin remains impunctate, relatively large area lateral and posterior to each basal fovea bears indistinct punctures, area near each front angle with punctures distinctly denser and larger than those in middle, but still relatively shallow. Setation moderately dense, relatively short, suberect.

Elytra more convex than pronotum, broadest slightly anterior to middle, relatively strongly narrowing toward apices, length 1.00-1.05 mm (mean 1.025 mm), width 0.80-0.90 mm (mean 0.85 mm), EI 1.17-25. Subhumeral lines distinctly carinate, as long as only about 0.25x length of elytra; apices of elytra separately rounded. Punctation as dense as that on central part of pronotum, but composed of much smaller punctures; setation similar to that on pronotum but slightly more suberect. Scutellum relatively small, broader than long; hind wings well developed, about twice as long as elytra.

Metasternum with extremely small, moderately dense punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 132-134) 0.52 mm in length, median lobe relatively stout, with indistinctly delimited thin-walled basal part; ventral apical projection very broad and emarginate, with small median notch in apical margin; median apical projection very large and complicated, asymmetrical, with separated median ventral part surrounded by broad lobes of dorsal part; apices of parameres relatively broad, each bears two apical setae.

Female. Unknown.

Type material

Holotype (male): white printed label „CHINA: N-Yunnan [C03-13], Lijiang Naxi Aut. Co., E Yulongxue Shan, 30 km N Lijiang, 27°09.0'N, 100°14.9'E, 2800-2900 m, creek valley, secondary mixed forest, 13. VIII. 2003, M. Schülke", and red printed label „*CEPHENNODES* (*FUSIONODES*) *testudo* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB). Paratype: 1 ♂, same data as for holotype, with standard yellow printed „paratypus" label (PCPJ).

Distribution

S China (Yunnan Prov.).

Cephennodes (*Fusionodes*) *brachylinguis* n. sp.

(Figs. 127, 135-137)

Name derivation

The name refers to the short ventral apical projection (a tongue, Latin „*lingula*") of the aedeagus of this species.

Diagnosis

This and the next species differ from all congeners in having very small basal foveae on elytra, with distinct elongate impression running posteriorly from each fovea nearly as far as subhumeral line; examination of the aedeagus is necessary for identification. Females are not diagnosable.

Description

Male. Body (Fig. 127) moderately small, elongate, strongly convex, dark brown with light brown setation; body length 1.45-1.47 mm (mean 1.46 mm). Head moderately large, length 0.20 mm, width 0.32 mm; vertex and frons regularly convex, no tubercles found; supraantennal tubercles moderately large but very distinct, strongly raised; eyes moderately large. Punctation covering frontoclypeal area very distinct, composed of relatively large punctures separated one from another by spaces equal to or slightly shorter than puncture diameters, vertex with much smaller and denser punctures; setation relatively short and sparse, suberect. Antennae moderately long and slender, with indistinctly separated club, length 0.75 mm, antennomere I only about 1.3x as long as broad, II subequal in length but slightly narrower than I, about 1.5x as long as broad, III-VI equal in width and minimally increasing in length, each slightly narrower than II and from nearly as broad as long (III) to slightly longer than broad (VI), VII slightly broader and distinctly longer than VI, about 1.2x as long as broad, VIII distinctly broader than VII but minimally shorter, slightly longer than broad, IX larger than VIII, minimally longer than broad, X yet larger, as long as broad, XI distinctly broader than X, only about 1.6x as long as broad, much shorter than IX-X together.

Pronotum strongly convex, slightly flattened near each hind angle, broadest slightly posterior to middle, length 0.45 mm, width 0.65 mm. Anterior margin relatively short; sides broadly rounded, only slightly narrowing from broadest place toward hind

angles; posterior margin moderately deeply biemarginate; lateral antebasal foveae located slightly closer to lateral than to posterior margins; lateral carinae narrow, not separated from lateral margins. Punctation on central part of disc fine and relatively dense, punctures are sharply marked and separated one from another by spaces equal to or slightly longer than puncture diameters, punctures become smaller toward anterior margin, narrow area along posterior margin impunctate, punctures covering area near each front angle are denser and larger than those in middle, but shallow, indistinctly delimited, partly fused one to another. Setation relatively short and dense, suberect.

Elytra about as convex as pronotum, broadest distinctly anterior to middle, length 0.80-0.82 mm (mean 0.81 mm), width 0.65-0.67 mm (mean 0.66 mm), EI 1.22-1.23. Subhumeral lines with rounded edge rather than carinate, as long as about 0.2-0.3x length of elytra; basal pits very small, each prolonged posteriorly by broad, elongate impression nearly as long as subhumeral lines; apices of elytra separately rounded. Punctation slightly sparser than that on central part of pronotum, composed of very small, relatively indistinct punctures, becoming yet smaller toward apices and lateral margins of elytra; setation as dense as that on pronotum, but setae are slightly longer and more erect. Scutellum broader than long; hind wings about twice as long as elytra.

Metasternum with very fine punctation.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Fig. 135-137) 0.40 mm in length, with very thick and darkly sclerotized walls, except for small thin-walled basal part; apical part of median lobe bears moderately long and very slender subtriangular ventral projection; median apical structures form moderately long projection, subconical in dorso-ventral view; parameres entirely missing.

Female. Not diagnosable (see remarks).

Type material

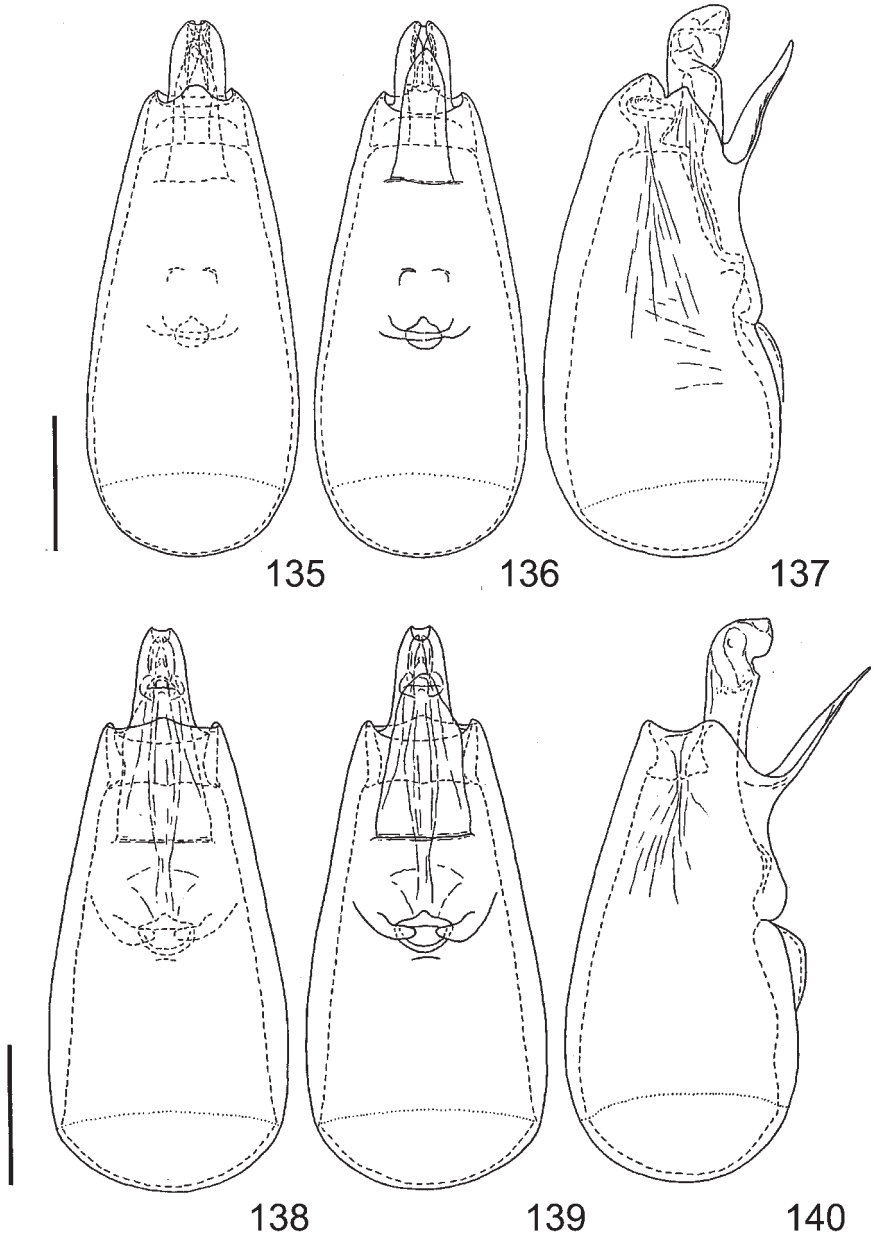
Holotype (male): white printed label „Baihualing (2,290 m), Gaoligongshan Mts., Baoshan Xian, Yunnan, [SE-CHINA], {locality repeated in Chinese characters}, 16. x. 1996, S. Nomura", and red printed label „*CEPHENNODES* (*FUSIONODES*) *brachylinguis* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratype: 1 ♂, same data as for holotype, but with standard yellow printed „paratypus" label (PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

This species is externally indistinguishable from *C. longilinguis* n. sp., which was collected in the same locality (i.e. Baihualing), and in Dabei. Six females from Baihualing, Dabei and Mt. Dayingshan (all in Yunnan) showing identical morphology were also examined. No useful diagnostic characters were found, and if the females represent both species or only one of them, it is not possible to identify them. Therefore, females of *C. brachylinguis* and *C. longilinguis* are treated here as not diagnosable, and not included into type series. Males of the two species have very similar aedeagi, differing mostly in the length of apical structures and thickness of walls of the median lobe.



135-137. *Cephennodes brachylinguis* n. sp.; 138-140. *C. longilinguis* n. sp. Aedeagus in dorsal (135, 138), ventral (136, 139) and lateral (137, 140) views (scale bars: 0.1 mm)

Cephennodes (*Fusionodes*) *longilinguis* n. sp.
(Figs. 138-140)

Name derivation

The name refers to the long ventral apical projection (a tongue, Latin „*lingula*") of the aedeagus of this species.

Diagnosis

This and the previous species differ from all congeners in having very small basal foveae on elytra, with distinct elongate impression running posteriorly from each fovea nearly as far as subhumeral line; examination of the aedeagus is necessary for identification. Females are not diagnosable.

Description

Male. External characters are identical with those of *C. brachylinguis*. Body length 1.42-1.52 mm (mean 1.47 mm), length of head 0.15-0.20 mm (mean 0.17 mm), width of head 0.30-0.32 mm (mean 0.31 mm), length of antennae 0.75-0.77 mm (mean 0.76 mm), length of pronotum 0.45-0.47 mm (mean 0.46 mm), width of pronotum 0.62-0.65 mm (mean 0.64 mm), length of elytra 0.82-0.85 mm (mean 0.84 mm), width of elytra 0.65-0.70 mm (mean 0.84 mm), EI 1.21-1.26.

Aedeagus (Figs. 138-140) 0.40 mm in length, with relatively thin and lightly sclerotized walls; apical part of median lobe bears very long and broad, slightly asymmetrical, subtriangular ventral projection; median apical structures form long projection, subconical in dorso-ventral view; parameres entirely missing.

Female. Not diagnosable (see remarks).

Type material

Holotype (male): white printed label „Baihualing (2430-2,550 m), Gaoligongshan Mts., Baoshan Xian, Yunnan, [SE-CHINA], {locality repeated in Chinese characters}, 17. x. 1996, S. Nomura", and red printed label „*CEPHENNODES* (*FUSIONODES*) *longilinguis* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (NSMT). Paratypes: 2 ♂♂, same data as for holotype; 1 ♂, white printed label „Dabei (2,430 m), Gaoligongshan Mts., Tengchong X., Yunnan, [SE-CHINA], {locality repeated in Chinese characters}, 11. x. 1996, S. Nomura". All paratypes bear standard printed yellow „paratypus" label (NSMT, PCPJ).

Distribution

S China (Yunnan Prov.).

Remarks

See remarks at *C. brachylinguis*.

Cephennodes (*Fusionodes*) *microphthalmus* n. sp.

(Figs. 128, 141-143)

Name derivation

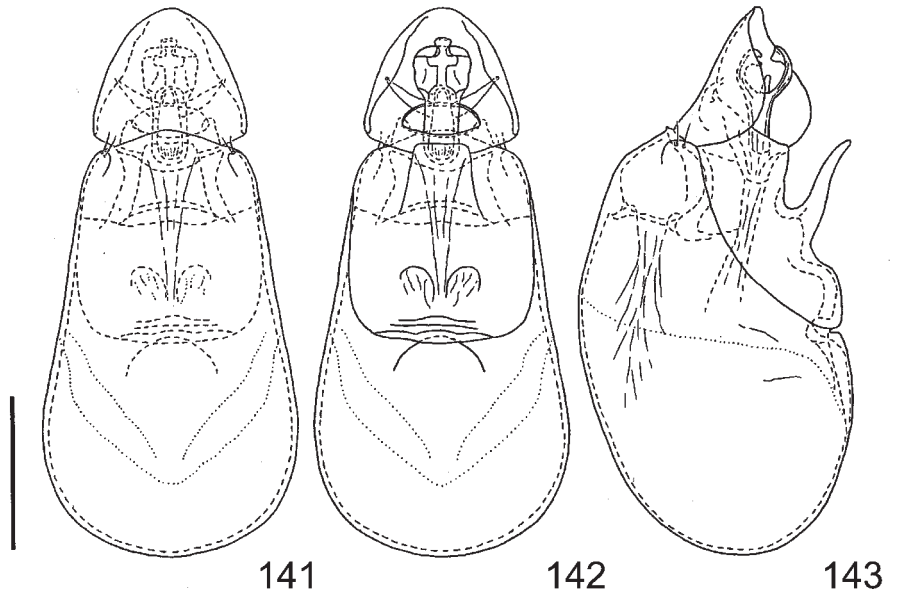
The name refers to unusually small eyes of this species.

Diagnosis

Males of this species are unique in having very small eyes, each composed of only 5-6 ommatidia, and broadly flattened, sharply separated lateral margins of pronotum. Female characters unknown.

Description

Male. Body (Fig. 128) very small, relatively slender and slightly flattened, moderately light brown with yellowish setation; body length 1.32 mm. Head relatively small, length 0.20 mm, width 0.37 mm; vertex and frons convex, posterior part of vertex with pair of extremely small tubercles; supraantennal tubercles small but distinctly raised; eyes very small, each composed of 5-6 ommatidia. Punctation on vertex and median part of frontoclypeal area extremely fine, larger and more distinct punctures are distributed along internal margins of supraantennal tubercles and sides of clypeus; setation sparse, short, suberect. Antennae moderately long and slender, club indistinctly separated, length 0.70 mm, antennomere I only slightly longer than broad, II subequal in length



141-143. *Cephennodes microphthalmus* n. sp. Aedeagus in dorsal (141), ventral (142) and lateral (143) views (scale bar: 0.1 mm)

but distinctly narrower than I, about 1.3x as long as broad, III-VI equal in length and width, each slightly narrower than II and only slightly longer than broad, VII slightly longer and broader than VI, about 1.2x as long as broad, VIII broader but shorter than VII, about as long as broad, IX larger than VIII, about as long as broad, X yet larger, about as long as broad, XI broader than X, relatively short, less than twice as long as broad, about equal in length to IX-X together.

Pronotum relatively flat, with distinctly flattened hind angles and strongly flattened lateral margins, broadest between middle and posterior third, length 0.37 mm, width 0.57 mm. Anterior margin moderately broad; sides broadly rounded, only slightly narrowing from broadest place toward hind angles; posterior margin shallowly biemarginate; lateral antebasal foveae located much closer to lateral than to posterior margins; relatively broad area along each lateral margin strongly flattened (nearly horizontal), boarder between flattened margin and convex disc is relatively sharp; lateral carinae extremely narrow, barely noticeable, not separated from margins. Punctation very fine and moderately dense, punctures are barely noticeable under magnification 40x; setation short, moderately sparse, nearly recumbent.

Elytra slightly more convex than pronotum, broadest slightly anterior to middle, length 0.75 mm, width 0.60 mm, EI 1.25. Subhumeral lines carinate, as long as only about 0.2x length of elytra; apices of elytra rounded together. Punctation slightly more distinct than that on pronotum, punctures small, very shallow, relatively dense; setation similar to that on pronotum. Scutellum broader than long; hind wings entirely reduced.

Metasternum with extremely fine, sparse punctures.

Legs moderately long and slender, without any peculiar characters.

Aedeagus (Figs. 141-143) 0.35 mm in length, relatively stout, with very large basal thin-walled part indistinctly delimited from distal part of median lobe; ventral apical projection in dorso-ventral view subtrapezoidal, median apical structures symmetrical, composed of subtriangular dorsal „collar" surrounding central projection connected with internal duct; apices of parameres very broad, each bearing two apical setae.

Female. Unknown.

Type material

Holotype (male): two white printed labels: „CHINA: N-Yunnan [C2005-16], Diqing Tibet Aut. Pref., Zhongdian Co., Bitai Hai Lake area, 29 km ESE Zhongdian", „27°43.65'N, 99°58.97'E, 3540 m, creek valley, devast. mixed forest, litter, moss, dead wood, 1. V. 2005, M. Schülke [C2005-01]", and red printed label „*CEPHENNODES* (*FUSIONODES*) *microphthalmus* m., det. P. Jałoszyński, 2006, HOLOTYPUS" (temporarily in PCMS, final depository MNKB).

Distribution

S China (Yunnan Prov.).

DISCUSSION

1. NEW COMBINATIONS

Besuchet (1962) for all his new species described from Africa and one species of *Cephennium* described by Schaufuss used the name „*Cephennodes* (s. str.)". However, no other subgenera have been proposed in that paper (and never published in any other articles). The synonymy of *Chelonoidum* and *Cephennodes* recognized in the present paper resulted in several new combinations, and dividing *Cephennodes* into two subgenera involves new classification of previously described species. Results of this action are listed below. In some species copulatory organs have never been illustrated, or have been illustrated in such a way that it is not possible to recognize whether the parameres are free or fused with the median lobe, and the type material was not studied by the author of the present work. Subgeneric placement of such species remains uncertain.

The current number of species really belonging to *Cephennodes* is difficult to estimate. Newton & Franz (1998) in their catalogue of genera gave the number of 11 species, but Kurbatov (1995) mentioned 16 species. The inconsistency may be caused by some number of species described in *Cephennium* by various authors, from regions where this genus is unlikely to occur. Therefore, at least some of them may belong to *Cephennodes*, and various numbers of such suspected misplaced species or possibly confirmed by unpublished observations was known to the mentioned authors. This situation concerns such taxa as *Cephennium festivum* Schaufuss from Singapore, *Cephennium doriae* Schaufuss from Borneo, *Cephennium ovatum* Nietner from Sri Lanka, or North American *Cephennium anophthalmicum* Brendel and *Cephennium breve* Schaufuss. *Cephennium raffrayi* Schaufuss from Singapore was studied by the author and it seems to be close to *Neseuthia* Scott (Jałoszyński, unpublished observations). Examination of remaining species of „*Cephennium*" is necessary to verify their generic placement, which will enable giving the actual number of species in *Cephennodes*. The list below includes species, which presently do not pose taxonomic problems concerning their generic placement, and their aedeagi have been illustrated in the literature; species of uncertain generic or subgeneric position are listed separately.

Genus *Cephennodes* Reitter

Subgenus *Cephennodes* s. str.

Cephennodes (s. str.) *araiorum* (Jałoszyński) **n. comb.**
Chelonoidum araiorum Jałoszyński, 2003

Cephennodes (s. str.) *basilewskyi* Besuchet
Cephennodes basilewskyi Besuchet, 1962

Cephennodes (s. str.) *indifferens* Besuchet
Cephennodes indifferens Besuchet, 1962

Cephennodes (s. str.) *japonicus* (Sharp)
Cephennium japonicum Sharp 1886
Cephennodes japonicus (Sharp); Jakobson 1910

Cephennodes (s. str.) *latus* (MOTSCHULSKY) **n. comb.**
Cephennium latum MOTSCHULSKY, 1851
Cephennium turgidum REITTER, 1877
Cephennium (*Chelonoides*) *turgidum* (REITTER, 1877); CROISSANDEAU 1894 (1893)
Chelonoidum latum (MOTSCHULSKY, 1851); BESUCHET 1971.

Cephennodes (s. str.) *leleupi* BESUCHET
Cephennodes leleupi BESUCHET, 1962

Cephennodes (s. str.) *marginatus* BESUCHET
Cephennodes marginatus BESUCHET, 1962

Cephennodes (s. str.) *mizunoi* HOSHINA & KISHIMOTO
Cephennodes mizunoi HOSHINA & KISHIMOTO, 2003

Cephennodes (s. str.) *moderatus* (KURBATOV) **n. comb.**
Chelonoidum moderatum KURBATOV, 1995

Cephennodes (s. str.) *pullatus* (KURBATOV) **n. comb.**
Chelonoidum pullatum KURBATOV, 1995

Cephennodes (s. str.) *simonis* REITTER
Cephennodes simonis REITTER, 1883

Cephennodes (s. str.) *torosus* (KURBATOV) **n. comb.**
Chelonoidum torosum KURBATOV

Cephennodes (s. str.) *vafer* KURBATOV
Cephennodes vafer KURBATOV, 1995

Subgenus *Fusionodes* JAŁOSZYŃSKI

Cephennodes (*Fusionodes*) *ussuricus* (KURBATOV) **n. comb.**
Chelonoidum ussuricum KURBATOV, 1995

Cephennodes (*Fusionodes*) *loebli* (KURBATOV) **n. comb.**
Chelonoidum loebli KURBATOV, 1995

Cephennodes (*Fusionodes*) *graeseri* (REITTER) **revised status**
Cephennodes graeseri REITTER, 1887
Chelonoidum graeseri (REITTER, 1887); KURBATOV 1995

REMARKS

The aedeagus of *Chelonoidum graeseri* KURBATOV in the original description was illustrated with free parameres (KURBATOV 1995, figs. 8, 9). In fact, the males examined during the present study have parameres partly fused with the median lobe. Therefore, the species is placed in *Fusionodes*.

Species of *Cephennodes* with uncertain subgeneric status (see remarks below the list):

Cephennodes besucheti (KURBATOV) **n. comb.**
Chelonoidum besucheti KURBATOV, 1995

Cephennodes clavatus (MARSH) **n. comb.**
Cephennium clavatum MARSH, 1957
Chelonoidum clavatum (MARSH); O'KEEFE 1998

Cephennodes concinus (MARSH) **n. comb.**
Cephennium concinum MARSH, 1957
Chelonoidum concinum (MARSH); O'KEEFE 1998

Cephennodes corporosus (LECONTE) **n. comb.**
Cephennium corporosum LECONTE, 1852
Chelonoidum corporosum (LECONTE); O'KEEFE 1998

Cephennodes hellenicus (Roubal) **n. comb.**
Cephennium (*Chelonoides*) *grouvellei* Reitter, 1908 (nec Croissandeau, 1891)
Cephennium hellenicum (Roubal, 1913)
Chelonoidum hellenicum (Roubal); Löbl & Smetana 2005

Cephennodes tuniseus (Pic) **n. comb.**
Cephennium tuniseum Pic, 1901
Chelonoidum tuniseum (Pic, 1901); Löbl & Smetana 2005

Cephennodes virginicus (Casey) **n. comb.**
Cephennium virginicum Casey, 1897
Chelonoidum virginicum (Casey); O'Keefe 1998

Cephennodes zanzibaricus (Schaufuss)
Cephennodes (s. str.) *zanzibaricus* (Schaufuss); Besuchet 1962
Cephennium zanzibaricum Schaufuss, 1889

Cephennodes zwaluwenburgi Zimmerman, 1942

Remarks

Parameres in *Chelonoidum besucheti* Kurbatov have been illustrated as free, but the ventral orifice is clearly located near middle, as in all species of *Fusionodes* examined during the present study. Moreover, the general shape of the aedeagus and arrangement of apical projections seem to be similar to those found in *C.* (*Fusionodes*) *loebli*. This suggests that in fact the parameres may be partly fused with the median lobe, and the type material must be examined to confirm this suspicion. Combinations „*Chelonoidum hellenicum*" and „*Chelonoidum tuniseum*" appeared for the first time in Löbl & Smetana (2005); the species have been originally described in *Cephennium*. Their aedeagi have never been illustrated in the literature, neither was the new placement in the cited catalogue supported by any discussion why it has been done. The type material of these species remains to be examined to clarify their status. *Cephennium zanzibaricum* Schaufuss was mentioned by Besuchet (1962) as *Cephennodes* (s. str.) *zanzibaricus*, but the aedeagus of this species has not been illustrated, and the name „*Cephennodes* (s. str.)" was unjustified, as no valid subgenera have ever been established in this genus. Placing *Cephennium zanzibaricum* in *Cephennodes* was likely based on unpublished observations of the author. However, limits of Besuchet's „*Cephennodes* s. str." have not been defined, and it remains unclear whether *C. zanzibaricus* possesses the aedeagus with the parameres free or fused with the median lobe. The type material was not examined during the present study, and status of this species remains to be verified. Four Nearctic species originally described in *Cephennium* (i.e., *C. clavatum* Marsh, *C. concinum* Marsh, *C. corporosum* LeConte, and *C. virginicum* Casey) were transferred to *Chelonoidum* by O'Keefe (1998). However, their aedeagi have not been illustrated. Moreover, two remaining Nearctic species of *Cephennium* (*C. anophthalmicum* Brendel and *C. breve* Schaufuss) were not discussed in that paper, and their generic status remains yet to be verified.

Nomen dubium:

Cephennodes aschnae Makhan, 2005

Remarks

Reasons for treating this name as a *nomen dubium* are presented in the Introduction.

2. SPECIES GROUPS IN *CEPHENNODES*

Although no species groups have been designated in the descriptive part of this paper, some species seem to be closely related and can be grouped together, which may facilitate further taxonomic analyses. The number of described species in the genus is relatively small, and it likely represents a minor fraction of species awaiting discovery and description. A broad variety of male secondary sexual characters and shapes of the aedeagus revealed during study of materials collected in only several sites in South China suggests that examination of materials accumulated in large museums along with more extensive fieldwork in the Oriental and East Palearctic Regions may further expand the range of diversity known in *Cephennodes*. Therefore, the presented below informal classification of species groups represents an early attempt to indicate some possible evolutionary lineages and tendencies that can be already seen in *Cephennodes*. Further work will certainly modify this grouping. The species groups proposed herein include previously known species, and also similar unnamed species examined by the author are mentioned, whereas several particularly unique or unremarkable species remain ungrouped.

2.1. THE *IMPRESSIFRONS*-GROUP

Species belonging in this group share a similar shape of the aedeagus, which represents a variant of the *simonis* type. The median lobe is very large and slightly or moderately asymmetrical, not drop-shaped but rather oval, with small dorsal membranous area concealed by the dorsal wall; the parameres are asymmetrical but in dorsal view only short apical part of the right paramere is located in front of ventral wall; the apical projections have the ventral hook; the subapical area of the ventral wall bears tiny setae. The head in males is modified, with carinae and/or impressions. This group comprises *C.* (s. str.) *impressifrons*, *C.* (s. str.) *carinifrons*, and *C.* (s. str.) *triangulifrons*. A very similar aedeagus can also be found in several undescribed species from Vietnam and other regions of SE Asia, but their males do not possess modifications of the head.

2.2. THE *INFLATIPES*-GROUP

In this group, the hind tibiae are strongly broadened in distal part, and the aedeagus represents the *simonis* type, with large ventral apical projection. Its apex is directed toward the apex of the median lobe, and the ventral wall bears no setae. Moreover, the aedeagus is extremely small. The group includes *C.* (s. str.) *inflatipes* and several very similar undescribed species from Vietnam and central parts of China. Similar modifications of metatibiae can also be seen in males of *C. spatulipes*, but this species externally does not resemble *C. inflatipes* (which is smaller, less convex and with distinctly different punctation) and has a different shape of the aedeagus.

2.3. THE *TAURUS*-GROUP

A striking modification of head in males of species belonging in this group is a pair of very long bristles with thickened apices located on vertex and directed anteri-

orly and dorsally, also the frontoclypeal area is modified; the aedeagus represents the *simonis* type, with the subapical area of the ventral wall bearing numerous tiny setae. This group comprises *C.* (s. str.) *taurus* and several undescribed species occurring in mainland China and Taiwan.

2.4. THE *LONGIPES*-GROUP

Species belonging here have very stout and convex body, with the pronotum narrower than the elytra, the antennae and legs strikingly long and slender, the elytra in males flattened around suture near apex or bearing apical impressions, and the head and the pronotum densely punctate. The aedeagus is similar to the *latus* type, broadest at base and narrowing toward apex, its dorsal membranous area is small and concealed by the dorsal wall of the median lobe, the apical projections are asymmetrical and generally subtriangular in shape. This group includes *C.* (s. str.) *longipes*, *C.* (s. str.) *penicillatus*, and an undescribed species from Vietnam (Jałoszyński & Nomura, in preparation). *Cephennodes cooteri* has a similar aedeagus (but showing some differences in the general shape) and males of this species have the adsutural flattening near apices of the elytra. However, external morphology of this species only remotely resembles that of *C. longipes* and *C. penicillatus*. The aedeagus in the *longipes* group is most similar to copulatory organs in the *excavatus* group, but significant morphological differences can be found between these two lineages.

2.5. THE *EXCAVATUS*-GROUP

The aedeagus found in this group is a variant of the *latus* type, with large and broad median lobe, which is oval in shape, its dorsal membranous area is relatively large, slant and exposed (i.e., not concealed by the dorsal wall of the median lobe), the apical projections are generally subtriangular in shape, the base of the parameres is expanded and it forms a collar surrounding the ventral foramen, apices of the parameres often bear tooth-like projections. The body is moderately to very convex, elongate and relatively slender, often with the head and the pronotum darker than the elytra. In most species of the group males have odd (sometimes multiple) modifications of the elytra (lateral impressions covered with short setae, apical flattening, impression or deep excavation), antennae (enlarged antennomere VII, curved antennomere VI), legs (a tooth on protibiae, a projection on the protarsomere V, metatibiae curved) or the last visible abdominal sternite (median mucro). The group comprises *C.* (s. str.) *excavatus*, *C.* (s. str.) *spinosus*, *C.* (s. str.) *bicolor*, *C.* (s. str.) *hamatus*, *C.* (s. str.) *superlatus*, and several undescribed species from central provinces of China. *Cephennodes bicolor* has no modifications in males, but it is externally very similar to other members of the group, its body is distinctly bicolorous, and its aedeagus fits well to the general shape typical for this group. A similar aedeagus shows also *C. nitens*. However, this species has distinctly different body form and the base of parameres lacks the collar found in the *excavatus* group.

2.6. THE *PULLATUS*-GROUP

In this group, the aedeagus represents a modified *latus* type. Its median lobe is broadest near base and strongly narrowing toward apex, relatively strongly curved in dorso-ventral view; the tip of the apical projections is located on the curved long axis of the median lobe (i.e., both the median lobe and apical projections are regularly, uniformly curved); the dorsal membranous area is small and nearly perpendicular to the long axis of the median lobe; and the parameres are slightly asymmetrical, one longer than the other. Males have no modifications of any body parts. The group comprises three Japanese species: *C.* (s. str.) *pullatus*, *C.* (s. str.) *moderatus*, and *C.* (s. str.) *torosus*.

2.7. THE *LONGILINGUIS*-GROUP

Cephennodes (*Fusionodes*) *longilinguis* and *C.* (*Fusionodes*) *brachylinguis* have indistinguishable morphology, except for details of their aedeagi. They both differ from all other congeners in having basal pits on the elytra prolonged by impressions running posteriorly; their aedeagi have two characteristic projections – a long and tongue-like ventral one, and a subcylindrical (in lateral view) or subconical (in dorso-ventral view) median structure; the parameres are entirely missing.

2.8. THE *GRAESERI*-GROUP

Three species belonging in this group of *Fusionodes*: *C. graeseri*, *C. schuelkei*, and *C. testudo*, share a very similar shape of the aedeagus, which is massive, has a very large apical complex composed of slightly asymmetrical, shield-like dorsal part and strongly asymmetrical, smaller ventral part. They are also relatively large, and males have no peculiar external characters.

Another possible group of species may represent *C.* (s. str.) *vafer* and *C.* (s. str.) *mizunoi*. They share a similar shape of the *simonis* type aedeagus and lack any secondary sexual characters in males. However, a reasonable grouping of species sharing the rather uniform and relatively little diversified *simonis* type of the aedeagus needs more robust base, with some additional, similar external characters. The two mentioned species have rather unremarkable morphology, without any peculiar features.

3. NOTES ON THE HEAD MORPHOLOGY, MALE SECONDARY SEXUAL CHARACTERS AND GENITALIA IN THE CEPHENNIINI

A degree of morphological diversity found in the Cephenniini during the present study is much higher than ever reported for the tribe. The described species have been collected during several short trips to small number of localities in the southern part of China. Therefore, it can be expected that future fieldwork in China (and other poorly studied areas of SE and E Asia) may bring large number of new taxa and yet more morphological surprises. Dealing with a very small part of the suspected diversity, it

seems to be too early to undertake a comprehensive phylogenetic analysis of the Cephenniini, which already at the current stage of study show several characters possibly justifying their separate placement within the Scydmaenidae.

In many studied species of *Cephennodes* a pair of very small tubercles on the vertex was found. Leschen & Beutel (2004) stated that in *Neseuthia fijii* Franz the posterior part of the vertex bears a pair of ocelli, which was the first mention of ocelli in the Scydmaenidae. However, the authors have not studied the ultrastructure of these convexities, and their actual function and possible homology with ocelli remains to be proven. Such tubercles in *Neseuthia* seem to occur only in males. A variety of frons and vertex modifications can be found in males of *Neseuthia*: longitudinal convexities or keels on the vertex, sometimes delimited by deep lateral grooves and/or accompanied by a pair of pits; a pair of impressions; convergent grooves and a transverse carina; grooves and a pair of tubercles; or a pair of small tubercles only (e.g., Jałoszyński & Hoshina 2003). The head of the male of *N. nomurai disjuncta* Jałoszyński, S. Arai & K. Arai was studied with a scanning electron microscope (Jałoszyński, S. Arai & K. Arai 2004, figs. 3A, B), and no ocelli-like structures were found. The small tubercles in males of such species as *N. japonigena* Jałoszyński & Hoshina, *N. cactiformis* Jałoszyński & Hoshina, *N. okinawana* Jałoszyński, S. Arai & K. Arai, *N. taiwanensis* Jałoszyński or *N. fujiana* Jałoszyński are usually slightly or distinctly paler than surrounding cuticle, comparable in diameter to single ommatidium of the compound eye, and located near the internal margins of eyes. Unfortunately, a very uniform morphology in this genus is responsible for descriptions based only on males (in most cases), females in many species remain unknown or they are not diagnosable. Moreover, the extremely small body in many species (some are nearly 0.5 mm in length) make the study of fine cuticular structures difficult. Most described species are known from a few specimens or holotypes only, and a material for SEM examination is not available. Detailed analysis of the tubercles on the vertex is necessary to verify the hypothesis of their homology with true ocelli. Head modifications can also be found in males of *Cephennomicrus* Reitter. However, this genus needs a revision, and it may be synonymous with *Neseuthia* (Jałoszyński, unpublished observations). Interestingly, during the present study small tubercles on the vertex were observed in most species described above, including also females. However, the tubercles in *Cephennodes* are much smaller than ommatidia of compound eyes, their pigmentation does not differ from surrounding areas, and they are located not near internal margins of the eyes, but in the posterior part of the vertex. In some species the tubercles are extremely small and examination of the specimen at various angles to the light source is necessary to notice their presence. Their appearance does not resemble ocelli found in other families of beetles (e.g., Dermestidae or Staphylinidae). The ultrastructure must be studied to verify whether such structures are ocelli, pseudocelli (like those lacking lens found in *Neopelatops* Jeannel, according to Leschen & Beutel 2004) or only cuticular convexities.

Other modifications of the head in males (i.e., other than the pair of tiny tubercles) in the Cephenniini are known in *Neseuthia* (mentioned in the previous paragraph) and in recently described Oriental *Hlavaciellus* Jałoszyński (2006a). The present study revealed a variety of modifications of the frons or/and vertex in the males of *Cephen-*

nodes. Variously shaped carinae, impressions, tubercles or peculiar bristles are not uncommon in this genus, sometimes combined with modifications of other body parts. Modifications of the head in males can also be found in other groups of the Scydmaenidae. In the Cyrtoscydmini, males of Nearctic *Taphroscydmus* Casey have a pair of impressions on the frons or a single impression on the vertex; some species of *Neuraphes* Thomson have a peculiar, high transverse carina or projection on the posterior part of the vertex (e.g., European *N. coronatus* Sahlberg, *N. frigidus* Holdhaus); modified frons was also reported in some species of *Euconnus* Thomson (e.g., median frontal convexity in South African *E. nasicornis* Franz). In the Scydmaenini, impressions or deep excavations, sometimes accompanied by various projections, are typical for *Cholerus* Thomson, a subgenus of *Scydmaenus* Latreille. In some other genera peculiar structures on the head are not confined to males, and can be found in both sexes (e.g., impression on the vertex in *Brachycepsis* Brendl and *Parascydmus* Casey, or a pair of pits on the vertex in *Neuraphes* (s. str.) and *Horaeomorphus* Schaufuss. However, the rich diversity of structures found in the head in *Cephennodes* is incomparable to any other genus of the family.

Modifications of antennomeres in males have been found in many members of the Cyrtoscydmini (e.g., *Lophioderus* Casey, *Oneila* Peringuey, one species of *Horaeomorphus* Schaufuss, and several subgenera of *Euconnus* Thomson: *Borneoconnus* Franz, *Cladoconnus* Motschulsky, *Neonapochus* Machulka, *Cerviconnus* Franz), and some Scydmaenini also have asymmetrical or angulate antennomeres (e.g., *Ceramphis* Casey, some species of *Scydmaenus* Latreille). Usually modifications are confined to one or more of distal antennomeres, and the most peculiar shapes have antennomeres VII-VIII in males of *Oneila*, which resemble secondary sexual characters known in some Pselaphinae (e.g., *Batrisoplisus* Raffray or *Prosthecarthron* Raffray). In *Cephennodes*, a subtriangular, pointed lateral projection in the antennomere III („*C. aschnae*" and similar unnamed species from China and Vietnam), broadened or very long antennomere VII (*C. superlatus*, *C. spinosus*, *C. longipes*), and a curved antennomere VI (*C. bicolor*) were found. Other genera of the Cephenniini do not have any known male secondary sexual characters located on the antennae. Dimorphic antennae can be found in some species in two closely allied genera of the Eutheiini - *Veraphis* Franz and *Eutheia* Stephens. Interestingly, in *Veraphis* strongly modified antennae are characteristic for females of some species (e.g., Jałoszyński & Hoshina 2005).

Modifications of the elytra in males are rare within the family, and such complicated structures as those found in *Cephennodes* have not been known so far. In that genus, four types of male sexual characters can be found on the elytra: i) lateral impressions; ii) apical impressions; iii) projected apices; and iv) subapical or apical bunches of long setae. The lateral impressions are characteristic for *C. superlatus*, *C. hamatus*, *C. elytratus*, and several unnamed species from SE Asia. This modification has a form of a shallowly impressed or flattened, more or less oval area located near middle or in the posterior half of each elytron, close to the lateral margin, and is usually covered with modified, short setae. The apical impression may be visible only as a flattening of small adsutural area near the apex of each elytron (*C. cooteri*, *C. penicillatus*, *C. spinosus*), an oval, distinctly delimited impression or excavation located near the apex (*C. excavatus*,

C. longipes), or a complicated excavation accompanied by oddly shaped projections (*C. superlatus*). Apical impressions or excavations are in some cases surrounded by setae longer than those covering the remaining part of the elytra. In *C. penicillatus*, the apex of each elytron is projected posteriorly, forming a broad and short mucro. The same species has also a loose bunch of long setae located on the subapical area of each elytron; a conical bunch of very dense setae can also be seen near apex of each elytron in *C. superlatus*. The most unusual condition is a combination of two or more types of modifications in one species. *Cephennodes penicillatus* has the apical flattening, projected apices and subapical bunches of setae; *C. hamatus* bears both lateral and apical impressions; and *C. superlatus* has large lateral impressions and very complicated apical excavations supported with odd projections, long setae and dense „brushes". Such odd modifications are not known in any other genus of the Cephenniini, and unique within the Scydmaenidae. In the Cyrtoscydmini, modifications of elytral apices in males are not uncommon in *Neuraphes* (e.g., European *N. carinatus* (Mulsant), *N. parallelus* (Chaudoir)), some peculiar apical structures can also be found in some species of *Euconnus* (e.g., *E. dentipennis* Franz from Fernando Poo). In these genera, the elytra usually bear small pits, peculiar punctures, grooves, impressions, groups of short setae or sparse long setae near apex. Interestingly, a modification similar to the lateral impression of *Cephennodes* has been found in a single species of *Syndicus* Motschulsky (Cyrtoscydmini) - males of *Syndicus vietnamensis* Jałoszyński have long and broad lateral groove on each elytron surrounded by peculiar setation (in females grooves are much shallower and surrounded by normal setae). Projected apices of the elytra in males, in turn, can be found in some Mastigini.

The tubercle on the metasternum found in *C. malleiphallus* is the only case of such a modification within the genus. However, it is not unique within the tribe - in two species of *Neseuthia* (*N. japonigena* Jałoszyński & Hoshina and *N. cactiformis* Jałoszyński & Hoshina) males have a small, but distinct median tubercle in the posterior part of the metasternum. Interestingly, the metasternum is also commonly modified in males of *Cephennium* Müller & Kunze. However, in this genus secondary sexual characters more frequently take a form of an impression, only in some cases accompanied by a tubercle (e.g., in *C. fulvum* Schaum or *C. weingaertneri* Reitter). In other tribes of the Scydmaenidae, modifications of the metasternum, when present, also have a form of variously shaped impressions, often marked also in females, but not as distinctly as in males (e.g., *Syndicus magnus* (Franz), *Horaeomorphus caverniventris* Jałoszyński, *Paraneseuthia paradoxa* (K. Sawada), several species of *Veraphis*). Less frequently the metasternum bears longitudinal median grooves or carinae, also sometimes present in females, but less distinct than those in males (e.g., in some species of *Veraphis*). In one known case the metasternum bears a pair of lateral tubercles (*Horaeomorphus babai* Jałoszyński).

Secondary sexual characters located on various parts of legs are not uncommon among the Scydmaenidae, and are known to occur in the Cephenniini. Males of numerous species of *Cephennium* bear a notch in protibiae; an apical projection and a row of setae was illustrated by Besuchet & Vit (2000) for *Nanophthalmus* Motschulsky, and same authors reported peculiar apical setae in *Etelea tenuis* (Petri) (Besuchet &

Vit 2004). Newly found median tooth or broadening on the protibiae (*Cephennodes spinipes* and *C. hamatus*), strongly curved or recurved metatibiae (*C. spinosus* and *C. superlatus*), the hook-like projection on the protarsomere V (*C. spinosus*) and the broadening of the apical part of the metatibiae (*C. spatulipes* and *C. inflatipes*) are unique within the tribe and known only in *Cephennodes*. Modifications of tibiae in males are common in *Veraphis* (subapical lobe in protibiae, Jałoszyński & Hoshina 2005) and *Horaeomorphus* (strongly bent metatibiae, Jałoszyński 2006a), and a comb of robust and curved apical teeth in protibiae in males of *Microscydmus* Salucy & Croissandeau have been recently illustrated (Jałoszyński 2005c). Males of European *Stenichnus peezi* Franz bear a broad tooth-like projection on the metatibiae. In some undescribed Far Eastern species of *Cephennodes* males bear long setae or short, tooth-like bristles on protrochanters (Jałoszyński, unpublished observations). Slightly modified (i.e., angulate) fore trochanters can be found in males of the Eutheiini (e.g., in some species of *Veraphis*, illustrated in Jałoszyński & Hoshina 2005) and males of *Euthiconus conicicollis* (Fairmaire & Laboulbenne), which have a slender tooth-like projection on the protrochanters. In the Cyrtoscydmini, modified trochanters can be found only in *Syndicus*, *Horaeomorphus* and *Allohoraeomorphus* Franz. However, in these genera not fore, but hind trochanters are modified - they form a long (in some cases extremely long) rod-like projection running along the basal part of metafemur. A typical modification of tarsi (found relatively commonly in various groups of Coleoptera) is a broadening of the tarsomeres (usually except for the terminal segment). In the Scydmaenidae, broadened tarsi are characteristic for males of *Scydmaenus* (s. str.) (only protarsi) and *Scydmaenus* (*Seychellinus* Franz) (all tarsi). The tooth-like projection on the ventral surface of the protarsomere V found in *Cephennodes hamatus* seems to be unique. Interestingly, the only parts of legs bearing no modifications in any known species of *Cephennodes* are coxae and femora. Modified coxae are not known in the Scydmaenidae, and secondary sexual characters located on the femora are generally rare in the Scydmaenidae (not known in the Cephenniini). Species with males bearing teeth on metafemora can be found in the Cyrtoscydmini (e.g., Oriental *Horaeomorphus heissi* Franz) and the Scydmaenini (it is a diagnostic character of *Armatoscydmaenus* Franz, a subgenus of *Scydmaenus*), and males of many species of *Stenichnus* have variously modified apices of profemora, sometimes with angulate projection (e.g., European *S. scutellaris* (Müller & Kunze)) or serrated dorsal margin (illustrated examples can be found in Jałoszyński 2004b).

Modifications of the abdominal sternites have not been reported in any known Cephenniini. One species of *Cephennodes* was found to have modified sternites II-V (*C. spatulipes*), with particularly oddly shaped sternite IV, forming a broad subtriangular median projection. Several other species of the genus inhabiting central provinces of China have similar modifications (Jałoszyński, unpublished observations). Another species (*C. spinosus*), has the median tooth or mucro on the sternite VI. However, the shape of the terminal abdominal segments has not been studied in most genera of the family. In other tribes, males of some undescribed species from SE and E Asia belonging to the *Euconnus* complex have the terminal abdominal sternites with variously shaped

impressions or excavations (Jałoszyński, unpublished observations), and this kind of modifications may appear to be more common when properly studied.

Among peculiar characters found in the aedeagus among the studied species, the subtriangular projection above the base of parameres in *C. yunnanensis* seems most interesting. It is somewhat similar to structures known in *Veraphis*. However, in the latter genus the projection is usually relatively small and its base is fused with parameres (Jałoszyński & Hoshina 2005). A hypothesis can be put forward, assuming that this unusual structure in *Veraphis* might have originated by invagination of the ventral wall of the median lobe, and then the separated part, similar to the condition visible in *C. yunnanensis*, might have been fused with the base of parameres. Further reduction of this structure might have lead to a small projection that can be found in *Eutheia* (e.g., Jałoszyński 2004a). If this hypothesis proves correct, it would provide further evidence for close relationships between the Cephenniini and Eutheiini. It was suggested that the pair of unique suction discs on the labium of the Cephenniini, being a unique adaptation to prey on mites, might be homologous to broadened bristles found in labium of *Veraphis* (Jałoszyński 2006a; the labium of *Veraphis* was illustrated in Jałoszyński & Hoshina 2005). The reduced antennomere VIII found in many species of *Cephennodes* during the present study is another character shared by at least some members of the two tribes. This character in the Eutheiini has never received any attention. However, the reduced antennomere VIII can be found in females of *Eutheia rufa* Jałoszyński, males and females of *Veraphis hisamatsui* Jałoszyński & Hoshina, males of *V. tottoriensis* Jałoszyński & Hoshina, males and females of *V. kurbatovi* Jałoszyński & Hoshina or females of *V. ishikawai* Hisamatsu. In other species of *Veraphis*, the antennomere VIII is not clearly reduced, but it is about as large as VII, so the antennae are not exactly gradually thickened (Jałoszyński & Hoshina 2005). The antennal club containing the reduced antennomere VIII is treated as a synapomorphy of the Leiodidae (e.g., Newton 1998), and the periarticulate antennal gutter, somewhat similar to antennal organs found in the Eutheiini (Jałoszyński 2004a, Jałoszyński & Hoshina 2005), is a potential synapomorphy of Leiodidae and Agyrtidae (e.g., Beutel & Leschen 2005). More species of the Cephenniini and Eutheiini must be studied to provide a deeper insight into diagnostic value of these interesting characters.

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