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A review of the genus *Feaia* Fleutiaux, 1896 (Coleoptera, Eucnemidae, Eucneminae, Mesogenini)

JYRKI MUONA

Abstract

The systematic position of the genus *Feaia* Fleutiaux as a member of the subfamily Eucneminae, tribe Mesogenini is emphasized. The type species is *Feaia dubia* Fleutiaux 1896. In addition to the type species, four previously described species belong to *Feaia*: *Feaia emarginata* Fleutiaux 1889, *Feaia geiseri* Otto 2016, *Heterotaxis amputata* Fleutiaux 1926 and *Heterotaxis nipparensis* Hisamatsu 1957. Five new species are described: *Feaia gressitti* n. sp. (Papua New Guinea), *Feaia hoabinhensis* n. sp. (North Vietnam), *Feaia indica* n. sp. (North India), *Feaia sedlacekorum* (Papua New Guinea) and *Feaia terraereginae* n. sp. (Australia, Queensland). A key for identification of species is provided.

Collection acronyms

- ANIC. Australian national insect collection, Canberra.
BMNH. The Natural History Museum, London
BPBM. Bernice Bishop Museum, Honolulu
IRSNB. Royal Belgian Institute of Natural Sciences, Brussels
JMC. JM collection, presently in MZH, Helsinki.
MCG. Museo di Storia Naturale Giacomo Doria, Genoa
MNHN. Muséum National d'Histoire Naturelle, Paris
NHMB. Naturhistorisches Museum Basel
USNM. United States National Museum, Washington D.C., USA

Introduction

The false click-beetle genus *Feaia* Fleutiaux 1896 has been poorly understood from the very start of its history. The genus name became available in an unusual context: two separate articles published in the same issue of a journal (Fleutiaux 1896a & 1896b). According to the Code – which at the time did not exist, of course – the two species included in these two articles simultaneously published in one issue, are the originally included ones: *Feaia singularis* Fleutiaux,

1896a and *Feaia dubia* Fleutiaux, 1896b. Three years later a third species was included, *Feaia emarginata* Fleutiaux, 1899. Shortly thereafter, Fleutiaux (1901: 651, 653) proposed three new combinations: *Vitellius singularis* (Fleutiaux), *Heterotaxis emarginatus* (Fleutiaux) and *Heterotaxis dubius* (Fleutiaux). As a result of these actions the genus name *Feaia* was placed in synonymy. Schenkling (1928), in the world catalogue, listed *Feaia* as a partial synonym of both *Vitellius* Bonvouloir and *Heterotaxis* Bonvouloir.

During a study aimed at a phylogenetic analysis of all known Eucnemidae genera it was necessary to determine the type-species of the genera (Muona, 1987). In this connection it became clear that a type species had not been designated for *Feaia*, nor were the two species available for type designation closely related to each other. *Feaia singularis* belonged to the genus *Vitellius*, as already pointed out by Fleutiaux (1901: 651), but the two species Fleutiaux placed in *Heterotaxis* did not belong to any recognized genus. In order to minimize name changes, Muona (1987) chose to designate *Feaia dubia* as the type-species for *Feaia*. If *Feaia singularis* had been chosen, *Feaia* would have been a junior subjective synonym of *Vitellius* and the remaining species would have needed a new generic name.

Muona (1991a) placed four described species in the genus *Feaia*: *F. emarginata* and *F. dubia* as well as *Heterotaxis nipparensis* Hisamatsu and *Heterotaxis amputata* Fleutiaux. The rationale behind this rearrangement was discussed in Muona (1993: 49-50), but all the species were not specifically mentioned.

Unfortunately confusion persisted because Muona (2007: 87) erroneously listed *Heterotaxis nipparensis* Hisamatsu in the subfamily Macraulacinae, overlooking his own earlier research (Muona, 1991a).

The position of *Feaia* has recently been subject to further confusion. Seung (2017) used the position of *Heterotaxis nipparensis* as evidence for the paraphyly of the subfamily Macraulacinae *sensu* Muona. Seung (2017) was a master's degree dissertation based on an analysis of three gene regions. It was not published in a peer reviewed journal and was only available as an academic dissertation. As the species Seung used to obtain his result, *Heterotaxis nipparensis*, belonged to *Feaia* (i.e. Eucneminae), not *Heterotaxis* (i.e. Macraulacinae), his result was based on a simple sampling error. Most likely he was misled by the mistake in the Palearctic Catalogue (Muona 2007: 87). Why Seung (2017) was not brought up for discussion when preparing Seung et al. (2017), remains a mystery to the present author.

The baseless claim of the paraphyly of Macraulacinae *sensu* Muona appeared next in Li et al. (2020: 403), who simply cited Seung (2017) for it. As Li et al. (2020) listed Muona (1993), Seung (2017) and Seung et al. (2017) as their references, one cannot help wondering whether Li et al. (2020) actually read their own references. Seung et al. (2017) described *Feaia nipparensis* in detail and the correct subfamily is noted both in the text and in the title of the article.

Clearly, there is confusion here and the record should be put straight.

The purpose of this article is to present what actually is known of the genus *Feaia* Fleutiaux, point out the relevant phylogenetic and diagnostic features, describe the known species and provide a key for their identification.

The genera *Heterotaxis* Bonvouloir, *Feaia* Fleutiaux and *Vitellius* Bonvouloir

Species belonging to these three genera are small, 2–7 mm long, stocky, parallel-sided, with flat, sharply striated elytra, convex venter and delicate, short legs. Although historically poorly known, these genera are actually easy to separate from each other. They form natural evolutionary lineages, certainly real clades and they are not closely related as previously believed. The important differences between these taxa are the evolutionary novelties, synapomorphies, defining them at various levels. These are not always easy to observe as

some are internal, others present in one sex only (e.g. Muona 1991b, 1993).

Heterotaxis belongs to the subfamily Macraulacinae being characterized by apomorphic characters states (1) basal sex-comb on male protarsomere one (fig. 1; Muona 1993: fig. 40-43), (2) basally open lateral antennal grooves (Muona 1993: fig. 10-11) as well as several plesiomorphic diagnostic features (3) no tibiotarsal grooves on metasternum, (4) male sternite IX forming a complete ring (fig. 4), (5) aedeagus with rigid lateral lobes fused with median lobe and (6) simple median lobe (fig. 7; Muona 1993: fig. 118, 133-134).

Feaia and *Vitellius* belong to the subfamily Eucneminae. They are characterized by several eucneminae apomorphies: (1) absence of male sex-combs, (2) basally closed lateral antennal grooves (Muona 1993, fig. 16-18), (3) male sternite IX with separate basal struts (fig. 2, 3) [an apomorphy of the derived Eucneminae only], (4) highly modified, divided lateral lobes and (5) median lobe shaped like a cricket bat (fig. 5-6; Muona 1991b, fig. 124; 1993, fig. 156).

The antennal structure is diagnostic for all three genera. In order to emphasize the actual antennal segments, here the different “segments”/“antennomeres” are referred to as scape, pedicel and the flagellum, which consists of nine flagellomeres. *Heterotaxis* species have compact serrate antennae with transverse, nearly equal flagellomeres 1-8 (fig. 10). Both sexes of *Vitellius* have flabellate to deeply pectinate flagellomeres 2-8 (fig. 8), whereas *Feaia* species have all flagellomeres dentate (fig. 9). *Vitellius* differs sharply from most other eucnemids in having the pedicel and the first flagellomere nearly identical, elongate (fig. 8). *Vitellius* species and males of *Feaia* have a projecting abdominal tip forming a short beak (fig. 15), female *Feaia* specimens have the abdominal apex either emarginate or abruptly cut off (fig. 10-12, 26). All Mesogennini species have tibiotarsal grooves on metasternite, but in *Vitellius* species these are very small (fig. 27) and in *Feaia* they exist as minute rudiments only.

In *Feaia*, the basally slightly expanded free spatulate median lobe is plesiomorphic, with long basal struts attached to it directly (fig. 17-19). The elongated apical lateral lobes are attached to this structure with a joint dorsally. In *Vitellius* the basal struts of the median lobe are united by a transverse bridge and the apical lateral lobes and the basally narrow median lobe are united to this bridge at the same spot dorsally (fig. 5). These features are not visible from dry-mounts, the internal structure of the organ has to be studied from transparent mounts (compare fig. 19, 20). The organ is entirely different in the macraulacine genus *Heterotaxis*. The lateral lobes are not divided in a basal ring and movable apical parts and the median lobe is fused together with the lateral lobes (fig. 7). The basal piece is small, the lateral lobes are long, united, apically separate, often with apical tooth, and

as in *Heterotaxis*, with small secondary lateral lobes (fig. 7).

The sexual dimorphism in the form of last ventrite in *Feaia* is unique in Eucneminae, but known from other eucnemid subfamilies, e.g. the Melasinae genus *Hylis* des Gozis and several Macraulacinae (e.g. *Euryaulacus* Bonvouloir). Suzuki (2012, 2021) has described some aspects of the behavior of *F. nipparensis* in Japan, possibly including swarming. He observed specimens chasing others on bare surface of a dead tree-trunk and was able to follow a group of three individuals, one larger in the middle, two on the sides, abdominal tips close to each other. The specimens stayed in this unusual position for some time. On the basis of the excellent photograph, especially the enlargement (Suzuki 2021: fig. 5) it appears clear that the terminal segments of both small specimens are directed towards the apex of the larger specimen in between. Although the actual genitalia are not clearly visible, the position of these beetles is strikingly similar to that of *Hylis procerulus* Mannerheim during copulation (Muona, 2021: fig. 3b).

The antennae of males seem to be longer and with more sharply dentate flagellomeres than those of females. However, both sexes of only *F. nipparensis* are known for sure and in that species the differences are surprisingly small.

The number of specimens seen has been regrettably small, under twenty. This makes generalizations difficult and estimation of variation nearly impossible. One promising new external character was observed, the size and form of the metanepisternum in relation to the adjacent elytral epipleura. They form a characteristic paired “sclerite”: craniad strongly diverging metanepisternum and caudad strongly diverging elytral epipleuron (fig. 26). Their length and form appear to differ between species but more material is needed to decide whether these differences are diagnostic.

Species included in *Feaia*

Feaia amputata (Fleutiaux)

Heterotaxis amputatus Fleutiaux 1926b: 41

Feaia amputata (Fleutiaux). Muona 1991a: 176; 1993: 50

The only known specimen, the female holotype (MNHN) from the Philippines, Butuan [Mindanao, Agusan Valley] was studied in 1982.

Length 5.5 mm. Head and pronotum very densely punctate, apex of frontoclypeus slightly produced in the middle. Antennae nearly moniliform, as long as pronotal lateral antennal grooves. Pronotum distinctly (1.1x) longer than wide, with two sharply defined deep rounded impressions at base and narrow keel between these. Elytra parallel, apically dehiscent and truncated, interstices flat, striae sharp, non-punctate. Abdominal apex truncated and widely emarginate.

This species is aberrant when compared with the others and the placement in *Feaia* should be regarded as tentative until males can be studied. The abdominal emargination and general body form fit *Feaia*, but the elongate antennae and dehiscent elytra do not.

Feaia dubia Fleutiaux

Feaia dubia Fleutiaux 1896: 603

Heterotaxis dubius (Fleutiaux). Fleutiaux 1901: 653; Schenkling 1928: 24

Feaia dubia Fleutiaux. Muona 1987: 84; 1991a: 176; 1993: 50

Two syntypes exist. Indonesia: West Papua, “Kulokaddi” [Kulokadi], D’Albertis leg., 04-1872, “Hatami” [Arafak Mts., Hatam], Beccari leg., 07-1875.

D’Albertis and Beccari arrived in to Sorong area in April 1872, established camp there and another one along Ramoi river (Gnecchi-Ruscone, 2011). Kulokaddi is not known to gazetteers, but the location is revealed in D’Albertis (1880: 27) as Kulokadi on the mainland New Guinea coast opposite to their anchor point in the Sorong area. Actual collection date was either 13th or 14th of April, 1872.

One male syntype from New Guinea was studied in the 1980s (MCG); the specimen was remounted on a card. The male right antenna was drawn and the aedeagus sketched at the time.

Length 5.3 mm. Body elongate, ratio length/width 2.9. Head and pronotum very densely and minutely punctate, only feebly shiny, frontoclypeus feebly rounded apically. Antennae quite slender, scape black, pedicel pale brown, f1-f9 dark yellowish brown, f2-f7 gradually more dentate (fig. 22). Disk of pronotum globular, even, without median groove. Scutellum square, punctate, with all corners sharp. Elytra dark brown, lightest at shoulders, with sharp minutely punctate striae, interstices slightly convex, basally mostly transversely rugose.

Paired apical lateral lobes spatulate, longer than median lobe, this widest at junction with apical lateral lobes, evenly narrowing, with rounded apex (fig. 21).
Diagnosis

With convex elytral interstices and square scutellum as in *F. sedlaceorum* n.sp, but differs from that species by the unusually slender antennae and lack of median groove on pronotum.

Feaia emarginata Fleutiaux

Feaia emarginata Fleutiaux 1899: 27

Heterotaxis emarginatus (Fleutiaux). Fleutiaux 1901: 653; 1921: 34; 1926a: 98; Schenkling 1928: 24 (error in date, 1889 instead of 1899); Fleutiaux 1945: 172.

Feaia emarginata Fleutiaux. Muona 1991a: 176; 1993: 50

The holotype female from Madagascar, Baie d'Antongil (MNHN) was studied in 1982. Two further females from Madagascar, Antsianaka, were available for study as well (JMC) (fig. 12). Male unknown.

Length 5.0 - 5.5 mm. Head and pronotum very densely and minutely punctate, only feebly shiny, frontoclypeus feebly rounded apically. Scape black, pedicel pale brown, f1-9 dark brown, f2-f8 gradually quite strongly more dentate, f8 about twice as wide as long, f9 conspicuously short (fig. 12). Frons with feeble but distinct median groove extending to occiput. Pronotum very densely punctate, disk lightly flattened, with nearly complete shallow median groove, this widest before middle. Scutellum square, punctate, all corners sharp. Elytra black, dark reddish brown at shoulders, lower sides and along suture, with sharp minutely punctate striae, interstices feebly convex, moderately rugose. Dorsum overall dull, pronotum especially so. Abdominal apex relatively widely emarginate.

Diagnosis

The only *Feaia* species known from Madagascar. The square scutellum with sharp corners is distinctive as well.

Feaia geiseri Otto

Feaia geiseri Otto 2016: 265

The holotype male (Laos, Xieng Khouang province, NHMB, 5.25 mm) is illustrated in the original description and highly characteristic with frontal carina on head, glabrous scutellum and long rami on f4 – f8. The female paratype (“allotype”) (Laos, Hua Phan prov., BMNH, 6.5 mm) is said to be similar to the holotype except for antenna, which is illustrated as well. According to Otto (in litt.) the last ventrite of the allotype paratype is pointed, not emarginate. This means that the specimen is very likely a male. In the description, “under variation”, another female paratype (Vietnam, Hoa Binh prov., IRSNB, 5.75 mm) was discussed and found to be slightly different but possibly teneral. However, this second Vietnamese paratype is a male of an undescribed species with very similar antennae to those of the assumed female allotype of *F. geiseri*. It appears possible that both paratypes are males of the same undescribed species. It is described below as *F. hoabinhensis* n. sp. on the basis of the Vietnamese specimen. The identity of the allotype specimen remains to be checked.

Feaia gressitti n.sp.

Holotype male glued on a card, labelled: “NEW GUINEA (Papua), Bisianumu R. of, Port Moresby 500 m., June 7 1955/Crotalaria, sec. growth/J. L. Gressitt, collector”/ Aedeagus mounted in Euparal on celluloid acetate card/HOLOTYP, *Feaia gressitti* n.sp., J. Muona desig. 2021”, (BPBM).

This specimen is damaged. Only scape is left of right antenna, f1 – f9 of the left antenna have been removed and glued on the same card with the specimen, together with one mesotibia and –tarsus (fig. 15).

Derivation of name. Named after the collector, the late Dr. J. L. Gressitt.

Length 5.3 mm. Body elongated, ratio length/width 2.93. Head black, very densely punctate, dull, with small, strong depression just above antennal sockets, frontoclypeal apex slightly curved, sides with distinct keels. Antennae as in fig. 25, scape black, pedicel brown, f1-f9 brownish black. Pronotum black, very densely an orderly punctate, globular, dull, with sharp median groove basally extending close to front edge. Scutellum nearly square, hind margin and angles rounded, strongly punctate. Elytra dark black, slightly paler on sides, striae sharp with irregular distinctly visible punctures, interstices very densely punctate, mostly transversely rugose, and nearly flat. Abdominal apex with small apical beak.

Male genitalia as in fig 19. Lateral lobes slender, with twisted apical part ending in finger-like apex. Median lobe basally wide, strongly constricted into slender parallel shaft, apically slightly widening with emarginated apex, with long basal struts. The sketch of the aedeagus (fig. 20) made in 1982 is included for comparison with the recent image of the same sample after making a transparent mount (fig. 19).

Diagnosis

With respect to antennal structure, scutellum, flat elytral interstices and genitalia related to *F. hoabinhensis* n.sp., but the median lobe and apical lateral lobes are longer and slenderer and the pronotal median groove is longer. The dark color, form of scutellum and flat elytral interstices separate *F. gressitti* from *F. dubia* and *F. sedlacekorum* n.sp. In general appearance *F. gressitti* n.sp. is also similar to *F. terraereginae* n.sp., but easily separated by the slenderer body.

Feaia hoabinhensis n.sp.

Holotype male from Vietnam, glued on a card, labelled: “Coll. I.R.Sc.N.B, TONKIN, Hoa-Binh, (North-VIETNAM), ex. coll. OBERTHUR, I.G.: 18.293. (light yellow card) / *Feaia* ?*geiseri* Otto, J. Muona det. 2014. /PARATYPE, *Feaia, geiseri*, Otto, det. R.L. Otto, 2014. [yellow printed label]/HOLOTYP, *Feaia hoabinhensis* n.sp., J. Muona desig. 2021 [red printed label]”, (IRSNB).

This specimen is the second female paratype of *Feaia geiseri* Otto, listed under “variation”. It is damaged with f8-f9 missing from right antenna, tip of left elytron cut off and scutellum partly hidden under left elytron. Abdomen and one mesothoracic wing are glued on a separate card (fig. 16).

Derivation of name. Found in the Hoa Binh province of Vietnam, in the area formerly known as Tonkin.

Description

dull, feebly but clearly grooved on upper frons and occiput, frontoclypeal apex nearly straight. Left antenna in antennal groove, only f8-f9 visible, scape, pedicel and f1-f7 of right antenna visible, scape black, pedicel yellowish brown, flagellomeres brown (fig. 16). Pronotum partly deformed because of crack in front, black, front edge narrowly reddish yellow, extremely densely punctate to rugose, Dull, especially in front with obscure surface sculpture, without luster, with shallow median groove on basal half. Because of the damaged state of the specimen, scutellum is partly under left elytron, distinctly punctate, heart-shaped. Elytra dark brown, slightly paler on sides, striae sharp with minute punctures, interstices very densely punctate, mostly transversely rugose, basally quite flat, apically slightly convex. Abdominal apex with small beak.

Male genitalia as in fig. 17. Lateral lobes are thick, with twisted apical part and long row of hairs along inner edge. Median lobe is slender, short, with lightly emarginated apex, widest at base with long basal struts.

Diagnosis

Similar to *F. gressitti* n.sp. with dark brown elytra, flat interstices and similarly shaped antennae, but differs by brown flagellomeres, shorter and wider pronotal groove, dull, irregularly punctate front part of pronotum and different male genitalia with shorter median lobe and much wider and shorter apical lateral lobes.

Feaia indica n.sp.

Holotype female glued on card, labelled: “/Anamalai Hills, Cinchona, India, 3500’ –IV-1956, P. S. Nathan /” (USNM). (fig. 11, 26).

Derivation of the name. Found in India.

Length 6.2 mm. Body elongate, ratio length/width 3.0. Head very densely punctate, frontoclypeus irregularly rugose, feebly rounded apically. Scape black, pedicel yellowish brown, f1-9 dark yellowish brown, gradually more dentate. Pronotum black, longer than wide, parallel-sided only in basal 40% of its length, from there on converging cranially, very densely punctate, punctures mostly separate, median groove well-developed, shiny but shallow, fading away in front half. Scutellum transverse, heart-shaped, punctate. Elytra brownish black, with sharp, punctate striae. Punctures large, rounded and especially apically more visible than in other species. Interstices fairly flat, moderately rugose. Abdomen abruptly cut off at apex (fig. 26).

Diagnosis

The form of the pronotum separates *F. indica* n.sp. from all other known species.

Feaia nipparensis (Hisamatsu)

Heterotaxis nipparensis Hisamatsu 1957: 45

Feaia nipparensis (Hisamatsu). Muona 1991a: 176; 2007: 87; Seung et al. 2017; Suzuki 2021: 53-55

Heterotaxis nipparensis Hisamatsu. Suzuki 2012: 48; Seung 2017

Suzuki (2012) was the first one to illustrate both sexes of a *Feaia* species and he provided new, high resolution images for this paper (fig. 28, 29). Seung et al. (2017) redescribed the female of *F. nipparensis* on the basis of two specimens found in Korea.

The combination of glabrous scutellum (fig. 30) and absence of median crest on frons is diagnostic. The male antennae are proportionately slightly longer and with less robust flagellomeres than those of the female (Suzuki, 2012)

Length 5.7 - 6.2 mm.

Whether the Korean species is identical with the Japanese *F. nipparensis* or a distinct taxon requires a study of the aedeagus of a Korean specimen. The genitalia of the Japanese species have been studied and are illustrated here (fig. 18). For the time being this species is believed to occur in both countries.

Feaia sedlacekorum n.sp.

Holotype female labelled: “New Guinea NE, Wau Morobe district, 1100 m 2.IX 1961/J.& M. Sedlacek collectors” (JMC). This specimen lacks f4 – f9 of right antenna and the abdominal tergites and sternites have been glued together with the specimen on a card. The ovipositor and spiculum have been placed in a glass vial on the same pin as the specimen (fig. 14). Derivation of name. Described in memory of the collectors, the late Joseph and Marie Sedlacek, who donated the specimen to the author in Brookfield, Australia in 1986.

Length 5.3 mm. Body elongate, ratio length/width 2.96. Head and pronotum very densely and minutely punctate, only feebly shiny, frontoclypeus feebly rounded apically. Scape black, pedicel and f1-9 yellowish brown, f2-f8 gradually increasingly sharply dentate (fig. 24). Disk of pronotum globular, even, with sharp basal median groove. Scutellum square, punctate, with all corners sharp. Elytra dark brown, lightest at shoulders, with sharp minutely punctate striae, interstices slightly convex, moderately rugose, at least basally with mostly separate punctures.

Diagnosis

Similar to *F. dubia* with convex elytral interstices and square scutellum with sharp corners, but easily separated by the very strongly transverse flagellomeres and basally sharply grooved pronotum.

Feaia terraereginae n.sp.

Holotype female glued on a card, labelled; “/Queensland. [hand-written with ink]/Australia [hand-written miniature other text not clear, in ink]” (ANIC). This specimen lacks all flagellomeres of the right antenna and f5 – f9 from the left antenna (fig. 13).

Derivation of name. Found in Australia, Queensland.

Length 5.2 mm. Body stout, 2.75 times as long as wide. Head black, very densely punctate, dull, with small, strong depression above antennal sockets, frontoclypeal apex slightly curved, sides with distinct keels. Antennae as in fig. 9, 14, scape black, pedicel and f1-f4 yellowish brown. Pronotum black, extremely densely punctate, basal half with rugose sculpture, dull, with nearly complete shallow median groove. Scutellum strongly punctate, heart-shaped. Elytra dark black, slightly paler on sides, striae sharp with somewhat irregular small punctures, interstices fairly flat, very densely punctate, punctures especially basally orderly and separate. Abdominal apex widely emarginate.

Diagnosis

Easily separated from all other species by its short and wide body.

Acknowledgements

It has taken forty years to glean out this small sample of *Feaia* species from the collections of a score of museums. I gratefully acknowledge the many curators and technicians who have helped me. In connection with this study, I wish to thank especially the staffs at the Museum National d’Histoire Naturelle, Paris; The Natural History Museum, London and the Bishop Museum, Honolulu, Hawaii for the help and support they have offered me.

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1. Pronotum nearly parallel-sided on basal half, from there on narrowing towards front (fig. 11).....
.....*Feaia indica* n. sp.
- Pronotum parallel-sided for more than 2/3 of its length basally (fig. 12-16).....2
2. Species occurring in Madagascar only.....
.....*Feaia emarginata* Fleutiaux 1889
- Species occurring in SE Asia, New Guinea, Australia or Japan.....3
3. Scutellum glabrous, only few shallow punctures visible (fig. 30).....4
- Scutellum distinctly and fairly densely punctate5
4. Head without median crest, Japan & Korea.....
.....*Feaia nipparensis* (Hisamatsu, 1957)
- Head with median crest, Laos.....
.....*Feaia geiseri* Otto, 2016
5. Elytra dehiscent apically, antennae with all flagellomeres longer than wide
.....*Feaia amputata* Fleutiaux, 1926
- Elytra not dehiscent apically, at least flagellomeres 4-6 distinctly transverse.....6
6. Body stout, 2.75 times as long as wide, pronotum with well-developed median groove (fig. 13).....
.....*Feaia terraereginae* n.sp.
- Body narrower, 2.9 - 3.0 times as long as wide (fig. 14-16).....7
7. Scutellum square, hind corners sharp, elytra dark brown, interstices feebly convex (fig. 14)8
- Scutellum with rounded hind corners, elytra black to dark brown, interstices flat (fig. 15-16).....9
8. Pronotum with short, sharp basal median groove, elytral interstices very densely punctate but especially on basal half with largely separate punctures, female antennae stout, f1-f8 transverse, male unknown, Papua New Guinea
.....*Feaia sedlaceorum* n.sp.
- Pronotum without median groove, elytral interstices very densely punctate, basally largely rugose, male antennae slender, only f4-7 slightly transverse (fig. 22), female unknown, median lobe evenly narrowing to form rounded apical tip (fig. 21), Indonesia, West Papua*Feaia dubia* Fleutiaux, 1896
9. Pronotum black, very densely punctate, punctures distinct, intervals forming sharp net-like surface, median groove narrow but nearly complete (fig. 15), male lateral lobes twisted, with finger-like

- tip (fig. 6), female unknown, Papua New Guinea.....*Feaia gressitti* n. sp
- . Pronotum black with yellowish brown front margin, very densely and especially basally confusedly punctate, punctures partly irregular, intervals dull, median groove covering about 2/3 of pronotal length, widest at about in middle, narrower from there to both directions (fig. 16), male lateral lobes wide at tip (fig. 17), female unknown, Vietnam....
.....*Feaia hoabinhensis* n. sp.
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Figure 1. *Heterotaxis* sp., Australia. Male sex-comb visible as dark region on base of protarsomere one (enlargement).



Figure 2-4. Male sternite IX. 2-3. Separate basal struts, from left to right. 4. Basal struts united. (2) *Vitellius lafertei* Bonvouloir, Brazil. 3. *Feaia nipparensis* Hisamatsu, Japan. 4. *Heterotaxis* sp., Australia.

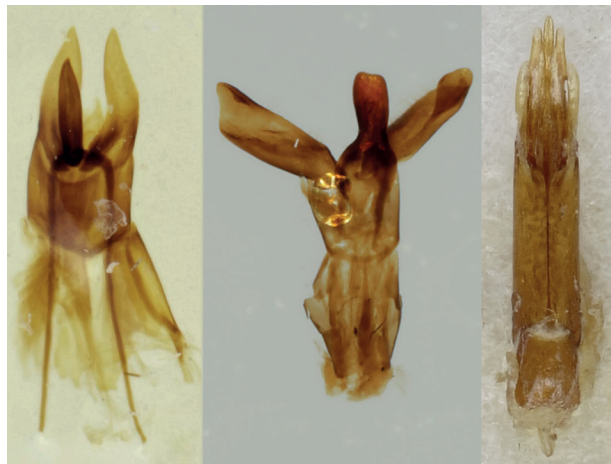


Figure 5-7. Aedeagus, from left to right. (5) *Vitellius lafertei* Bonvouloir, Brazil. (6) *Feaia hoabinhensis* n.sp., holotype, Vietnam. (7). *Heterotaxis* sp., Australia



Figure 8-10. Antenna from left to right. (8) *Vitellius lafertei* Bonvouloir, Brazil, male, (9) *Feaia sedlacekorum* n.sp., holotype, Papua New Guinea, female, (10) *Heterotaxis* sp., Australia.

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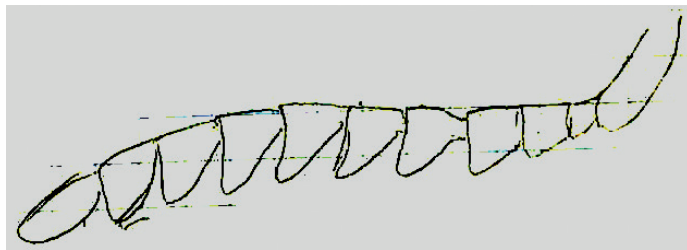
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Figures 11-16. Habitus. 11-13, upper row, 14-16 lower row; from left to right. *Feaia indica* n.sp., holotype female, India, (12) *Feaia emarginata* Fleutiaux, female, Madagascar, Antsianaka, (13) *Feaia terraereginae* n.sp., holotype female, Australia, Queensland, (14) *Feaia sedlaceorum* n.sp., holotype female, Papua New Guinea, (15) *Feaia gressitti* n.sp., holotype male, Papua New Guinea, (16) *Feaia hoabinhensis* n.sp., holotype male, Vietnam.



Figure 17-21. Aedeagus, from left to right. (17) *Feaia hoabinhensis* n.sp., holotype, Vietnam. (18) *Feaia nipparensis* (Hisamatsu), Japan. (19) *Feaia gressitti* n.sp., holotype, aedeagus, Papua New Guinea. (20) *Feaia gressitti* n.sp., holotype, sketch of aedeagus made in 1982, compare with fig. 19. (21) *Feaia dubia* Fleutiaux, syntype, sketch of aedeagus made in 1983, Indonesia, West Papua.



22. *Feaia dubia* Fleutiaux, syntype, sketch of antenna made in 1983, Indonesia, West Papua.



26. *Feaia indica* n.sp., holotype, India. Ventral view.



Figure 23-25. Antenna, from lower left to upper right. (23) *Feaia terraereginae* n.sp., holotype, Australia. Scape, pedicel and flagellomeres 1-4. (24) *Feaia sedlaceorum* n.sp., holotype, Papua New Guinea. (25) *Feaia gressitti* n.sp., holotype, Papua New Guinea, flagellomeres 1-9.



27. *Vitellius lafertei* Feutiaux, Brazil. Minute tibiotarsal grooves on metasternum.



Figure 28-29. Habitus, from left to right, *Feaia nipparensis* (Hisamatsu), Japan. (28) female, (29) male. Photo W. Suzuki.

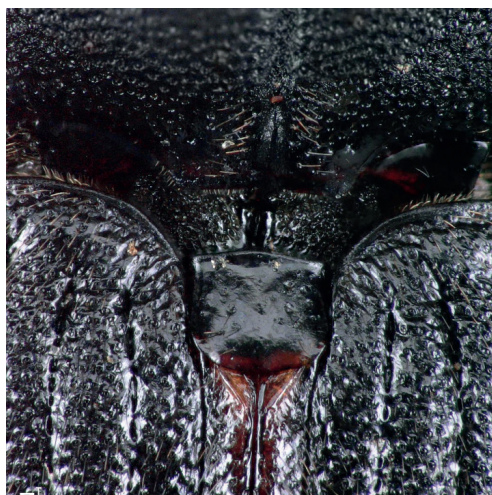


Figure 30. *Feaia nipparensis* (Hisamatsu), Japan, female. Scutellum. Photo W. Suzuki.