

Epania opaca (Coleoptera, Cerambycidae) and its New Relative,
with a Brief Note on the Genus *Molorchoepania*

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Abstract *Epania opaca* FISHER is redescribed and illustrated based on the type specimens preserved in the Natural History Museum, London, and is transferred to the genus *Molorchoepania*. A new species related to *opaca* is described from Queensland of North East Australia. The characteristics of the genus *Molorchoepania* are briefly described, and a checklist of all the members of the genus is provided.

Introduction

Molorchoepania PIC is a small molorchine group established on the basis of an Indo-Chinese species, *Epania barbieri* PIC, and only five congeners have so far been known to occur in East to Southeast Asia. Although originally described as a subgenus of *Epania*, *Molorchoepania* shows closer relationship to *Molorchus* than to *Epania* in the basic structure of the prothorax. The genera *Molorchoepania* and *Molorchus* are common in the autapomorphy in the tribe; that is, “pleural process widely separated and furcasternum of coxal cavities less developed behind” (NIISATO, 1986, 1992). It is doubtless due to the independency of the genus, since the hind wing of *Molorchoepania* lacks the 3A vein which is also autapomorphy of this genus. Adults of *Molorchoepania* are almost always found on the freshly dead vines and twigs of host plants, and do not associate with the flowers as those of the other members of the Molorchini.

In the course of my study of the tribe Molorchini, I have continuously made researches on the type specimens preserved in foreign museums. At an opportunity to visit the Natural History Museum, London in the winter of 1999, I found a pair of the type specimens of *Epania opaca* FISHER described from Java in the collection. Until that time, I had known the species only from FISHER’s original description, and simply considered it a somewhat aberrant species of *Epania*. To my surprise, the Javanese species in question has the *Molorchoepania*-like facies, and soon it became evident that *Epania opaca* actually belongs to *Molorchoepania* by a careful comparative examination made under microscope. *Epania opaca* not only has the fore coxal cavities widely open posteriad but also has no 3A vein of the hind wing. Besides, I also found a female specimen from Queensland which is closely allied to *opaca* preserved in the same cabinet.

In the following lines, I will transfer *Epania opaca* to the genus *Molorchoepania*

and carefully redescribe it on the basis of the type specimens, newly describe a Queensland species related to *opaca*, and then briefly discuss on the genus *Molorchoepania* and list up all the nominate species of the genus.

Abbreviations. The following abbreviations are used in the description: HW – maximum width of head across eyes, FL – length of frons, FB – basal width of frons, FA – apical width of frons, PA – apical width of pronotum, PB – basal width of pronotum, PW – maximum width of pronotum, PL – length of pronotum, EW – humeral width of elytra, EL – length of elytra.

Genus *Molorchoepania* PIC, 1949

- Epania* (*Molorchoepania*) PIC, 1949, Échange, (65), p. 9; type species: *Epania barbieri* PIC, 1949. — GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 112. — NAKANE, 1976, Ins. & Nat., Tokyo, **11**(6), p. 3.
- Molorchoepania*: HAYASHI, 1974, Ent. Rev. Japan, **26**, p. 15; 1984, Coleopt. Japan Col., Osaka, **4**, p. 55. — KUSAMA & TAKAKUWA, 1984, Longic.-Beetl. Japan Col., p. 282. — NIISATO, 1986, Ins. & Nat., Tokyo, **21**(12), p. 9; 1992, Illustr. Guide Identific. Longic. Beetl. Japan, p. 490.
- Molorchus* subg. *Kobaneus* HAYASHI, 1958, Ent. Rev. Japan, **9**, pp. 46–47; type species: *Molorchus* (*Linomius*) *mizoguchii* HAYASHI, 1955.

This genus is characterized by a combination of the following features:

Body rather short and broad, rather thick in profile with relatively short antennae in the Molorchini. Colour almost always uniformly brown to black, dull in general, without any maculation on elytra, though sometimes with pale bands on ventrites 1–2. Hairs and pubescence dense, particularly on elytra. Head large and voluminous, well convex, with raised frons, lower lobes of eyes small and widely separated from upper ones, genae very deep. Antennae 11-segmented, slightly longer (♂) or fairly shorter (♀) than body, not so slender towards apical segments, densely clothed with minute pubescence on six apical segments. Pronotum large and distinctly transverse, simply arcuate at sides, moderately constricted near apex and base, not bordered along apical margin, with disc more or less uneven though without any callosities, asperate on surface. Scutellum small, triangular. Elytra strongly reduced, not attaining to the base of abdominal tergite, broadly rounded at apices, with disc asperate or granulate on surface, usually densely haired near base. Hind wings rather broad, less elongate, with simple but distinct vein $1A_3+2A$, and without vein $3A$. Prosternum with fore coxal cavities distinctly angulate externally, widely open posteriad (furcasternum less developed posteriad), prosternal process deeply concave near middle, and visible only at triangular base and compressed apex. Mid coxal cavities broadly open to metepisterna. Abdomen somewhat broad though less reduced. Legs relatively long and not so stout, with hairy hind tibiae. Median lobe moderately elongate, with apical lobe moderately convex and broadly truncate at apex, rather long median struts. Tegmen with broad unilobed paramere.

Range. Japan (Kyushu, Tsushima Isls., Izu-Niijima Is., Ryukyus, etc.), China (Shaanxi), Taiwan, Indochina (Vietnam, Laos and Thailand), Indonesia (Java and

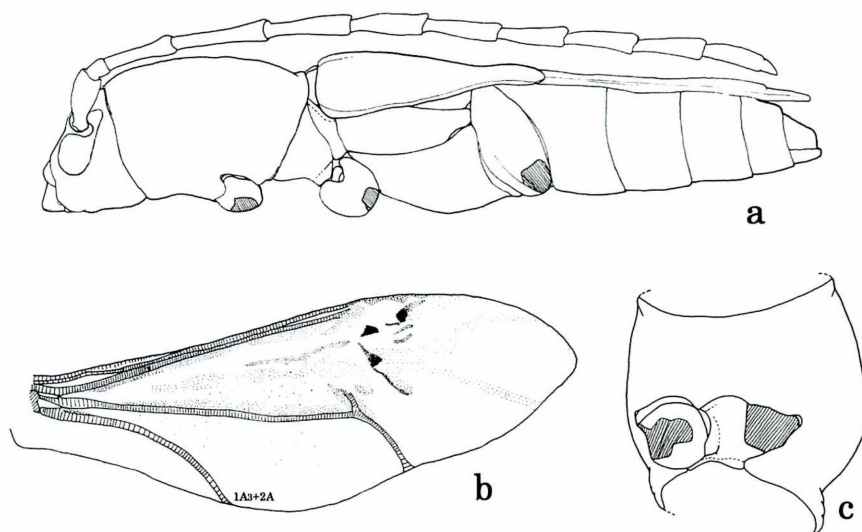


Fig. 1. *Molorchoepania barbieri* (Pic, 1949), ♂, from northern Thailand, type species of the genus. — a, Profile; b, right hind wing; c, prosternum.

Sumatra), NE. Australia (Queensland). I added Sumatra to the range of the genus, since an undescribed species of the genus collected from the island is in my cabinet.

Notes. Though established as a subgenus of *Epania*, *Molorchoepania* is considered to be an independent genus in recent arrangements (HAYASHI, 1974, 1984; KUSAMA & TAKAKUWA, 1984; NIISATO, 1986, 1992). The genus has rather a close relationship to the genus *Molorchus* than to *Epania*, because of the relatively small eyes and the widely open fore coxal cavities (less posteriorly developed furcasternum) which are autapomorphy of the genera *Molorchus* and *Molorchoepania* in the tribe Molorchini. *Epania* is a fairly derivative genus and forms a sister-group of the genus *Glaphyra*; both the genera have well developed furcasternum and externally recognized on the posteriorly closed fore coxal cavities. The external similarities between *Molorchoepania* and *Epania* may be caused by parallel evolution among the different lineages of the same tribe. It is evident that the independency of the genus *Molorchoepania* in both morphology and ecology can be recognized beyond all doubt. The members of genus have no 3A vein of the hind wing which is a derivative character in the tribe. The adults of the genus are almost always active on the freshly dead host plants and do not visit flowers in contrast to the other members of the tribe.

The genus contains eight species including an undescribed species and widely occurs from East Asia via Southeast Asia to Northeast Australia.

Molorchoepania opaca (FISHER, 1937), comb. nov.

(Figs. 2 & 4a)

Epania opaca FISHER, 1936, Fn. javanica, (79), pp. 175–176; type locality: Koebang-kangkong, Java.

Large and robust species, characterized by the white bands on female ventrites 1–2.

Female. Colour almost uniformly brown, partly infusate, slightly dull; head brown, black along sides and frontal margin of clypeus, somewhat infusate near vertex and tempora, gula light yellowish brown; apices of mandibles and palpi yellowish brown; antennae unicolored brown; pronotum brown, irregularly infusate on the disc, and also with black basal margin; scutellum blackish brown; ventral surface unicolored brown, though light yellowish brown on prosternum, white in ventrites 1–2 at each base and apical 1/3; legs brown.

Head moderately voluminous though not so convex, rather distinctly narrower than pronotum, almost entirely covered with close and rather small reticulations, densely with pale erect hairs, HW/PA 1.05, HW/PW 0.81; frons slightly narrowed apicad, rather strongly arcuate at sides, almost flattened, slightly depressed near posterior part including vertex, shallowly concave along midline, with arcuate apical margin rather distinctly produced at the middle, FL/FB 0.48, FB/FA 1.13; clypeus large and transverse, nearly 2/5 of basal width, weakly emarginate at apical margin; genae 3/4 the depth of lower eye-lobes, moderately raised including tempora; eyes moderate in size, rather weakly prominent, with upper lobes separated from each other by 13/20 the width of occiput. Antennae fairly long for a member of the genus, 0.65 times as long as body, not so slender, distinctly thickened apicad, distinctly broadened and flattened in apical seven segments, moderately clothed with short brownish hairs in segments 1–5, and with dense minute brown pubescence in segments 5–11; scape weakly clavate, somewhat depressed, almost equal in length to segment 3; segment 2 strongly reduced and thickened at apex; segments 3 and 4 thickened at apex, the former a little more than 3/4 the length of the latter which is the longest; segments 5–10 slightly decreasing in length; terminal segment bluntly pointed at apex.

Pronotum transverse globose, almost completely rounded at sides, widest at middle, strongly constricted at apex and base, PL/PA 1.20, PB/PA 1.03, PL/PW 0.95, PW/EW 0.97, PL/EL 0.91; apex weakly arcuate, very narrowly bordered, a little narrower than base; base very strongly reflexed and weakly emarginate near the middle, distinctly bordered; disc moderately convex though flattened in profile, strongly depressed near basal collar, with surface irregularly uneven, provided with small and close reticulations in most part, densely with long erect brownish hairs, and also with dense recumbent, silvery white pubescence along basal margin. Scutellum small, rounded at apex, densely pale-pubescent.

Elytra distinctly broad, strongly reduced, barely reaching apical 1/5 of metathorax, widest at basal 1/4, rather narrowly and straightly dehiscent in apical 1/3, distinctly bordered along apical third of both external and sutural margin, EL/EW 1.03; sides

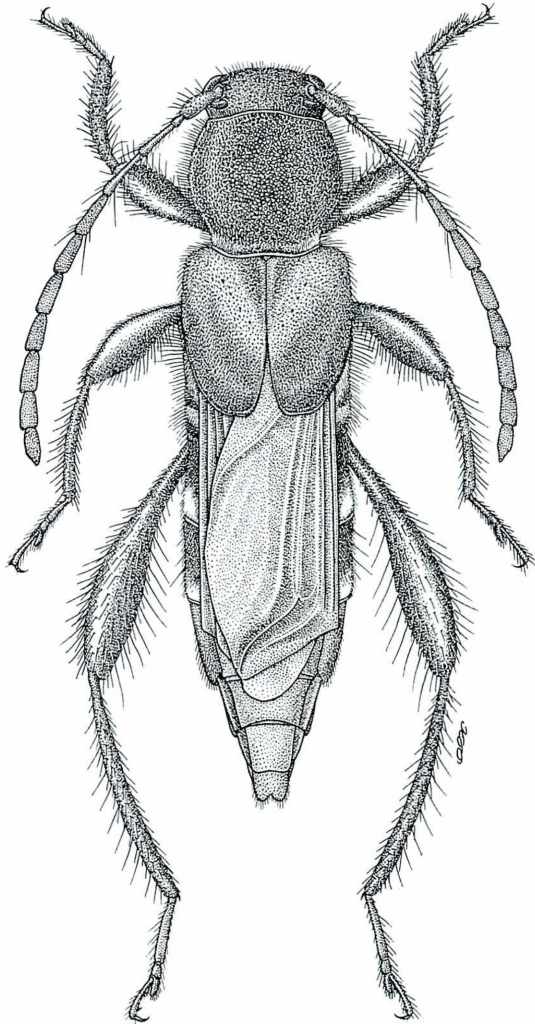


Fig. 2. *Molorchoepania opaca* (FISHER, 1936), comb. nov., paratype ♀, from Koebang-kangkong, Java.

with almost rounded humeri, arcuately rounded to basal $2/5$, then arcuately strongly convergent to apices which are widely subtruncate; disc uniformly convex, obliquely raised from basal $1/4$ of middle part to near apical $3/5$ of suture, and rather weakly so from middle of external $1/3$ to apical $1/8$ of suture, strongly depressed near suture behind scutellum, and obliquely so between two raised areas; surface densely punctured, densely clothed with brown hairs, and with pale recumbent hairs on a subtriangular part in basal $2/5$ near scutellum.

Prosternum almost flattened, shallowly furrowed, moderately with long pale hairs; prosternal process almost evanescent, only visible at the acutely convex base. Meso-

and metathoraces coarsely and rather closely punctured, densely clothed with long silvery white hairs. Abdomen moderately broad, weakly arcuate at sides, shagreened, clothed with dense brownish pubescence at sides of ventrites 1–3.

Legs, stout, moderately long; hind femur moderately clavate in apical 2/3; 1st hind tarsal segment nearly twice as long as the following two segments combined.

Body length 10.8 mm.

Male. Colour uniformly dark brown, slightly reddish on venter, at least in hind body, without white bands on abdominal sternites. Elytra similar to those of female, though narrower, with humeri moderately expanded, apices completely rounded, EL/EW 0.88; disc with wide oblique depression from basal 1/3 near external margin to apical 1/3 of suture, punctured and pubescent as in female, though supplementarily provided with dense silvery white pubescence at a triangular part in basal 4/7 near scutellum. Ventral surface almost as in female, though silvery white pubescence fairly dense at the sides of ventrites. Legs slightly longer and stouter than in female. Body length 7 mm according to FISHER's original description (head and prothorax are missing in the holotype examined). Male genitalia not examined, because of the poor condition of the specimen.

Specimens examined. 1 ♂ (holotype), "S. C. DRESCHER" "Koebang-kangkong Zuid-Banjoemas, Java, 25. Mr.' 17. I. 1932" (white label) / "Brit. Mus. 1937-662." (white label) / "det: 19_ *Epania opaca* 1933/36 FISHER" (pink label with black margin); 1 ♀ (paratype), almost of the same data as the preceding, but the collecting date is "19. I. 1932". The holotype specimen examined lacks the head and prothorax including appendages, except the left fore leg which is pasted on the mounting card. The paratype female is in a fair condition, though the apical six segments of the left antenna and the left leg are missing. I made the above redescription mainly on the basis of the female paratype for the reason of the condition of the type specimens. These type specimens are preserved in the Natural History Museum, London.

Distribution. Java, Indonesia.

Notes. This is a very unique species in having robust habitus with large fore body, the apically thickened antennae and the whitish basal segments of the female ventrites. These characteristics are not observed in the other congeners of the genus. However, this species belongs to the genus *Molorchoepania* beyond all doubt, since such autapomorphy of the genus as the small eyes, the less developed furcasternum of the fore coxal cavities, the simply arcuate sides of pronotum, and lack of the 3A vein of the hind wing are all present.

Molorchoepania opaca comb. nov. is little known species since only a pair of the type specimens were examined at the present time. No additional specimen has not yet been obtained from Java in about past seventy years.

***Molorchoepania albiventris* sp. nov.**

(Figs. 3 & 4c)

A small species with large fore body, characterized by entirely yellowish white abdominal ventrites 1–2.

Female. Colour dark yellowish brown to dark reddish brown, weakly shiny; head dark reddish brown, infusate along anterior margin of frons and genae, and also longitudinally reddish near midline of gula; apices of mandibles and palpi yellowish brown, eyes black; antennae yellowish brown at least in scape and segment 2; pronotum dark reddish brown to reddish brown, with black asperations; scutellum yellowish brown; elytra yellowish brown, with blackish asperation; prosternum reddish brown, slightly yellowish near middle; meso- and metathoraces dark yellowish brown, more yellowish at mesosternal process, paler on median produced part of metasternum; abdomen yellowish white in ventrites 1–2, and blackish brown on ventrites 3–5 though largely reddish near middle; legs unicolorously yellowish brown.

Head moderately large and voluminous, wholly well convex, rather distinctly narrower than pronotum, closely covered with shallow and rather small reticulations above, almost smooth at sides and venter, moderately covered with short pale hairs, HW/PA 0.80, HW/PW 0.71; frons subquadrate, less narrowed apicad, gently arcuate at sides, moderately and evenly convex, with simply arcuate apical margin, FL/FB 0.68, FB/FA 1.04; clypeus moderate, transverse, nearly 1/4 the basal width, gently emarginate at anterior margin; genae 3/4 the depth of lower eye-lobes, weakly raised; eyes relatively large, moderately prominent, with upper lobes separated from each other by 2/3 the width of occiput; vertex and occiput distinctly raised. Antennae with scape weakly dilated apicad, depressed (most segments are missing in the holotype).

Pronotum somewhat globose, almost as long as wide, widest just before middle, distinctly arcuate at sides, more strongly contracted to base than to apex, PL/PA 1.16, PB/PA 0.80, PL/PW 1.03, PW/EW 1.00, PL/EL 1.00; apex almost transversely truncate, not bordered, distinctly wider than base; base narrowly bordered, weakly arcuate and slightly emarginate near middle; disc moderately convex, in profile flattened in apical 1/4, then straightly declined to basal 1/10, uneven above, provided with an indistinct swelling at middle of apical 3/10 and a pair of swellings at sides of basal 1/5; surface moderately provided with small asperation, clothed with pale hairs, the hairs particularly dense at sides, and also with dense silvery white pubescence at whole sides. Scutellum relatively large, moderately narrowed to apex which is rounded, densely clothed with silvery white pubescence.

Elytra moderately broad, strongly reduced, almost reaching the level of hind coxal cavities, not so strongly narrowed apicad, widest at basal 1/3, straightly dehiscent in apical 1/2, indistinctly bordered or simple at least near apices, EL/EW 1.00; sides rather strongly expanded at humeri, weakly arcuate to just before middle then weakly and arcuately convergent to apices which are narrowly rounded; disc uniformly convex, moderately raised near suture behind scutellum, along oblique parts from humeri

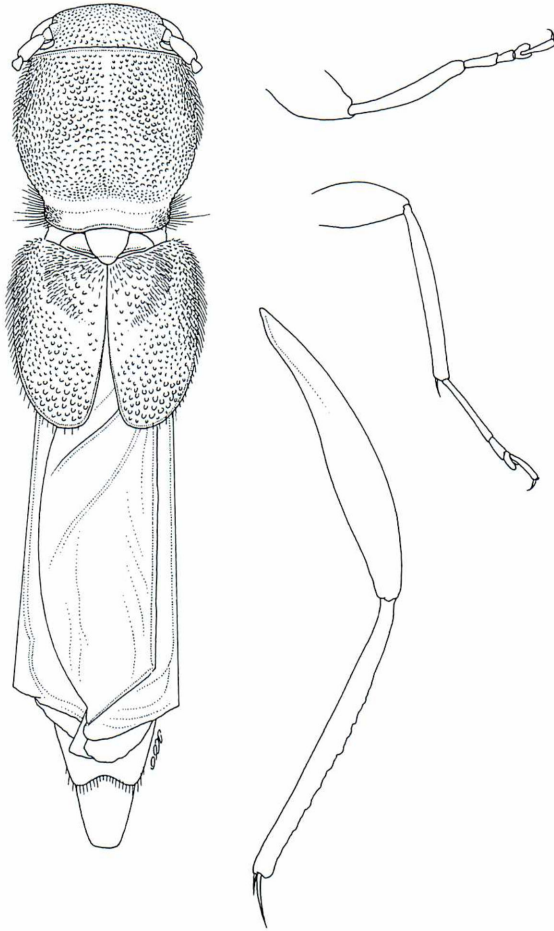


Fig. 3. *Molorchoepania albiventris* sp. nov., holotype ♀, from Kuranda, Queensland, NE. Australia.

to basal half of the middle of disc, and at apical 1/5; surface shagreened, partly provided with asperation mostly on the raised parts, densely clothed with brown hairs, the hairs particularly dense on basal 2/5 near suture and at sides of basal 3/5.

Prosternum slightly raised towards apex, almost smooth, sparsely clothed with pale long hairs; prosternal process almost evanescent, only visible at the acute convex base. Meso- and metathoraces shagreened, partly with coarse punctures on mesosternum, a few small ones on posterior part of metasternum, moderately clothed with pale long hairs, and also densely with silvery white pubescence at sides of mesothorax and at posterior part of metepisternum. Abdomen rather long, weakly arcuate at sides, gently emarginate at apex of anal ventrite, almost smooth, rather sparsely clothed with pale long hairs.

Legs moderate in length, strongly compressed in femora and tibiae; hind femur

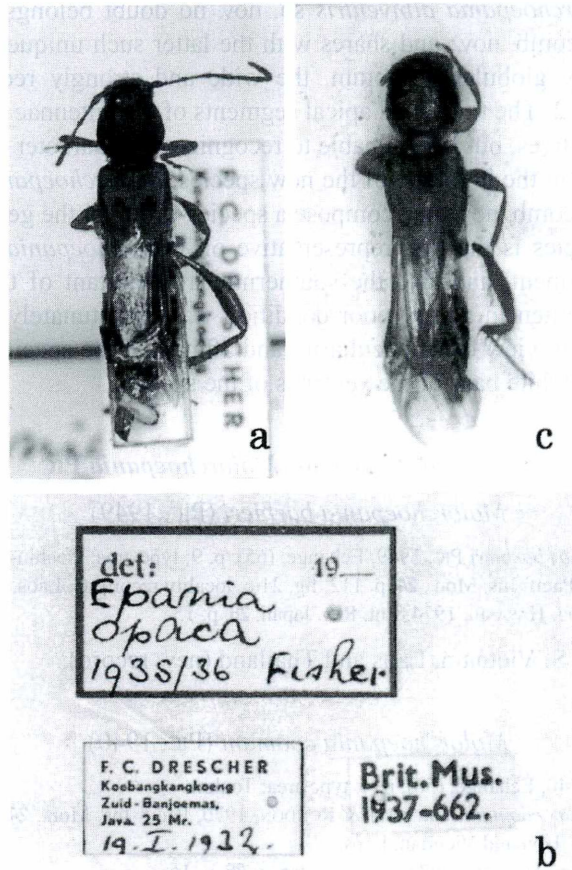


Fig. 4. Photographs of the type specimens of *Molorchoepania* spp. — a, *M. opaca* (FISHER, 1936), comb. nov., paratype ♀, from Koebang-kangkong, Java; b, ditto, labels; c, *M. albiventris* sp. nov., holotype ♀, from Kuranda, Queensland, NE. Australia.

slightly clavate in apical 5/12; hind tibia provided with dentate asperation in apical 3/11 along external margin.

Body length 5.8 mm.

Type specimen. Holotype ♀, “Kuranda, N. Queensland, G. E. Bryant. P. D. Dorld, 1911” (white label with red transverse line at middle)/“G. Bryant Coll. 1919-147” (white label)/“Br. Mus. (reddish pink label)”/“*?Epania* sp” “Id. By H. J. Carter” (white label). The specimen examined is in a fairly poor condition. Both the antennae except the left scape, and the right scape and pedicel, the left claw and tarsal segment 3, the left hind leg, the right hind tarsi, and the left hind wing are missing. The holotype is preserved in the Natural History Museum, London.

Distribution. Queensland, NE. Australia.

Notes. *Molorchoepania albiventris* sp. nov. no doubt belongs to the same lineage as *M. opaca* comb. nov., and shares with the latter such unique characters as the large and distinctly globular pronotum, the wide and strongly reduced elytra, and whitish ventrites 1–2. The thickened apical segments of the antennae may also be common in the two relatives, but I was unable to recognize this character since both the antennae are missing in the holotype of the new species. *Molorchoepania albiventris* sp. nov. and *M. opaca* comb. nov. may compose a species-group in the genus.

This new species is the first representative of *Molorchoepania* known from the Australian Subcontinent, and also the southernmost inhabitant of the genus. Only a single female specimen in a very poor condition was unfortunately examined. However, I described it in view of its peculiarity and affinity of the species. The new name is derived from the white base of the ventrites of the species.

Checklist of the Genus *Molorchoepania* PIC

Molorchoepania barbieri (PIC, 1949)

Epania (*Molorchoepania*) *barbieri* PIC, 1949, Échange, (65), p. 9; type area: Cochinchina. — GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 112, fig. 21 c; locality record: C. Laos.

Molorchoepania barbieri: HAYASHI, 1974, Ent. Rev. Japan, **26**, p. 15.

Distribution. S. Vietnam, Laos and Thailand (new record).

Molorchoepania coomani (PIC, 1940)

Epania coomani PIC, 1940, Échange, (56), p. 4; type area: Tonkin.

Epania (*Molorchoepania*) *coomani*: GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 112, fig. 21 d; locality record: Phon Tiou and Vientian, Laos.

Molorchoepania coomani: HAYASHI, 1974, Ent. Rev. Japan, **26**, p. 16.

Distribution. N. Vietnam and Laos.

Molorchoepania simplex (MATSUSHITA, 1933)

Molorchus simplex MATSUSHITA, 1933, J. Fac. Agric. Hokkaido imp. Univ., **34**, p. 228, pl. 3, figs. 1 a, b; type locality: Hôzan, Formosa. — GRESSITT, 1951, Longicornia, **2**, p. 173.

Molorchus (*Sinolus*) *simplex*: MITONO, 1940, p. 62.

Molorchus (s. str.) *simplex*: HUA, 1982, Check List Longic. Beetl. China Coleopt. Cerambyc., p. 42.

Molorchoepania simplex: NAKAMURA, S., et al., 1992, Check-list Longic.-beetl. Taiwan, p. 31.

Distribution. Taiwan.

Molorchoepania mizoguchii (HAYASHI, 1955)

Molorchus (*Linomius*) *mizoguchii* HAYASHI, 1955, Col. Illustr. Ins. Japan, **1**, pp. 51, 54, pl. 19, fig. 204; type locality: Sata Cape, Kagoshima Pref.

Molorchus (*Kobaneus*) *mizoguchii*: HAYASHI, 1958, Ent. Rev. Japan, **9**, pp. 46–47. — OHBAYASHI, 1963,

Iconogr. Ins. Japon. Col. nat. ed., **2**, p. 288, pl. 144, fig. 21.

Molorchus (Kobaneus) simplex MATSUSHITA ssp. *mizoguchii*: HAYASHI, 1961, Ent. Rev. Japan, **13**, p. 45.

Molorchus mizoguchii: KOJIMA & HAYASHI, 1969, Insect's Life Japan, **1**, p. 61, pl. 19, figs. 10, 10a.

Molorchoepania mizoguchii: HAYASHI, 1974, Ent. Rev. Japan, **26**, pp. 15–16; 1984, Coleopt. Japan Col., Osaka, **4**, p. 55, pl. 11, fig. 12. — KUSAMA & TAKAKUWA, 1984, Longic.-Beetl. Japan Col., p. 282, pl. 33, figs. 233, 233a. — NIISATO, 1992, Illustr. Guide Identific. Longic. Beetl. Japan, p. 490.

Epania (Molorchoepania) mizoguchii: NAKANE, 1976, Nat. & Ins., Tokyo, **11**(6), p. 3.

Distribution. Japan: Kyushu, Okino-shima Is. (Fukuoka Pref.), Tsushima Isls., Izu Islands (Nii-jima Is.), Yaku-shima Is., Tokara Isls. (Nakano-shima Is.), Amami Isls. (Amami-Ōshima Is. and Tokuno-shima Is.), Okinawa Is., Miyako Is., Sakishima Isls. (Ishigaki-jima Is., Iriomote-jima Is. and Yonaguni-jima Is.).

Molorchoepania viticola HOLZSCHUH, 1998

Molorchoepania viticola HOLZSCHUH, 1998, FBVA. Ber., (107), pp. 35–36, fig. 45; type locality: Lüecang, Shaanxi, China.

Distribution. China: Shaanxi.

Molorchoepania opaca (FISHER, 1936), comb. nov.

Epania opaca FISHER, 1936, Fn. javanica, (79), pp. 175–176; type locality: Koebang-kangkong, Java.

Distribution. Indonesia: Java.

Molorchoepania alboventris sp. nov.

Distribution. NE. Australia: Queensland.

Acknowledgements

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要 約

新里達也：*Epania opaca* と近縁の1新種，およびツヤケシヒゲナガコバネカミキリ属の分類学的知見。—— ロンドン自然史博物館所蔵のジャワ産 *Epania opaca* の雌雄の基準標本に基づき再記載を行い，後方に広く開く前基節孔や後翅脈 3A の欠如などを根拠に，本種の所属をヒメコバネカミキリ属 *Epania* からツヤケシヒゲナガコバネカミキリ属 *Molorchoepania* に変更した。また，同博物館所蔵のオーストラリア・クイーンズランド産ツヤケシヒゲナガコバネカミキリ属の1雌個体は，ジャワの *opaca* に近縁の未記載種と判明したので，*Molorchoepania al-*

biventris sp. nov. と新たに命名, 記載した. さらに, ツヤケシヒゲナガコバネカミキリ属について主要な特徴の再記載を行い, 本属に所属する全種についてのチェックリストを作成した.

References

- FISHER, W. S., 1936. New Cerambycidae from Java. *Fn. javanica*, (79): 169–198.
- GRESSITT, J. L., 1951. Longicorn beetles of China. In LEPESME, P. (ed.), *Longicornia*, **2**: i–ii+1–667, 22 pls. Paul Lechevalier, Paris.
- GRESSITT, J. L., & J. A. RONDON, 1970. Cerambycids of Laos (Distenidae, Prioninae, Philinae, Aseminae, Lepturinae, Cerambycinae). *Pacif. Ins. Mon.*, **24**: 1–314.
- HAYASHI, M., 1955. Family Cerambycidae. *Col. Illustr. Ins. Japan*, **1**: 18–76, pls. 9–27.
- 1958. Studies on Cerambycidae from Japan and its adjacent regions (IX). *Ent. Rev. Japan*, **9**: 46–50.
- 1961. The Cerambycidae from Amami-Ōshima Islands. I. Additions to the cerambycid fauna of the Loochoo-Archipelago. 2 (Col.). *Ibid.*, **13**: 35–146, pls. 9–10.
- 1974. Studies on Cerambycidae from Japan and its adjacent regions (Col.), XX. *Ibid.*, **24**: 11–17.
- 1984. Cerambycidae. In HAYASHI, M., K. MORIMOTO & S. KIMOTO (eds.), *The Coleoptera of Japan in Color*, **4**: 1–146 [incl. 28 pls.]. (In Japanese with English book title.)
- HOLZSCHUH, C., 1998. Beschreibung von 68 neuen Bockkäfern aus Asien, überwiegend aus China und zur Synonymie einiger Arten (Coleoptera: Cerambycidae). *FBVA. Berichte*, (107): 1–65.
- HUA, L.-Z., 1982. Check List Longic. Beetl. China Coleopt. Cerambyc., 158 pp. Zhongshan Univ., Guangzhou.
- JPN. Soc. COLEOPTEROL. (ed.), 1984. The Longicorn Beetles of Japan in Color. 565 pp. (incl. 96 pls.). Kodansha, Tokyo. (In Japanese with English book title.)
- KOJIMA, K., & M. HAYASHI, 1969. Longicorn beetles. *Insect's Life Japan*, **1**, 295 pp. Hoikusha, Osaka. (In Japanese with English book title.)
- MATSUSHITA, M., 1933. Beitrag zur Kenntnis der Cerambyciden des japanischen Reichs. *J. Fac. Agric. Hokkaido imp. Univ.*, **34**: 157–445, pls. I–V+i–x.
- MITONO, T., 1940. Cerambycidae. In MIWA, Y., & M. CHŪJŌ (eds.), *Catalogus Coleopterorum Japonicorum*. 281 pp. Noda-syobo, Taihoku.
- MULSANT, E., 1839. Histoire Naturelle des Coléoptères de France, Longicornes. 304 pp., pls. 1–2.
- NAKAMURA, S., *et al.*, 1992. Check-list of Longicorn-beetles of Taiwan. 126 pp. Hiba Soc. Nat. Hist., Hiroshima.
- NAKANE, T., 1976. Cerambycidae 26. Beetles of Japan (n. s.) (31). *Ins. & Nat., Tokyo*, **11**(6): 2–6. (In Japanese with English title.)
- NEWMAN, E., 1840. Entomological notes. *Entomologist*, **1**: 17–32.
- NIISATO, T., 1986. Note on the Japanese molorchine beetles (Coleoptera, Cerambycidae). *Ins. & Nat., Tokyo*, **21**(12): 7–12. (In Japanese with English title.)
- 1992. Cerambycinae. In OHBAYASHI, N., M. SATŌ & K. KOJIMA (eds.), *An Illustrated Guide to Identification of Longicorn Beetles of Japan*, 117–146, 467–534. Tokai Univ. Press, Tokyo. (In Japanese, with English book title.)
- PASCOE, F., 1858. On new genera and species of longicorn Coleoptera. Part III. *Trans. ent. Soc. London*, (2), **4**: 236–266, pls. 25–26.
- PIC, M., 1940. Diagnoses de Coléoptères exotiques. *Échange*, (56): 2–4.
- 1949. Coléoptères du globe. *Ibid.*, (65): 9–12.