

THE GENERA *ENGONIUS* AND *PARINDALMUS* (Coleoptera : Endomychidae)

By H. F. Strohecker¹

Abstract: A synoptic review of 2 endomychid genera, based on study of single types. Lectotypes are designated for those species not described from monotypes. A number of specific names combined with *Engonius* by their authors have been removed to other genera: *brevipes* and *variicornis* Arrow to *Mycetina*; *coomani*, *undulatus*, *grandjeani* Pic and *pubescens* Arrow to *Indalmus*; *opimus* Gorham and *femoralis* Arrow to *Brachytrycherus*; *minutus* Pic is synonym of *Eumorphus nanus* Arrow, which is placed in *Indalmus*. *I. stellatus* Strkr. is synonym of *I. undulatus* (Pic). *Amphisternus gibbosus* Gorham is transferred to *Engonius*, with *E. tetrasphaera* Arrow a synonym. *E. humeralis* Arrow is reduced to *E. similis humeralis* and the trinomial *subannularis* Pic is placed in synonymy under *E. rubropictus*. New species are *E. spurius* from Borneo and Malay Penin. and *E. sikkimensis*. *Pedanus affinis* Grstkr. and *Engonius bimaculatus* Pic are placed as synonyms of *Parindalmus quadrilunatus* (Grstkr.). *Parindalmus sinensis* Strkr., n. sp., is described from Szechuan.

Permission to study and dissect type material and many other indulgences have been granted me by a number of persons and institutions: J. Balfour-Browne, M. E. Bacchus of British Museum (BMNH); A. Descarpentries of Paris Museum (PM); H. Freude of Bavarian State Collection (BSS); J. L. Gressitt of Bernice P. Bishop Museum (BISHOP); R. Hertel of Dresden Museum (DM); F. Hieke, K. Delkeskamp of Humboldt University Museum (HUM); L. Hoberlandt of Prague Museum (Prague); Z. Kaszab of Hungarian Museum (MNM); J. Kingsolver of U. S. National Museum (USNM); Sven Larsson of Copenhagen Museum (UZM); H. B. Leech of California Academy of Science (CAS); E. Tortonese, D. Guiglia of Museo G. Doria (GM); A. M. R. Wegner formerly of Bogor Museum (Bogor); R. Wenzel, H. Dybas of Field Museum (FM). The "*" indicates my study of the single type.

Financial support has come from National Science Foundation Grant GB-4991.

In his original use of the generic name *Engonius* Gerstaecker combined specific names of insects of quite dissimilar features and this practice has continued with subsequent students, including me. Some of these specific names I have already assigned to other genera (Strkr. 1964, 1968, 1971). Before undertaking a synopsis of *Engonius* I think it helpful to note some additional transfers from the genus.

***Mycetina brevipes* (Arrow), new combination**

**Engonius brevipes* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 323. Monotype ♂ (BMNH) from Laos: Xieng Khouang, IV., R. Vitalis.

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Mycetina variicornis (Arrow), new combination

**Engonius variicornis* Arrow, 1925, Fauna Br. India, Erotyl.: 317. Lectotype ♂ (BMNH) from Sikkim: Gopaldhara, Rungbong Val., V., VI., H. Stevens.

It is difficult to understand Arrow's placement of this and the preceding species in *Engonius*.

Indalmus coomani (Pic), new combination

**Engonius coomani* Pic, 1925, *Mél. Exot.-Ent.* 44: 3. Lectotype ♂ (Pic, PM) from Tonkin: Hoa Binh.

Indalmus nanus (Arrow), new combination

**Eumorphus nanus* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 326. Lectotype ♂ (BMNH) from Tonkin: Hanoi.

Engonius minutus* Pic, 1927, *Mél. Exot.-Ent.* 49: 11. New **Synonymy. Monotype ♀ (Pic, PM) from Tonkin: Than Moi, IV., Jeanvoine.

Indalmus undulatus (Pic), new combination

**Engonius undulatus* Pic, 1930, *Mél. Exot. - Ent.* 56: 8. Monotype ♂ (Pic, PM) from Java.

Indalmus stellatus* Strkr., 1957, *Treubia* 24: 69, fig. 8. New **Synonymy. Holotype ♂ (Leiden) from Java: Gunung Slamet.

? Indalmus grandjeani (Pic), new combination

Engonius grandjeani Pic, 1930, *Mél. Exot. - Ent.* 56: 8.

No specimen in Pic coll. Description and size, 4 mm, do not suggest *Engonius*. Pic suggested *Indalmus* as perhaps better generic placement.

Indalmus pubescens (Arrow), new combination

**Engonius pubescens* Arrow, 1925, Fauna Br. India, Erotyl.: 311. Lectotype ♂ (BMNH) from Burma: Karen Hills.

Brachytrycherus opimus (Gorham), new combination

Engonius opimus Gor., 1896, *Ann. Mus. Civ. Genova* 36: 293. — Arrow, 1925, Fauna Br. India, Erotyl.: 317, fig. 56. Monotype ♀ (GM) from Burma: Karen Hills.

In 1920 Arrow cited a ♂ specimen from Luang Prabang as *Engonius opimus* but in 1928 used this specimen as monotype of *Engonius gemmatus*. The latter specific name was transferred to *Brachytrycherus* by me in 1964. I have seen a ♂ *gemmatus* (UZM) from Doi Suthep, NW Thailand. Dr Guiglia has examined the maxilla of the *opimus* monotype and describes the lacinia as rectangular with setose apex, a feature relating the insect to the *Brachytrycherus* complex rather than to *Engonius*.

Brachytrycherus femoralis (Arrow), new combination Fig. 13, 30, 31.

**Engonius femoralis* Arrow, 1928, Faune Colon. Franc. 2: 347, fig. 11. Lectotype ♂ (BMNH) from Laos: Prov. Savannaket. Another ♂ syntype (PM) from Tonkin: Laokay.

Tibial armament of ♂ resembles that found in genus *Engonius* but total structure is more similar to *Brachytrycherus*. Maxillary lacinia somewhat elongate but apex with dense brush of setae. Edeage with membranous area opposite endophallic opening. Prosternal process rather narrow and hardly surpassing procoxae. Sternite 5 with apex briefly deflexed, not excised. Elytra are more cordate in outline than shown in Arrow figure.

Genus *Engonius* Gerstaecker

Engonius Grstkr., 1857, *Archiv Naturg.* 23: 220; 1858, *Mon. Endom.*: 69.—Arrow, 1925 (in part), *Fauna Br. India, Erotyl.*: 310. Generotype: *Engonius sexguttatus* Grstkr. (Arrow, 1925).

Endomychids of medium size, 8-13 mm, strongly convex and tending to hemicylindric form. Antennae rather stout, articles 4-8 but little longer than wide, club broad, flattened. Mandible with sharp apex and large internal tooth. Maxillary lacinia slender, tapering, with fringe of setae on distal part of medial edge; last article of palp cylindrical, truncate. Last article of labial palp strongly transverse. Prosternal process rather broad, extending behind procoxae, its apex bifid to feebly bituberculate. Mesosternum flat between coxae, quadrate to transverse. Protibia of ♂ with stout sharp tooth near mid-length, mesotibia incurved and may have an internal tooth, sternite 5 somewhat scoop-shaped with distal edge widely excised. Edeage short, stout, without basal curvature and with membranous areas adjacent to endophallic opening. These features of edeage and sternite 5 are not fully shown by *E. gibbosus*.

A key, based on superficial characters, may assist in determinations.

KEY TO SPECIES OF ENGONIUS

- | | | |
|---------|--------------------------------------------------------|--------------------------|
| 1. | Elytron with 2 spots in front..... | 2 |
| | Front elytral marking a band or ring | 6 |
| 2 (1). | Posterior elytral marking small, round | 3 |
| | Posterior marking spanning most of elytral width | 4 |
| 3 (2). | Length 11 mm, pronotum shining | <i>sexguttatus</i> |
| | Length 9 mm, pronotum subopaque..... | <i>brookei</i> |
| 4 (3). | Elytral spots blood-red (Philippines) | <i>sanguinolentus</i> |
| | Elytral spots orange or yellow | 5 |
| 5 (4). | Tip of prosternal process subtruncate | <i>spurius</i> |
| | Tip of prosternal process v-excised | <i>sikkimensis</i> |
| 6 (1). | Front elytral mark ring-like, enclosing umbo..... | 7 |
| | Front mark not ring-like | 9 |
| 7 (6). | Pronotum shining, punctured..... | 8 |
| | Pronotum granulate, opaque..... | <i>rubropictus</i> |
| 8 (7). | Elytra with round pre-apical spot | <i>obliquus</i> |
| | Posterior elytral marking transverse..... | <i>perspicillaris</i> |
| 9 (6). | Elytron with dentate cross-band in front..... | 10 |
| | Front elytral marking oval or dumbbell in shape | 12 |
| 10 (9). | Elytral cross-bands strongly dentate | 11 |
| | Cross-bands weakly dentate | <i>similis humeralis</i> |
| 11(10). | Length 9-10 mm (Indochina; Burma) | <i>gratus</i> |
| | Length 7.5 mm (W. Yunnan) | <i>chensicieni</i> |
| 12 (9). | Front elytral marking much constricted..... | <i>junctus</i> |
| | Front elytral marking oval..... | 13 |

- 13(12). Form short-oval, elytra highest basad **gibbosus**
 Long-oval, elytra highest near middle 14
 14(13). Elytral outline arcuate **klugii**
 Elytra long, subparallel **s. similis**

Engonius sexguttatus Gerstaecker Fig. 1, 14.

**Engonius sexguttatus* Grstkr., 1857, *Archiv Naturg.* 23: 221; 1858, *Mon. Endom.*: 70. Lectotype ♂ (UZM) from Penang I.

Heterandrus mniszzechi Guérin, 1858, *Ann. Mag. Zool. ser. 2*, 10: 28. — Csiki, 1901, *Termés. Füzetek* 24: 14.

Dark purplish black, each elytron with 3 small round orange spots, these larger in teneral specimens. Length 11-12 mm.

Allotype ♀ (UZM) Penang I. Other specimens studied are labeled Borneo; Sarawak; Sumatra; Perak; Penang.

Engonius brookei Gorham Fig. 16-18.

**Engonius brookei* Gor., 1885, *Ann. Mus. Civ. Genova* 22: 521. Monotype ♂ (GM) from Sarawak.

Head and prothorax were missing from unique type when I examined it. Except smaller size there seems to be no external feature which distinguishes *brookei* from *sexguttatus*. Length 9 mm.

Borneo (UZM). Fed. Malay States, C. J. Brooks (BMNH).

Engonius obliquus Strohecker Fig. 15.

**Engonius obliquus* Strkr., 1957, *Ann. Mus. Nation. Hungarici* 8: 279, fig. 50. Monotype ♂ (MNM) from Sumatra: Palembang.

Very similar in external structure to *E. sexguttatus* and edeage shows but small difference. Elytron with pale lunule around umbo and round pale spot before apex. Length 10.5 mm.

Engonius klugii Gerstaecker Fig. 2, 24.

**Engonius klugii* Grstkr., 1857, *Archiv Naturg.* 23: 221; 1858, *Mon. Endom.*: 71. Lectotype ♂ (HUM) from Penang I.

More oval, less elongate than *sexguttatus*. Deep black, each elytron with 2 large orange spots, the anterior obliquely oval behind umbo, the posterior transverse, extending over most of elytral width. Length 10 mm.

SE Borneo (HUM). Malacca (HUM). N. Borneo: Sandakan (BMNH); Sandakan Bay, XI., J. L. Gressitt; Tawau Resid., XI., L. W. Quate, T. C. Maa (BISHOP). Borneo: Pengaron, Doherty. Perak, Doherty. Penang I. (BMNH). Sumatra: Siantar Mann (USNM).

Engonius junctus Pic Fig. 3.

**Engonius junctus* Pic, 1930, *Mél. Exot.-Ent.* 55: 8. Monotype ♀ (Pic, PM) from Singapore.

Of the size and structure of *E. klugii*. Edeage of single ♂ examined is much like that of *klugii*. Anterior elytral spot much constricted.

Perak, Doherty (BMNH).

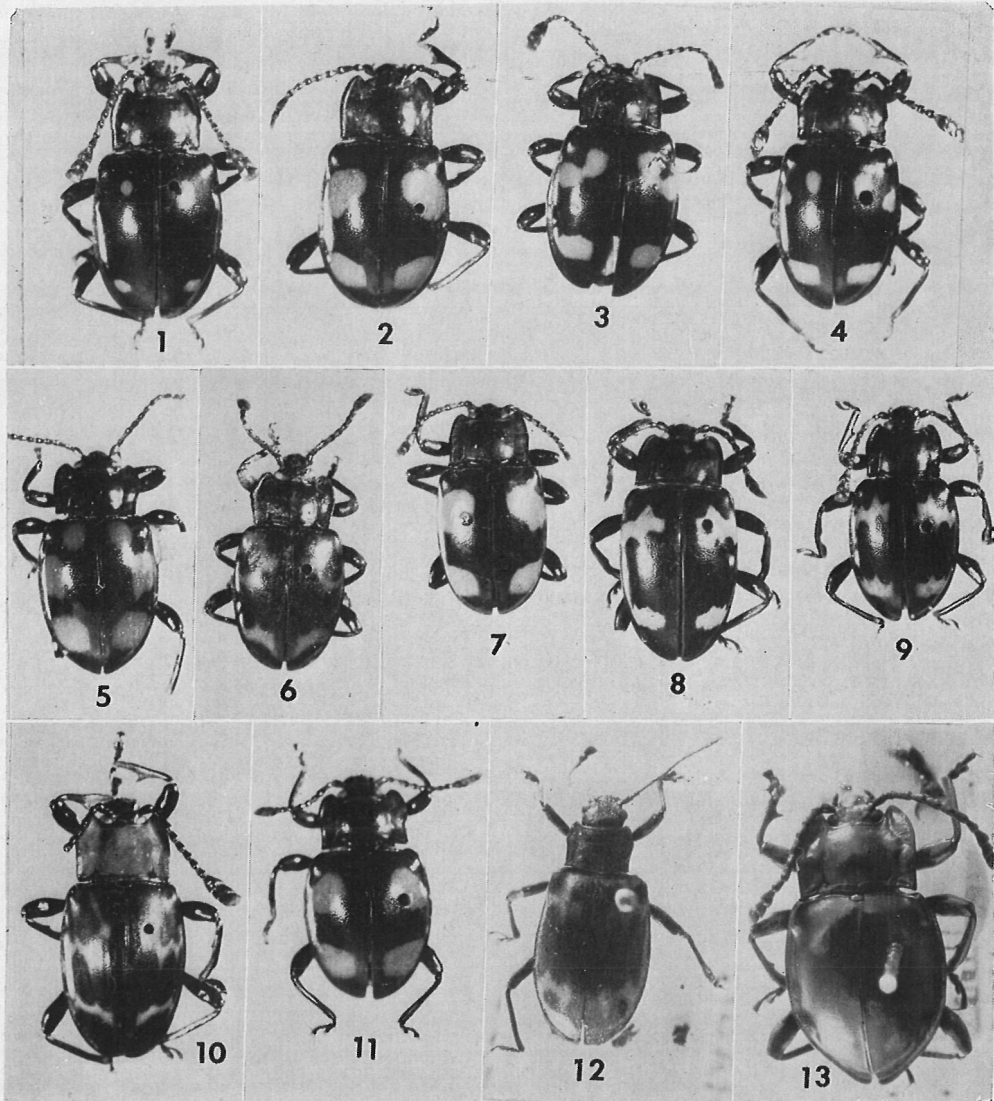


Fig. 1-13. 1, *Engonius sexguttatus* Grstrk. ♂.....Tebingtinggi, Sumatra; 2, *E. klugii* Grstrk. ♂.....Pengaron, Borneo; 3, *E. junctus* Pic ♀.....Siantar, Sumatra; 4, *E. spurius* Strkr., n. sp., ♂.....paratype, Singapore; 5, *E. sanguinolentus* (Gor.) ♀.....Tambanan, Zamb., Mindanao; 6, *E. perspicillaris* Grstrk. ♀.....Java; 7, *E. similis similis* Arrow ♀.....Trong, Thailand; 8, *E. s. humeralis* Arrow ♂.....Hoa Binh, Vietnam; 9, *E. gratus* Gor. ♂..... Vientiane, Laos; 10, *E. rubropictus* Grstrk. ♂..... Tabang, E. Borneo; 11, *E. gibbosus* (Gor.) ♀.....Borneo; 12, *Parindalmus vestitus* (Arrow) ♀.....monotype; 13, *Brachytrycherus femoralis* (Arrow) ♂..... lectotype.

Engonius spurius Strohecker, new species Fig. 4, 23.

Very similar to *E. klugii* in structure but slightly more elongate, black, each elytron with 3 orange spots, one oval or trapezoidal on front 1/4 near mid-line, another behind umbo and transverse, and a large rectangle almost spanning hind 1/3 of elytron. Length 10-10.5 mm.

Protibia of ♂ with stout sharp tooth, mesotibia with short sharp tooth near mid-length, thence incurved, sternite 5 with wide shallow impression, apex broadly emarginate. Ramus of edeage narrower than in *klugii*.

Holotype ♂ from Quop, Sarawak, II., G. E. Bryant and allotype ♀ from Lundu, Sarawak, II., Bryant (BMNH). Paratypes (BMNH; Strkr.) come from Sarawak: Quop, Bryant; Mt Matang, E. A. Lewis, Bowring; Singie, VIII., C. J. Brooks. Singapore, H. N. Riley. Johore: Gunong Puali, VIII., V. Knight. Pen. Thailand.

Engonius sanguinolentus (Gorham) Fig. 5, 21.

**Amphisternus sanguinolentus* Gor., 1875, *Trans. Ent. Soc. Lond.*: 311. Lectotype ♂ (BMNH) from Philippines.

Amphisternus sexplagiatus* Heller, 1923, *Stett. Ent. Ztg.* **84: 6. Monotype ♀ (DM) from Zamboanga, Mindanao.

Engonius sanguinolentus: Strkr., 1953, *Gen. Insect.* **210**: 101; 1958, *Field. Zool.* **42**: 38.

Brilliant blue-black, each elytron with 3 large blood-red spots. In some specimens spots may be paler, larger and connected but these variations represent, I think, time phases in color development. Protibia and sternite 5 of ♂ as usual in genus, mesotibia without tooth, incurved distad. Length 8 mm.

Mindanao, P. I.: Surigao, C. F. Baker; Butuan, Baker; Basilan, Baker (USNM); Zamboanga, Baker (BMNH); Domingug, X., L. W. Quate; Esperanza, Agusan, XI., C. M. Yoshimoto; Surigao, F. C. Haddon (BISHOP); Tambanan, VI., H. Muzzal (CAS); Davao Prov., X., H. Hoogstraal (FM). Siargo: Dapa (Strkr.).

Engonius sikkimensis Strohecker, new species Fig. 19, 20.

Entirely black below, somewhat bronzy above, each elytron with 3 orange marks. Length 9.8 mm.

Antennae missing from holotype but those of allotype offer no unusual features. Pronotum with sides subparallel, a little wider near mid-length, front angles strongly produced, hind angles rectangular, lateral areas slightly reflexed, disc finely punctured, basal and lateral sulci deep. Prosternum broad, apex v-excised. Elytra more than 3× as long as pronotum, widened to mid-length, thence gradually narrowed with apex abruptly rounded. Elytra densely punctured, each with 3 pale spots, a small, round post-humeral mark, mesal and anterior to this an oval spot, and a transversely oval bar before apex. Protibia of ♂ with stout sharp tooth just distad of mid-length, mesotibia with inner edge weakly undulate, sternite 5 with transverse groove, its apex widely emarginate.

Holotype ♂ and allotype ♀ (BMNH) from Sikkim: Gopaldhara, Rungbong Valley, H. Stevens.

***Engonius perspicillaris* Gerstaecker** Fig. 6, 25.

**Engonius perspicillaris* Grstkr., 1857, *Archiv Naturg.* 23: 221; 1858, Mon. Endom.: 73. — Csiki, 1901, *Termés. Füzetek* 24: 14. Lectotype ♀ (HUM 21729) from Java, de Haan.
Rachidophorus chevrolati Guérin, 1858, *Rev. Mag. Zool.* ser. 2, 10: 62. — Csiki, 1901, *Termés. Füzetek* 24: 14.

Long-oval, black, shining, each elytron with 2 orange markings, the anterior usually a complete ring covering shoulder, the posterior a dentate cross bar. The anterior ring may be narrow and incomplete laterad. Protibia, mesotibia and sternite 5 of ♂ as usual in genus. Length 9 mm.

Java (BMNH). A ♂ (HUM) has the label "New Guinea" but the datum is to be questioned.

***Engonius similis similis* Arrow** Fig. 7, 26.

**Engonius similis* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 322; 1928, *Faune Colon. Franc.* 2: 346, fig. 9. Lectotype ♂ (BMNH) from Laos: Vientiane, R. Vitalis.

Elongate-oval, black, each elytron with 2 large orange patches, the first obliquely oval behind shoulder, the other subquadrate on hind 1/3. External features of ♂ usual for genus. Length 10-11 mm.

Laos: Pak Leung (ex Arrow); Paksong, VII; Houei Kong, V. (BISHOP). Vietnam: Trang Bom 48 km (30 mi) NW Saigon, M. Poillane. Lower Thailand: Trong, W. L. Abbott (USNM).

***Engonius similis humeralis* Arrow, new status** Fig. 8.

**Engonius humeralis* Arrow, 1928, *Faune Colon. Franc.* 2: 345, fig. 8. Lectotype ♂ (BMNH) from Tonkin: Hoa Binh, R. Vitalis.

Compared by Arrow with *E. gratus* but identical in size and structure to *E. similis*. I have not noted differences in the edeages. All specimens studied are from type material, which is not fully sclerotized.

Tonkin: Hoa Binh, A. de Cooman (BMNH).

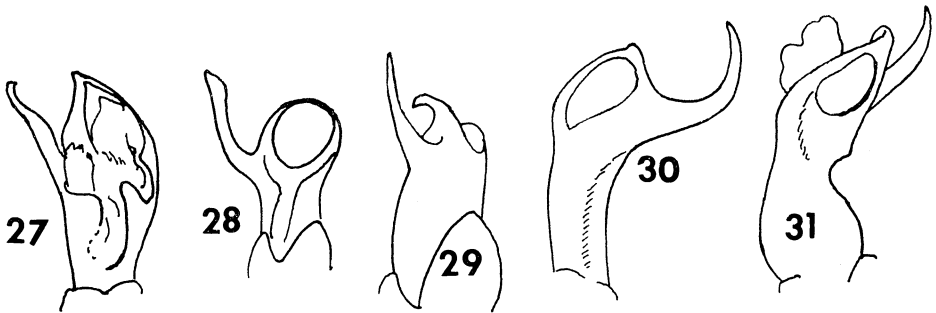
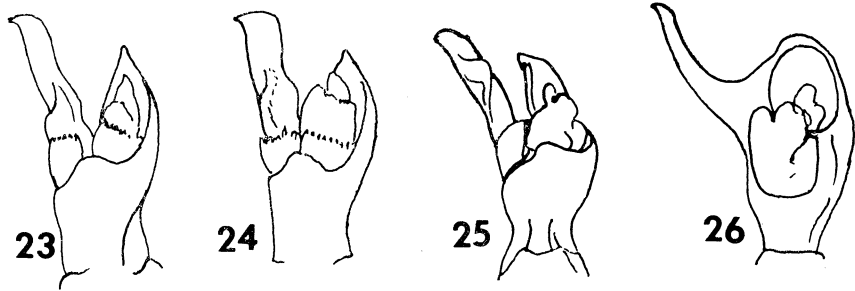
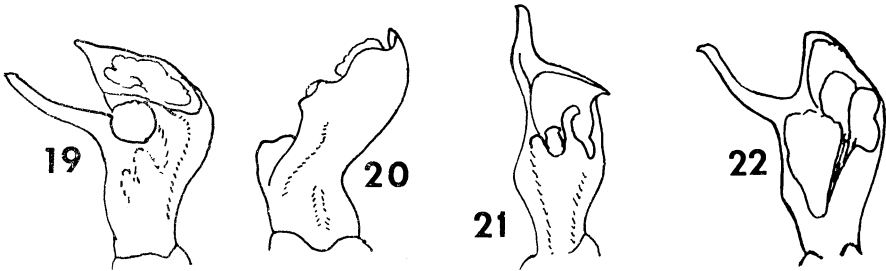
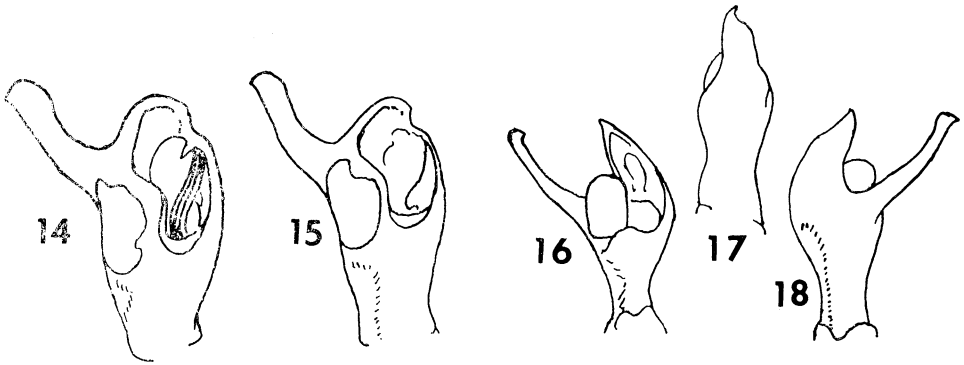
***Engonius rubropictus* Gerstaecker** Fig. 10, 22.

Engonius rubropictus Grstkr., 1857, *Archiv Naturg.* 23: 221; 1858, Mon. Endom.: 74. Monotype ♀ (Dohrn) from Borneo.

**Engonius rubropictus subannularis* Pic, 1930, *Mél. Exot.-Ent.* 55: 8. New Synonymy. Monotype ♀ (Pic, PM) from Malacca.

Elongate-oval, dusky or black, each elytron with a multidentate pale semicircle around shoulder and a dentate pale cross band behind middle. Pronotum may be dark red with side margins and 2 vague discal striae black. The granulate unpunctured pronotum is unique in the genus. Length 11-12.5 mm.

Borneo: Sandakan, Baker (USNM); W. B. Pryer (BMNH); Kinabalu (Strkr.), Sarawak: Quop, III., IV., G. E. Bryant; Mt Matang, XII.; Mt Dulit, XI. (BMNH). Borneo, Wallace (BMNH). Fed. Malay States, C. J. Brooks; Perak, L. C. Doherty (BMNH). E. Borneo: Tabang, X., A. M. R. Wegner (Bogor; Strkr.). Sumatra: Mesang, Doherty (BMNH); Deli, W. Reinsch (HUM). Java (BMNH).



***Engonius gratus* Gorham** Fig. 9, 27.

Engonius gratus Gor., 1891, *Ann. Soc. Ent. France*: 399. — Arrow, 1925, *Fauna Br. India*, *Erotyl.*: 315; 1928, *Faune Colon. Franc.* 2: 344. Monotype ♂ (Fleutiaux, PM) from Pnomh-Penh, Cambodia.

Engonius effractus Achard, 1922, *Fragments Ent.*: 28.—Arrow, 1928, l. c. Monotype ♂ (Prague) from Vientiane, Laos, *Vitalis*.

Long-oval, deep black, each elytron with 2 dentate red cross bands, 1 posthumeral, the other pre-apical. Width of bands is variable and their color may be yellow in teneral specimens. External ♂ features usual for genus. Length 9–10 mm.

Arrow has reported this species from localities in Laos, Tonkin and Burma. NW Thailand: Doi Suthep, III., Degerbel (UZM). Laos: Vientiane area, III., VI. (BISHOP; BSS; Strkr.); Paksong, Sedone, VII.; Ban Sam Thong, Kyouang Prov., XI.; Houei Kong, Attopeu Prov., V.; Ban Van Eue; Sayaboury, II.; Phontiou, VII., VIII.; Pakkading, Borikhane Prov., VIII.; Nongtevada, VII. (BISHOP). Indochina, M. Poilane (USNM).

***Engonius gibbosus* (Gorham), new combination** Fig. 11, 28, 29.

**Amphisternus gibbosus* Gor., 1885, *Ann. Mus. Civ. Stor. Nat. Genova* 22: 517. Lectotype ♂ (MNM) from Sumatra: Sungei-Bulu, IX., 1878, O. Beccari.

Engonius tetrasphaera* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 15. **New Synonymy. Lectotype ♂ (BMNH) from Sandakan, Borneo, C. F. Baker.

Short-oval, highly convex, black, each elytron with 2 large orange spots, 1 posthumeral and obliquely oval, the other cycloid, pre-apical. Prosternum weakly excised to meet mesosternum. In ♂ mesotibial tooth is subequal in size to protibial tooth, sternite 5 is hollowed but not emarginate at apex. Length 8–9 mm.

No Beccari material of *A. gibbosus* can be found in Genoa Museum and I have chosen as lectotype a specimen to which a paratype label has been attached, probably by Csiki. Arrow reports *tetrasphaera* from Pengaron and Banjermassin, Borneo, and Perak, Borneo (Strkr.). Sarawak: Gunong Matang, IX., Gressitt. Singapore: Nee Sung For. Reserv., XII., Gressitt (BISHOP).

***Engonius chensicieni* Kryzhanovskij**

Engonius chensicieni Kryz., 1960, *Rev. d'Ent. URSS* 39: 874, fig. 10.

"Black, shining, with 2 strongly dentate transversal bands on each elytron; with very faint microsculpture between punctures; punctures of basal part of elytra bear very short and thin hairs. Front and middle tibiae slightly curved, hind tibiae straight. Length 7.5 mm, breadth 3.9 mm. Male unknown."

Above description from summary, op. cit.: 883. I do not know the species. Monotype ♀, presumably in Zoological Institute of Leningrad, from W. Yunnan: mts SW Paoshan, 1900 m.

Fig. 14–31. Edeages. 14, *Engonius sexguttatus* Grstkr.; 15, *E. obliquus* Strkr.; 16–18, *E. brookei* Gor.; 19–20, *E. sikkimensis* Strkr., n. sp.; 21, *E. sanguinolentus* (Gor.); 22, *F. rubropictus* Grstkr.; 23, *E. spurius* Strkr., n. sp.; 24, *E. klugii* Grstkr.; 25, *E. perspicillaris* Grstkr.; 26, *E. s. similis* Ar.; 27, *E. gratus* Gor.; 28–29, *E. gibbosus* (Gor.); 30–31, *Brachytrycherus femoralis* (Ar.).

Taxa dubia

Engonius dalatensis Pic

Engonius dalatensis Pic, 1928, *Mél. Exot. - Ent.* 52: 6.

"Oblong, rather broad, shining, black, elytra transversely bimaculate with yellow behind shoulders and behind middle, antennal club wide; pronotum short and wide, minutely and sparsely punctured, sides subsinuate, angles prominent; elytra a little elongate, sides subarcuate, attenuate caudad, narrowly margined, rather strongly and somewhat densely punctate, punctures minute caudad. Length 8 mm. Dalat (ex Vitalis)—Without doubt close to *similis* Arrow, it seems to differ at least in the more transverse pronotum and less elongate form."

I found no specimen in Pic collection. The description could apply to *E. gibbosus* (Gor.).

Engonius luteofasciatus Pic

Engonius luteofasciatus Pic, 1940, *Echange*, No. 481: 11.

"Oblong, subparallel, shining, smooth, black, in part piceous, elytra rather narrowly, sinuate-ly and *reducte* bifasciate with yellow; tibiae unarmed. Length 8 mm. Tonkin (coll. Pic). Differs from the preceding (*E. angustefasciatus*) in form of body, pronotum less transverse, broader elytral bands."

No specimen in Pic collection. Description may be of ♀ of *Sinocymbachus quadriundulatus* (Chûjô).

Engonius latenotatus Pic

Engonius latenotatus Pic, 1940, *Echange*, No. 481: 11.

"Somewhat elongate, subparallel, shining, pitchy black, each elytron before and behind middle broadly and transversely maculate with yellow; protibia with long tooth, mesotibia curved distad. Length 11 mm. Cochinchina (coll. Pic). More elongate than preceding (*E. luteofasciatus*) with yellow markings very broad."

No specimen in Pic collection. Description could be applied to *E. similis* Ar. or *E. gratus* Gor.

Engonius herklotsii (Guérin)

Eumorphus herklotsii Guérin, 1857, *Archives Ent.* 1: 259.

Engonius herklotsii: Grstkr., 1858, *Mon. Endom.*: 78.

Guérin noted general similarity of *E. herklotsii* to *E. quadrimaculatus* Guérin (= *E. alboguttatus* Grstkr.) and his figure of the foreleg seems to be based on features of *Eumorphus hamatus* Guérin. He commented on the poor condition of the single specimen, sent to him by Dejean. I think it probable that *E. herklotsii* was based on a damaged specimen of *Eumorphus alboguttatus* Grstkr. with which a foreleg of *Cacodaemon hamatus* (Guérin) had been associated.

Genus **Parindalmus** Achard

Parindalmus Achard, 1922, *Fragments Ent.*: 29.—Strkr., 1951, *Pan-Pacif. Ent.* 27: 159; 1953, *Gen.*

Insect. 210 : 96. Generotype : *Parindalmus tonkineus* Achard.

Pedanus Grstkr., 1857 (not of Schönherr, 1823), *Archiv Naturg.* 23 : 230; 1858, Mon. Endom. : 127. — Arrow, 1925, Fauna Br. India, Erotyl. : 319. Generotype : *Pedanus quadrilunatus* Grstkr. (Arrow, 1925, l.c.).

Notable generic features are the hemicycloid mandible with rounded apex, very broad tarsal articles 1-2, metasternum and abdominal sternites on different planes, especially in ♂, metacoxae almost perpendicular to metasternum. In ♂ mesotibia has small tooth near distal 1/3 of inner edge, femora tend to massive thickness, metasternum may have a pair of appendages directed caudad and hind trochanters may be long and end behind in a lobe. Edeage shows no great specific differentiation. Generic features have not been fully confirmed in unique ♀ of *P. vestitus* (Arrow).

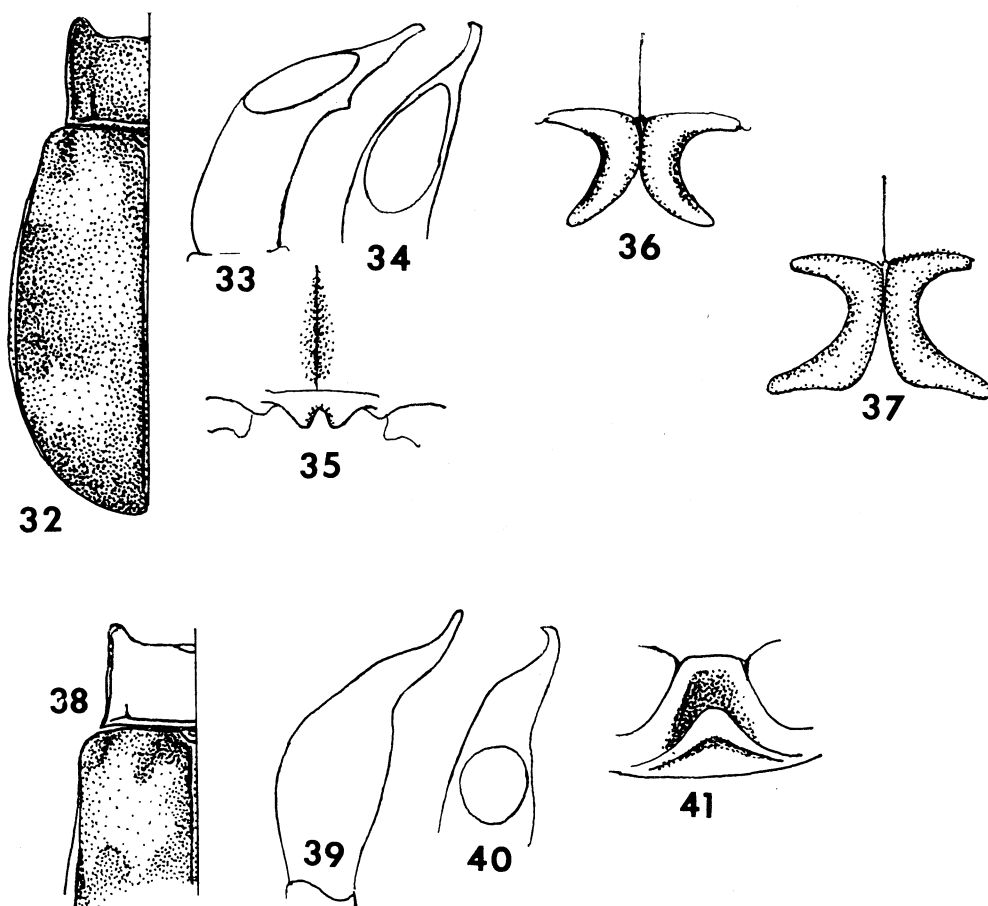


Fig. 32-41. 32, *Parindalmus westermanni* (Grstkr.); 33-34, edeage; 35, metasternal processes ♂; 36, *P. tonkineus* Achard, metasternal processes ♂; 37, *P. quadrilunatus* (Grstkr.), metasternal processes ♂; 38, *Parindalmus sinensis* Strkr., n. sp., elytral shoulder; 39-40, edeage; 41, first sternite ♂.

Parindalmus tonkineus Achard Fig. 36.

**Parindalmus tonkineus* Achard, 1922, *Fragments Ent.*: 29. Monotype ♀ (Prague) from Tonkin.
Parindalmus westermanni: Kryz., 1960 (not of Grstrkr.), *Rev. d'Ent. URSS* 39: 893, fig. 7.

Blue-black, each elytron with 2 orange markings, the anterior a narrow ring closely embracing umbo, its hind margin bidentate. Posterior marking transverse with front and hind margins bidentate. Metasternal processes of ♂ divergently curved, sharp at apex. Length 8 mm.

Laos: Vientiane, VII.; Ban Van Eue, VIII.; Pakkading, Borikhane, VIII. (BISHOP).
 China: Yunnan (ex Kryz.); Dwa Bi, Hainan I., VII., J. L. Gressitt; Kien Yung, Fukien, T. C. Maa (CAS). Thailand: Chiangdao, Chiangmai, IV., Gressitt (BISHOP). Tonkin, A. de Cooman (BMNH).

Parindalmus quadrilunatus (Gerstaecker) Fig. 37.

**Pedanus quadrilunatus* Grstrkr., 1857, *Archiv Naturg.* 23: 230; 1858, *Mon. Endom.*: 129. — Arrow, 1925, *Fauna Br. India, Erotyl.*: 320, fig. 57. Lectotype ♂ (UZM) from Penang I., allotype ♀ (HUM) from Penang I.

Pedanus affinis* Grstrkr., 1857, *Archiv Naturg.* 23: 231. **New Synonymy. Monotype ♀ (UZM) from Borneo.

**Eumorphus (Pedanus?) gerstaeckeri* Gor., 1873, *Endom. Recit.*: 37, fig. 5. Lectotype ♀ (BMNH) from Malacca.

Engonius bimaculatus* Pic, 1925, *Mél. Exot.-Ent.* 44: 3. **New Synonymy. Monotype ♀ (Pic, PM) from Malacca.

Parindalmus quadrilunatus: Strkr., 1953, *Gen. Insect.* 210: 96.

Except for some small variation in size of the 4 large round yellow elytral spots, I can find no differences between Bornean specimens and those from Malay Peninsula. Metasternal processes of ♂ end in foot-shaped expansion. Length 8 mm.

Malaya: Penang I. (UZM; HUM); Malacca (HUM). Borneo (UZM; HUM); Pengaron (Strkr.). E. Borneo: Tabang, Bengen R., A. M. R. Wegner (Bogor; Strkr.).

Parindalmus westermanni (Gerstaecker) Fig. 32-35.

**Pedanus westermanni* Grstrkr., 1857, *Archiv Naturg.* 23: 231; 1858, *Mon. Endom.*: 131. Lectotype ♂ (HUM, 21756) and allotype ♀ (UZM) from Java.

Parindalmus westermanni: Strkr., 1953, *Gen. Insect.* 210: 97.

Pale elytral markings broader than in *tonkineus*, to which it is similar. Metasternal processes of ♂ are short rounded lobes. Length 8 mm.

All specimens examined by me are from Java (HUM; UZM; BMNH). A ♀ from Penang reported as this species by Arrow seems to be an aberrantly marked example of *quadrilunatus*.

Parindalmus vestitus (Arrow) Fig. 12.

**Pedanus vestitus* Arrow, 1925, *Fauna Br. India, Erotyl.*: 322.

Parindalmus vestitus: Strkr., 1953, *Gen. Insect.* 210: 96. Monotype ♀ (BMNH) from N. Malabar.

"Black, each elytron with 2 rather narrow irregular orange marks, the 1st extending transverse from the outer margin behind the shoulder to near the inner margin and sending a branch

to the basal margin, the 2nd before the apex and having 3 joints in front and 2 behind.—Length 9 mm.”

***Parindalmus sinensis* Strohecker, new species** Fig. 38-41.

Dull black, upper surface densely and subrugosely punctured, each elytron with 2 large yellow markings. Length 7 mm. Antennae 1/2 as long as body, slender, all stalk articles much longer than wide, article 3 about equal to 4-5 together, 9 as long as its distal width, 10 feebly transverse, 11 quadrate, truncate. Pronotum strongly transverse, front angles slightly and roundly produced, sides weakly undulate, hind angles a little divergent, acute. Elytra 4× as long as pronotum, gradually widened to distal 1/5, abruptly rounded to apex. Posterior elytral marking is a wide transverse band which emits 3 rays from both front and hind margin. In ♂ femora are less swollen than in *westermanni*, mesotibia with short sharp tooth near distal 1/3, hind trochanters short, metasternum declivent to hind margin and without processes, sternite 1 deeply hollowed at middle, the hollow bordered behind by a high arcuate overhanging flange. ♀ unknown.

Holotype ♂ (BMNH) and paratype ♂ (Strkr.) from China: Nitou Tatsienlu, Szechuan, Em. Reitter.

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