

SYNOPSIS OF GENUS *ENCYMON* AND *AVENCYMON*, NEW GENUS (Coleoptera : Endomychidae)¹

By H. F. Strohecker²

Abstract: New synonymies indicated are *Engonius bicoloripes* Pic under *Encymon regalis atripes* Csiki; *Encymon erimae* and *E. bipustulatus nigripes* Csiki under *E. bipustulatus* Gor.; *E. immaculatus rufofemoratus* Csiki under *E. immaculatus* (Montr.); *E. globosus* Arrow and *E. gorhami femoratus* Csiki under *E. gorhami* Csiki; *E. latipennis* Arrow, *E. intermedius* Ar., *E. maderi* Strkr. under *E. ruficollis* Gor.; *E. malaccanus* Pic and *E. neugebaueri* Mader under *E. resinatus* Gor.; *E. valgus* Strkr. under *E. cyanipennis* Chûjô. *Encymon ruficollis* Gemm. & Har. is *nomen nudum*. *E. gorhami nigricollis* Csiki is *E. nigricollis* Csiki. *Encymon pedanus* n. sp. from Burma and *E. scintillans aspilotus* n. subsp. from San Cristobal I. are described. A new generic name *Avencymon* is proposed with *Ancylopus concolor* Strkr. as generotype; *Encymon ruficephalus* Ohta is included.

In my studies on Endomychidae I have found *Encymon* one of the more difficult genera. Descriptions of species have been mostly limited to general structure and coloration and often of only 1 sex. Only after examination of most of the type material and study of many recently collected specimens have I been able to determine applications of several names combined by their authors with *Encymon*.

Elytral color may be green, blue-green or dark blue to black. Color of prothorax is red or black, seemingly constant in most species but I have seen examples of each prothoracic color in *papuanus* and *nigricollis*. Femora may be black or bicolored. The latter pattern may be constant in some species but seems to be variable, or varietal at most, in others. This may be dichromatism but I suspect that much of the color variation of legs and elytra represents developmental phases. The "*" indicates study of the single type.

Acknowledgments: It is a pleasure to acknowledge the friendly help given to me by many persons and institutions: J. Balfour-Browne and M. E. Bacchus of British Museum (BMNH); M. Cazier while at American Museum of Natural History (AMNH); M. Chûjô of Kagawa University; A. Descarpentries of Paris Museum (PM); G. Frey of Tutzing (MGF); J. L. Gressitt of Bishop Museum (BISHOP); F. Hieke of Humboldt University Museum (HUM); Z. Kaszab of Hungarian Museum (MNM); J. Kingsolver of U. S. National Museum (USNM); D. Guiglia of Genoa Museum (GM); H. B. Leech of California Academy of Science (CAS); A. M. R. Wegner while at Bogor Museum; R. Wenzel and H. Dybas of Field Museum (FM). Financial aid has come from a U. S. National Science Foundation Grant GB-4991.

1. Part of the specimens studied was collected during fieldwork supported by grants to Bishop Museum from the U. S. National Institutes of Health (AI-01723) and from the U. S. National Science Foundation under the program "Zoogeography and Evolution of Pacific Insects."
2. Department of Biology, University of Miami, P. O. Box 9118, Coral Gables, Florida 33124.

Genus **Encymon** Gerstaecker

Encymon Grstkr., 1857, *Archiv Naturg.* **23**: 232; 1858, *Mon. Endom.*: 134. — Csiki, 1902, *Termés. Füzetek* **25**: 28. — Arrow, 1925, *Fauna Br. India, Erotyl.*: 330. — Strkr., 1953, *Gen. Insect.* **210**: 75. Generotype by monotypy: *Encymon violaceus* Grstkr.
Cranterophorus Blackburn, 1896, *Trans. R. Soc. S. Austral.* **19**: 232. — Arrow, 1920, *Trans. Ent. Soc. Lond.*: 3. Generotype: *Mycella clavicornis* Blckb. (= *Eumorphus immaculatus* Montr.).

Pronotum typically subquadrate with undulate sides, elytral shoulders prominent, but these features not conspicuous in the larger forms. Prosternum very narrow between coxae but distinctly separating procoxae in larger forms. Mandible with acute apex and distally directed internal tooth. Apex of mandible tends to become attenuate with small pre-apical tooth, thus appearing bifid at tip. Last article of labial palp short and very wide, width 4× or more its length.

The key, using superficial bisexual characters, may be helpful but is not adequate for precise determinations.

KEY TO SPECIES OF ENCYMON

1. Long, dorsal elytral profile an arc of 120° or more 2
 Arc of elytral profile less than 120° 12
- 2 (1). Elytron with 1 (caudal) or 2 spots 3
 Elytron without spot 5
- 3 (2). Elytron with 2 spots **regalis**
 Elytron with 1 spot 4
- 4 (3). Pronotum red **bipustulatus**
 Pronotum black **scintillans**
- 5 (2). Length 8-9 mm; pronotum little narrower at base than elytra **scintillans aspilotus**
 Less than 8 mm (except *violaceus*); pronotum much narrower at base than elytra 6
- 6 (5). Pronotal lateral sulci long, linear 7
 Lateral sulci vague except at base 9
- 7 (6). Pronotum granulate, opaque **violaceus**
 Pronotum shining, smooth 8
- 8 (7). Pronotum red **immaculatus**
 Pronotum black (Solomon I.) **schwarzbaueri**
- 9 (6). Elytral margin much narrower than tibial apex 10
 Elytral margin as wide (at least) as tibial apex 11
- 10 (9). Antennal article 9 strongly asymmetric **nigricollis**
 Antennal article weakly asymmetric **gorhami**
- 11 (9). Pronotum red (E. Wallace Line) **ruficollis**
 Pronotum black (W. Wallace Line) **resinatus**
- 12 (1). Elytral outline distinctly arcuate 13
 Elytra long, sides almost straight **cinctipes**
- 13(12). Pronotal lateral sulci linear, long **ferialis** group
 Lateral sulci vague except at base 14
- 14(13). Pronotum red (E. Wallace Line) **ruficollis**
 Pronotum black (W. Wallace Line) **resinatus**

***Encymon regalis regalis* Gorham** Fig. 6.

**Encymon regalis* Gor., 1874, *Trans. Ent. Soc. Lond.* : 440. Lectotype ♀ (BMNH) from Philippines.

Elytral spots yellow, orange or red, apparently dependent on age of specimen at death. Some specimens may have femora entirely black. Front and mid tibiae of ♂ with small tubercle a little distal to mid-length, sternite 5 notched. Length 9-10.5 mm.

P. I., MINDANAO : Mt Kibungol, Misamis Or., Apr., H. Torrevillas; Milbuk, Zamboanga, Aug., H. E. Milliron; Mainit, Surigao, Dec., C. M. Yoshimoto-L. W. Quate (BISHOP); Kabasalan, Apr. (CAS). Samar, Baker (USNM); Negros Or. : L. Balinsasayao, Oct., Quate (BISHOP).

***Encymon regalis atripes* Csiki** Fig. 7.

**Encymon regalis* var. Gor., 1875, *Proc. Zool. Soc. Lond.* : 459.

**Encymon regalis atripes* Csiki, 1902, *Termés. Füzetek* 25 : 30. Lectotype ♂ and allotype ♀ (BMNH) from Perak.

Engonius bicoloripes* Pic, 1927, *Mél. Exot.-Ent.* 49 : 11. New **Synonymy. Monotype ♀ (Pic, PM) from Tonkin : Chapa, Jeanvoine.

I recognize this trinomial on the basis of narrower edeagal ramus rather than color of femora. Specimens from Borneo and Perak which I have examined have femora entirely black. Tonkin and Java specimens have femora bicolored.

N. BORNEO : Sandakan, Nov., Gressitt; 19 km N of Kalabakan, Oct., Y. Hirashima-K. J. Kuncheria. Sarawak : Sadong, Kampong Tapuh, July, T. C. Maa (BISHOP). SUMATRA : Mt Kerintji, Mar., A. H. G. Alston (BMNH). JAVA : G. Raoeng, H. Lucht; Idjen Plateau, Jan. (Bogor; Strkr.). TONKIN : Chapa (Pic, PM).

***Encymon bipustulatus* Gorham** Fig. 4, 5.

**Encymon bipustulatus* Gor., 1873, *Endom. Recit.* : 38. Lectotype ♂ (BMNH) from Aru I., A. R. Wallace.

Encymon erimae* Csiki, 1900, *Termés. Füzetek* 23 : 123. New **Synonymy. Monotype ♂ (MNM) from New Guinea : Erima, Astrolabe Bay, Biró.

Encymon bipustulatus* var. *nigripes* Csiki, 1902, *Termés. Füzetek* 25 : 30. New **Synonymy. Lectotype ♀ (MNM) from SE New Guinea : Haveri, Loria; 2 syntypes (GM) from Moroka, New Guinea.

Much like *regalis* but smaller and elytron lacks anterior spot. Protibia of ♂ unarmed, mesotibia with small tubercle distal to mid-length, sternite 5 notched. Length 8.5-10 mm.

I have examined a large number of specimens from various areas of New Guinea and examples from New Britain, Aru I., Biak I., Halmahera. Some differences in edeagal ramus have been noted, with New Guinea specimens intermediate. Examples with femora entirely black occur with those showing bicolored femora.

***Encymon scintillans scintillans* Strohecker** Fig. 2, 33.

**Encymon scintillans* Strkr., 1951, *Amer. Mus. Nov.* 1520 : 1. Holotype ♂ and allotype ♀ (AMNH) from Solomon I. : Malaita.

Resembles *bipustulatus* in lack of anterior elytral spot but more like *regalis* in features

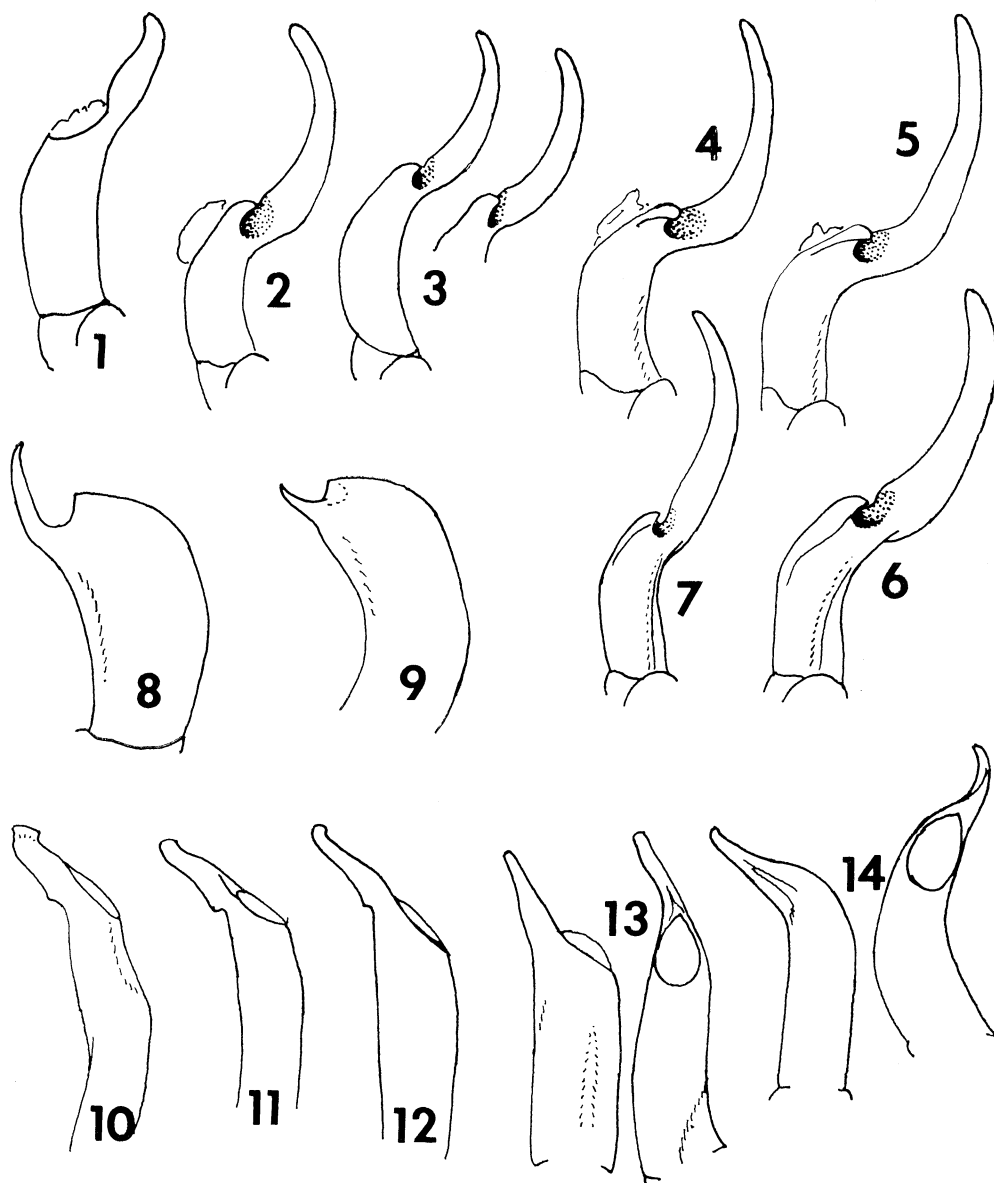


Fig. 1-14. Eedeages of *Encymon*. 1, *E. violaceus* Grstkr. Java; 2, *E. s. scintillans* Strkr., Malaita; 3, *E. scintillans aspilatus* Strkr., n. subsp., San Cristobal; 4, *E. bipustulatus* Gor., Papua; 5, *E. bipustulatus* Gor., Halmahera; 6, *E. r. regalis* Gor., Mindanao; 7, *E. regalis atripes* Csiki, Sarawak; 8, *E. resinatus* Gor., E. Borneo; 9, *E. ruficollis* Gor., Papua; 10, *E. immaculatus* (Montr.), Woodlark I.; 11, *E. immaculatus* (Montr.), New Britain; 12, *E. schwarzbaueri* Mader, paratype; 13, *E. gorhami* Csiki, Wau, NE New Guinea; 14, *E. nigricollis* Csiki, NE New Guinea.

of ♂ tibiae and edeage. All specimens seen have bicolored femora. Examples from Kolombangara have no elytral spot. Length 8-9 mm.

SOLOMON I.: Guadalcanal, June, Gressitt; Kukugai, Bougainville, Nov., Brandt; Pisisoma, Vella Lavella, Shanahan (BISHOP); Guadalcanal; Kolombangara (BMNH).

***Encymon scintillans aspilotus* Strohecker, new subspecies** Fig. 3.

Black, elytra shining blue-green and without spots. Femora orange and black. The major differentiating feature of this southernmost deme is in the edeage; otherwise the insect conforms to the nominate race in structure and size.

Holotype ♂ and allotype ♀ (BNNH) from Solomon I.: San Cristobal, Pagato R., Aug., E. S. Brown. A ♂ and 2 ♀♀ paratypes have the same data (BMNH; Strkr.).

***Encymon violaceus* Gerstaecker** Fig. 1.

Encymon violaceus Grstr., 1857, *Archiv Naturg.* **23**: 233; 1858, *Mon. Endom.*: 135. — Arrow, 1925, *Fauna Br. India, Erotyl.*: 331, fig. 59.

Encymon violaceus cupreatus Mader, 1936, *Ent. Rdsch.* **54**: 63. — Strkr., 1951, *Pan-Pacif. Ent.* **27**: 162. Holotype, sex? (MGF) from Banguey I. Paratypes (MGF; BMNH; Strkr.).

The granulate, opaque pronotum is unique in the genus and the gibbous elytra unusual. Elytra dark violet or blue; the aeneous color of Mader's material from Banguey I. is simply a teneral phase. I have studied examples from the known range of the species without noting evidence of local differentiation. Length 7-9 mm.

Although Arrow cited "Type in Berlin Museum" a single ♀ (HUM 21758) which may have been studied by Gerstaecker is without locality label. Bintang and Sumatra are cited by Gerstaecker.

BURMA: Karen Hills (ex Arrow). SUMATRA: Deli, W. Rensch (HUM); Loeboek Sikaping, L. Hundeshagen (Bogor; Strkr.). JAVA: G. Raoeng, Jan., July, H. Lucht (Bogor; Strkr.). Malacca (HUM). N. BORNEO: Sandakan Bay, Nov., J. L. Gressitt; 19 km N of Kalabakan, Oct., Nov., Y. Hirashima; 48 km W of Tawau, Nov., L. W. Quate-T. C. Maa (BISHOP).

***Encymon immaculatus* (Montruzier)** Fig. 10, 11, 26.

Eumorphus immaculatus* Montr., 1855, *Ann. Soc. Agric. Lyon* **7: 74. Lectotype ♂, allotype ♀ (Pic ex Perroud ex Montr., PM) from Woodlark I.

Haplomorphus immaculatus: Guérin, 1858, *Rev. Mag. Zool.* ser. 2, **10**: 25.

Encymon gerstaeckeri Dohrn, 1863, *Stett. Ent. Zeit.*: 135 (Batjan I.).

**Encymon angulatus* Gorham, 1873, *Endom. Recit.*: 39. Monotype ♂ (BMNH) from Moluccas: Geby.

Encymon ruficollis Gemm. & Harold, 1876, *Cat. Coleopt.* **12**: 3725 (n. nudum).

Encymon immaculatus: Kirsch, 1877, *Mitth. Zool. Mus. Dresden*, part **2**: 160.

Mycella clavicornis Blckb., 1891, *Proc. Linn. Soc. N. S. Wales* ser. 2, **5**: 366 (N. S. Wales).

Cranterophorus clavicornis (Blckb.), 1896, *Trans. R. Soc. S. Austral.* **19**: 232. — Arrow, 1920, *Trans. Ent. Soc. Lond.*: 3.

Encymon immaculatus rufofemoratus* Csiki, 1902, *Termés. Füzetek* **25: 33. New Synonymy. Lectotype ♂ (MNM) from New Guinea: Friedrich-Wilhelmshafen.

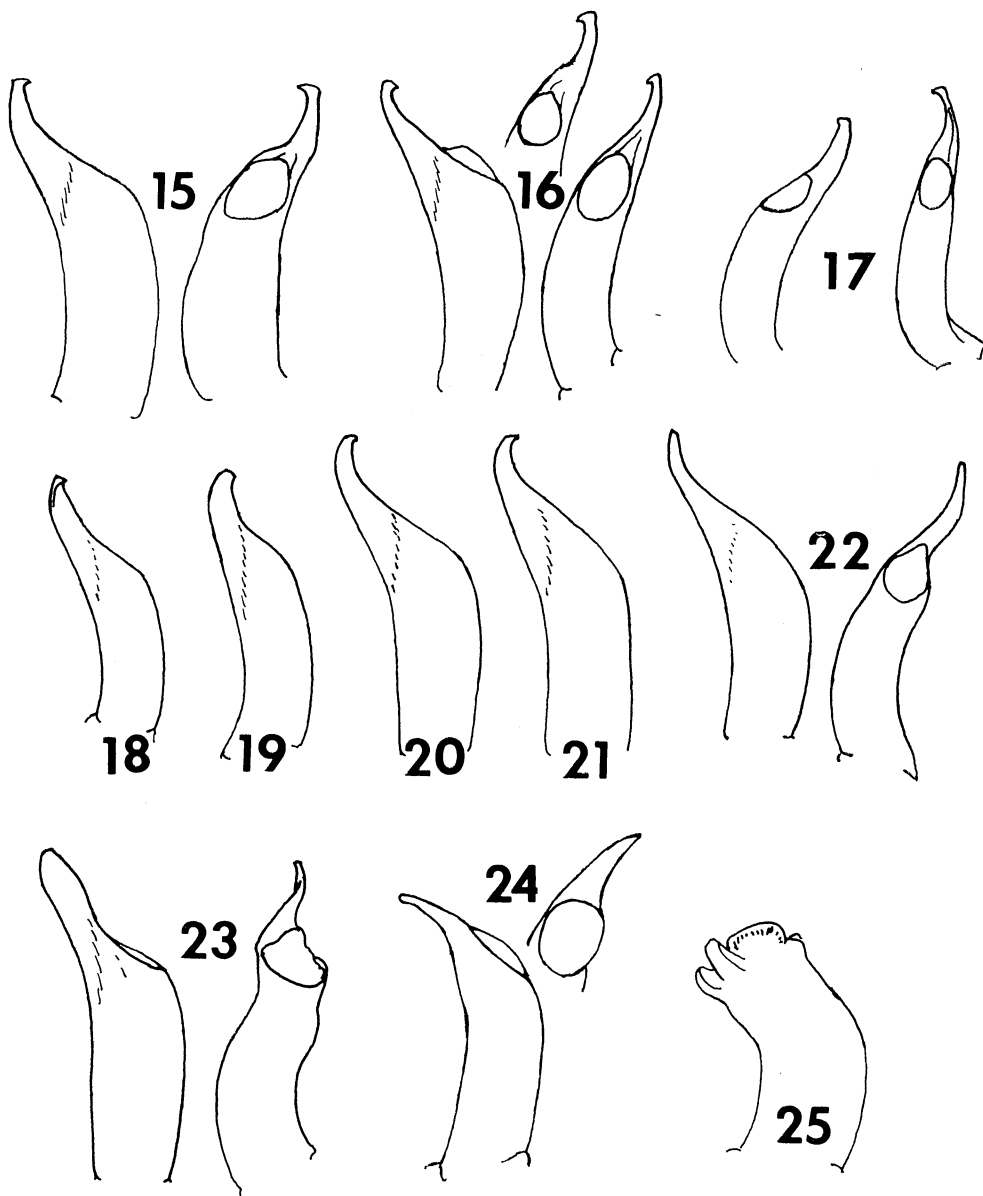


Fig. 15-25. Eдеages of *Encymon*. 15, *E. papuanus* Csiki, Hollandia, NW New Guinea ; 16, *E. cyanipennis* Chûjô, Botel Tobago ; 17, *E. ferialis sumatranus* Csiki, lectotype ; 18, *E. ferialis sumatranus* Csiki, Tebingtinggi ; 19, *E. ferialis sumatranus* Csiki, Preanger, Java ; 20, *E. buruanus* Arrow, Ambon ; 21, *E. buruanus* Arrow, Batjan ; 22, *E. ater* Pic, Laos ; 23, *E. pedanus* Strkr., n. sp., monotype ; 24, *E. t. truncaticollis* Strkr., Mt Makiling, Luzon ; 25, *E. cinctipes* Gor., allotype.

**Encymon australasiae* Csiki, 1902, *Termés. Füzetek* 25 : 34. Lectotype ♂ (MNM) from N. S. Wales.

Encymon limbatus Pic, 1931, *Mél. Exot.-Ent.* 58 : 5 (Queensland).

Encymon immaculatus : Strkr., 1953, *Gen. Insect.* 210 : 76.

From its abundant representation in collections made in the New Guinea region it seems that this is a very successful species. Montrouzier reports it as forming ant-like files on vegetation. Examination of thousands of specimens, with dissection of many ♂♂, has not shown me any structural features indicating local differentiation except in material from New Britain, Manus I., and New Ireland, in which the edeage seems to show transition to *E. schwarzbaueri*. Typical *immaculatus* also occurs on New Britain and may represent a second immigration from New Guinea.

Material studied has come from numerous localities in New Guinea and lesser adjacent islands : Misima ; Rossel ; Normandy ; Woodlark ; Roon ; Key ; New Britain ; New Ireland ; Manus ; Aru ; Japen ; Biak ; Waigeo ; Moluccas, including Halmahera, and from N. S. Wales and Queensland. Timor is cited in literature. I have seen no recently collected specimens from west of the Wallace line but some old specimens are labeled as collected in Java and Celebes.

***Encymon schwarzbaueri* Mader Fig. 12.**

Encymon schwarzbaueri Mader, 1936, *Ent. Rdsch.* 54 : 62. Holotype ♂, allotype ♀ (MGF) from Bougainville I.

Differs externally from *immaculatus* only in black color of pronotum ; protibial armament of ♂ is identical and edeage is similar but with narrower ramus. All specimens examined have bicolored femora. Perhaps the name given by Mader should be reduced to subspecific status.

A pair of paratypes (Strkr.) and many other examples (BISHOP ; BMNH) have been studied. Collection data show occurrence in islands SE of New Guinea : Bougainville ; Malaita ; Buka ; Santa Ysabel ; Vella Lavella ; Kolombangara ; Fauro ; San Cristobal ; Gizo ; Guadalcanal ; Rennell.

***Encymon nigricollis* Csiki, new status Fig. 14, 27-29.**

Encymon gorhami nigricollis Csiki, 1902, *Termés. Füzetek* 25 : 37. Monotype ♀ (GM) from New Guinea : Hatam, Sept., Albertis.

Elytra gibbous in both sexes, almost hemispherical in ♀, disto-internal angle of antennal article 9 strongly produced and narrowly rounded. Some specimens have pronotum red.

NW NEW GUINEA : Swart Val., Karubaka, Nov., J. L. Gressitt. NE NEW GUINEA : Eliptamin Val., Aug.-Sept., W. W. Brandt ; Feramin, June, Brandt ; Toricelli Mts, Mobitei, Apr., Brandt (BISHOP ; Strkr.) ; Sivi, Aug., Pr. Leopold (BMNH). Amboina (HUM).

Encymon gorhami Csiki Fig. 13, 30, 31.

**Encymon gorhami* Csiki, 1902, *Termés. Füzetek* 25: 36. Lectotype ♀ (MNM) from New Guinea: Erima, Astrolabe Bay, Biró.

Encymon gorhami femoratus Csiki, 1902, op. cit.: 37. New **Synonymy**. 2 syntype ♀♀ (GM) from New Guinea: Fly R., Albertis.

Encymon globosus* Arrow, 1943, *Ann. Mag. Nat. Hist.* ser. 11, 10: 130. New **Synonymy. Lectotype ♂, allotype ♀ (BMNH) from W New Guinea: Njau Limon, S of Mt Bougainville.

Both Gorham and Csiki confused the ♂ of this species with *immaculatus*. Elytra gibbous in both sexes, those of ♀ almost hemispheric. Antennal article 9 longer than wide, 11 strongly transverse and truncate. Protibia of ♂ enlarged distad, unarmed, mesotibia incurved, inner edge finely serrate. Length 7-7.5 mm.

This insect has been collected in all 3 major divisions of New Guinea (BISHOP; MNM; BMNH).

Encymon ruficollis Gorham Fig. 9, 34.

Encymon ruficollis Gorham, 1885, *Ann. Mus. Civ. Genova* 22: 519. 2 syntypes (GM) from New Guinea: Ramoi; Fly R., Albertis.

Encymon latipennis* Arrow, 1943, *Ann. Mag. Nat. Hist.* ser. 11, 10: 131. New **Synonymy. Lectotype ♂ and 8 paralectotypes (BMNH) from New Guinea (Neth.): Waigau, Camp Nok, L. E. Cheesman.

Encymon intermedius* Arrow, 1943, op. cit.: 132. New **Synonymy. Monotype ♀ (BMNH) from New Britain: Bainings, J. L. Froggat.

Encymon maderi Strkr., 1953, *Gen. Insect.* 210: 77. New **Synonymy**.

It seems certain to me, on the basis of study of many specimens, that only 1 species has the features of broad, red pronotum, widely margined elytra and ciliated mesofemur in ♂. Protibia of ♂ slender and curved near base, gradually enlarged distad, mesotibia slightly curved, mesofemur with a row of long setae on hind edge. Length 7-8 mm.

The large number of specimens examined (BISHOP; BMNH; HUM) shows the range of the species to include all of New Guinea and many islands to the E and SE: New Britain; New Ireland; Kolombangara; Guadalcanal; San Cristobal; Rennell.

Encymon resinatus Gorham Fig. 8.

**Encymon resinatus* Gor., 1873, *Endom. Recit.*: 40. Lectotype ♀ from Borneo, 1 ♂, 2 ♀ paralectotypes from North Borneo in BMNH.

Encymon malaccanus* Pic, 1931, *Mél. Exot.-Ent.* 58: 5. New **Synonymy. Monotype ♀ (Pic, PM) from Malacca.

Encymon neugebaueri Mader, 1936, *Ent. Rdsch.* 54: 63. New **Synonymy**. Holotype and paratypes (MGF) from Mindanao, P. I.

Form and size of *E. ruficollis* but with pronotum black. Protibia and mesofemur of ♂ as in *ruficollis*. In the small series which I have seen I have found no features requiring recognition of more than a single species.

E. BORNEO: Balikpapan, Mentavi R., Oct., A. M. R. Wegner. N. SUMATRA: Alas Val., K. Benner (Bogor; Strkr.). Malacca: Perak (ex Csiki). Celebes: Bantimurang

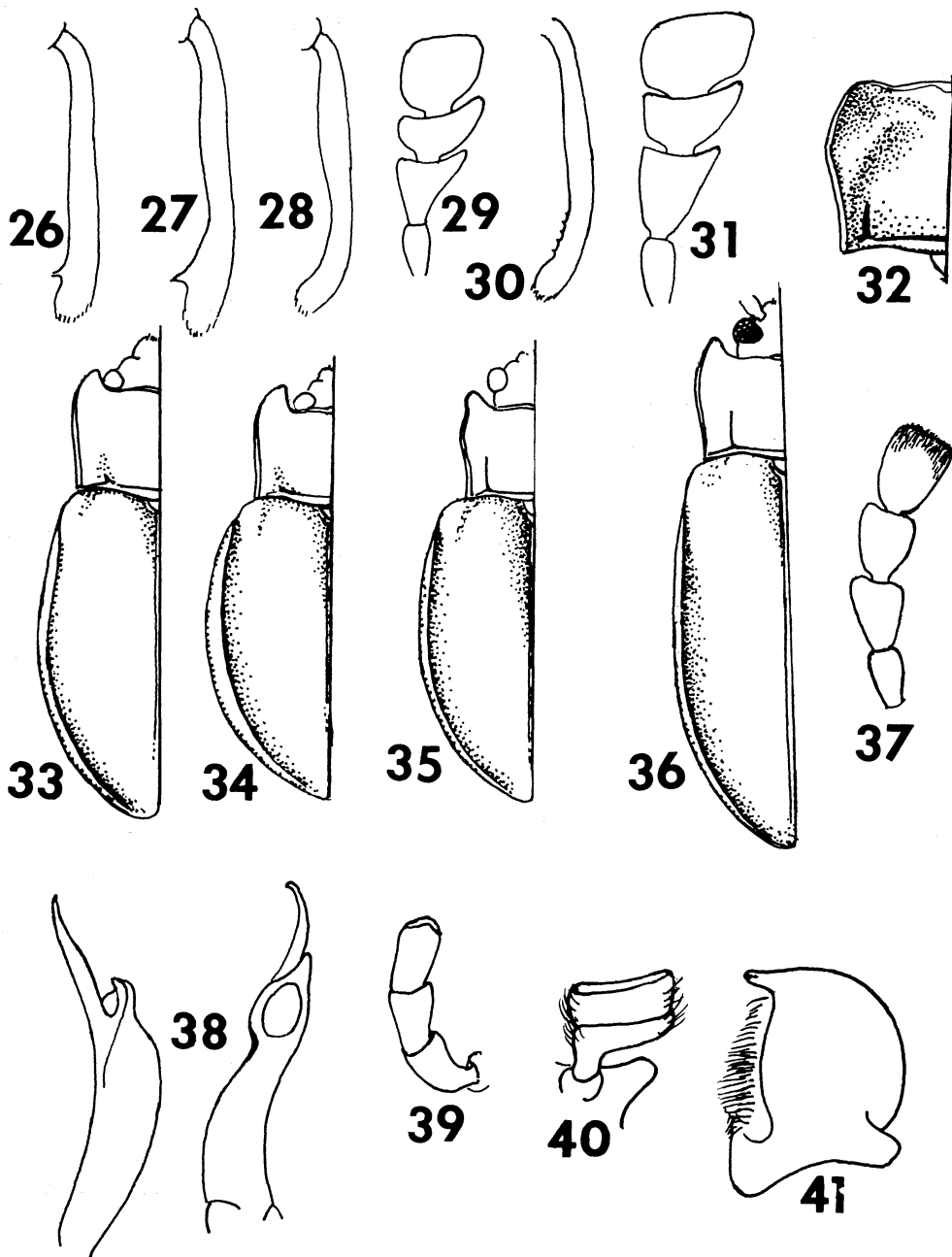


Fig. 26-41. 26, *E. immaculatus* (Montr.), protibia ♂; 27, *E. nigricollis* Csiki, protibia ♂; 28, mesotibia ♂; 29, antennal club; 30, *E. gorhami* Csiki, mesotibia ♂; 31, antennal club; 32, *E. truncaticollis atriceps* Strkr., pronotum ♂; 33, *E. s. scintillans* Strkr. ♂; 34, *E. ruficollis* Gor. ♂; 35, *E. papuanus* Csiki ♂; 36, *Avenymon concolor* (Strkr.) ♂; 37, antennal club; 38, eedege; 39, maxillary palp; 40, labial palp; 41, mandible.

(ex Csiki); Lariang, B. Horst (MNM); Sangi (Strkr.; BMNH). P. I., MINDANAO: Pt. Bango; Kolambugan, paratypes (Strkr.); Kabasalan, May, F. C. Hadden (CAS).

The ferialis Group

The members of this group are smaller (5.5–7 mm) than those species described above. Profile of elytral dorsum usually shows a flat segment rather than a continuous arc. Sutural region strongly depressed in front 1/2, striae deep. Front angles of pronotum narrowly rounded to blunt.

Taxonomic treatment of the group is impeded by lack of ♂ topotypes of *E. ferialis* Gor. and *E. buruanus* Arrow but great improvement can be made in the current status of its systematics, and collocation of literature will be helpful.

Encymon ferialis ferialis Gorham

Encymon ferialis Gor., 1875, *Trans. Ent. Soc. Lond.*: 312.

Described from ♀ in Coll. F. Chapuis; deposition unknown to me.

"Thorax shining, black, the width at the anterior angles a little greater than the length, the front margin but little excavated; sides parallel for 1/3, below which they are excavated to the base, but not very strongly; disc rather convex between the basal sulci, which are deep. Elytra rather short, strongly convex, suture depressed; of a dark purplish violet, very obsoletely punctured, the punctures scarcely visible except near the scutellum. Legs, antennae and underside shining black." Length 6 mm.

The only Bornean specimen seen in my study is a ♀ (BMNH) det. Arrow.

Encymon ferialis sumatranus Csiki Fig. 17–19.

**Encymon ferialis sumatranus* Csiki, 1902, *Termés. Füzetek* 25: 37. Lectotype ♂ (MNM) from Sumatra: Medan, G. Meissner. Other type material in DM (ex Csiki).

Csiki notes that this form differs from the nominate in smaller size, greater expansion of pronotum and steel-blue elytra. In view of the faunal similarities between Borneo and Sumatra I suspect that *sumatranus* is very close to the Bornean form. I include under this name a few specimens from Java, which may merit some nominal recognition. Mesotibia of ♂ undulate and internally denticulate. Length 5.5–6 mm.

SUMATRA: Tebing-Tinggi, Schultheiss (MNM). JAVA: Tjeribon Res., Feb., F. C. Drescher; Idjen Plateau, Jan., H. Lucht (Bogor; Strkr.).

Encymon papuanus Csiki Fig. 15, 35.

**Encymon papuanus* Csiki, 1902, *Termés. Füzetek* 25: 34. Monotype ♀ (MNM) from New Guinea: Ighiberi.

Black with violet-blue elytra. Length 6 mm. The type specimen has sides of pronotum almost straight but otherwise resembles specimens collected by Bishop personnel; some of the latter examples have pronotum dark red. Length 6–7 mm. In ♂ pro- and mesotibia incurved at apex, mesotibia undulate in both sexes.

NE NEW GUINEA : Garaina, Jan., J. & M. Sedlacek ; Wau, Apr., J. Sedlacek ; Huon Penin., Apr., Sedlacek ; Lae, Singuawa R., Wilkes. NW NEW GUINEA : Hollandia area W. Sentani, June, Gressitt (BISHOP ; Strkr.).

Encymon buruanus Arrow Fig. 20, 21.

**Encymon buruanus* Arrow, 1926, *Treubia* 7: 125. Lectotype ♀ (BMNH) from Buru I.

Of topotypic material I have seen only the lectotype but I use this specific name for examples from Batjan and Ambon. These are much like *papuanus* and probably represent, at most, subspecific differentiation. Length 6-7 mm.

BATJAN : Wajaua, June, A. M. R. Wegner (Bogor ; Strkr.). AMBON : Waai, July, Wegner (Strkr.).

Encymon cyanipennis Chûjô Fig. 16.

Encymon cyanipennis Chûjô, 1938, *Trans. Nat. Hist. Soc. Formosa* 28: 396; 1939, *Fauna Nipp.* 10: fasc. 8, No. 12: 64, fig. 36. Monotype ♀ ? (J. Sonan) from Taiwan : Kotôshô, Botel-Tobago I.

Encymon valgus* Strkr., 1951, *Pan-Pacif. Ent.* 27: 161. New **Synonymy.

Differs from *papuanus* only in narrow edeagal ramus, so far as my study goes. I am unable to find differences between holotype of *valgus* and topotypes of *cyanipennis*.

TAIWAN : Botel-Tobago I., Aug., H. Makihara (Chûjô ; Strkr.). P. I., LUZON : Montalban ; Subuagru (Strkr.) ; Mt Iriga, Camar. S., Torrevillas (BISHOP). LEYTE (HUM). MINDA-NAO : Dapitan, Baker (BMNH) ; Mancan, Zamb. N., Quate (BISHOP).

Encymon ater Pic Fig. 22.

**Encymon ater* Pic, 1927, *Mél. Exot.-Ent.* 50: 1. Monotype ♀ (Pic, PM) from Tonkin.

Longitudinal dorsal profile of elytra rather flat, more so than usual in group. Black, elytra with blue tint. General external appearance similar to that of *papuanus* etc. Length 7 mm.

LAOS : Mouhot (BMNH) ; Sayaboury (BISHOP ; HUM).

Encymon pedanus Strohecker, new species Fig. 23.

Entirely black, shining. Length 8 mm. Antennal articles 3-6 slender, 4-6 each about 3× as long as wide, 3 equal to 4-5 together, 7-11 missing. Pronotum with front angles narrowly rounded, sides sinuously widened to near mid-length, thence arcuately narrowed to base, which is slightly narrower than apex, hind angles rectangular, basal sulcus deep, lateral sulci linear, deep, extending beyond middle of disc, which is distinctly punctured. Elytra with prominent shoulders, subparallel for much of their length, side margins flat and rather wide, longitudinal dorsal profile rather flat. Protibia of ♂ feebly undulate, mesotibia strongly sinuous and internally serrate, metatibia widest at mid-length, its external edge straight, internal edge undulate.

Monotype ♂ (BMNH) from N. Burma : Nam Tamai, 3600', Jan., K. Ward. A specimen (BMNH) from Assam Valley agrees well with monotype except in tibial features and may be the ♀ but its condition is too fragile for dissection.

***Encymon truncaticollis truncaticollis* Strohecker** Fig. 24.

Encymon truncaticollis* Strkr., 1951, *Pan-Pacif. Ent.* **27: 161. Holotype ♂ (CAS) from Luzon, P. I.: Mt Makiling, Nov., F. C. Hadden.

Head and pronotum red, elytra violet. Length 6.5–7 mm. Pronotum with front angles very short, obtusely rounded, disc with a broad deep oblique impression on each side which includes front end of lateral sulcus. The ♀ has not been identified.

P. I., LUZON: Mt Makiling (BMNH); Balaban (HUM; Strkr.).

***Encymon truncaticollis atriceps* Strohecker** Fig. 32.

Encymon truncaticollis atriceps* Strkr., 1958, *Field. Zool.* **42: 36. Monotype ♂ (FM) from Mindanao, P. I.: Bugasan, Cotabato.

Head and pronotum black. Depressions of pronotum extensive, irregular. Edeage like that of nominate form. I have seen only the monotype. Additional material may show the trinomial unnecessary.

***Encymon cinctipes* Gorham** Fig. 25.

**Encymon cinctipes* Gor., 1897, *Proc. Zool. Soc. Lond.*: 459, pl. 32, fig. 4. — Arrow, 1925, *Fauna Br. India, Erotyl.*: 332. Lectotype ♀ (BMNH) from Burma: Ruby Mines, Doherty. Gorham noted 7 examples, of which another ♀ and ♂ are in BMNH.

Black above and below, femora orange with black base and apex. Sternite 5 of ♂ with apical notch. Length 7.5–9 mm. Antennae slender, all stalk articles much longer than wide. Pronotum $\frac{3}{5}$ as long (mid-line) as wide, sides weakly sinuous. Elytra $3.5 \times$ as long as pronotum, their dorsal profile flat, sides hardly arcuate, widening caudad to distal $\frac{1}{3}$ then abruptly rounded to apex. While showing essential features of *Encymon* this species stands apart from its congeners.

Reported by Arrow from Sikkim: Assam and NE Frontier.

Genus *Avencymon* Strohecker, new genus

Form long parallel, dorsal profile of elytra low, flat. Antennae slender, all stalk articles much longer than wide, club about $2 \times$ as wide as article 8, moderately flattened. Mandible broad, thick, apex but little produced, feebly notched but without internal tooth. Last article of maxillary palp cylindric, equal to preceding article. Last article of labial palp transverse, about $3 \times$ as wide as long. Prosternum linear between prominent procoxae, mesosternum very narrow between mesocoxae, about $\frac{1}{4}$ as wide as coxa.

Generotype: *Ancylopus concolor* Strkr.

***Avencymon concolor* (Strohecker), new combination** Fig. 36–41.

Ancylopus concolor* Strkr., 1951, *Pan-Pacif. Ent.* **27: 159. Monotype ♂ without edeage (CAS) from China: Tai Au Hong, S. Kiangsi, July, J. L. Gressitt.

Lower and upper surfaces reddish brown, legs, antennae and head black, occiput more or less reddish. Length 6.5 mm.

CHINA: Tsha-jiu-san, Mell (HUM). JAVA: Idjen Plateau, Nov., H. Lucht (Bogor; Strkr.).

Avencymon ruficephalus (Ohta), new combination

Encymon ruficephalus Ohta, 1931, *J. Fac. Agric. Hokkaido Univ.* 30: 221, pl. 3, fig. 2. — Chûjô, 1939, *Fauna Nipp.*, 10, fasc. 8, No. 12: 66, fig. 37.

Holotype and 4 paratypes from Taiwan: Baibara. I do not know the present deposition of these specimens.

It seems probable to me that *concolor* is a synonym of *ruficephalus* but I have not had Taiwan material for study and have followed the course I thought most easily emendable.

BOOK REVIEW

A handbook of field methods for research on rice stem-borers and their natural enemies

IBP Handbook No. 14

By T. Nishida, T. Torii and collaborators ; Coordinated by K. Yasumatsu

Blackwell Scientific Publications, Oxford & Edinburgh
136 p., 25 ill.; 35 Shillings

This is one of a series of practical handbooks emanating from the International Biological Program. This one comes from the Biological Control group of the section on Use and Management of Biological Resources (UM). Rice stem-borers constitute one of the special groups of economically important insects selected for intensive study under the IBP.

Major Asian rice stem-borers belong to the moth families Pyralidae (*Chilo*, *Chilotraea*, *Tryporyza*) and Noctuidae (*Sesamia*). The pyralids have nocturnal adults which lay eggs in masses on leaves or sheaths. The newly emerged larvae feed externally for a few days and then enter the stem. The mature larvae usually occur near the base of the plant and the pupae are also within the stem. The noctuid *Sesamia*, also nocturnal, lays 4-5 eggs in rows between leaf sheath and stem. The newly emerged larvae bore into the stem. On hollowing a stem they usually move to a new stem, and pupate in the stem or beneath a leaf sheath.

Nearly 100 species of parasites have been recorded from rice stem-borers. Besides natural enemies, cultural practices are important to borer control.

Keys to adults, larvae and pupae of the stem-borers are presented, with illustrations.