

## THE GENERA *BECCARIOLA*, *DRYADITES* AND *CYMBACHUS* (Coleoptera: Endomychidae)

By H. F. Strohecker<sup>1</sup>

*Abstract:* Synopses with keys based on study of type material of 3 genera of Asiatic Endomychidae are presented. In *Beccariola* the specific names *denticornis* and *septemguttata* Strkr. are synonymized under *philippinica* Arrow, and 5 new species are described: *B. petiginosa* from New Britain, *B. subdita* from Ambon, and *B. major*, *B. confusa* and *B. selene* from New Guinea. *Brachytrycherus concolor* Arrow and *Amphisternus rufopunctatus* Gorham are placed in *Dryadites*. *Cymbachus* is restricted to include *pulchellus* Gerst., *formosus* Gorham, *elegans* and *pilotus* Arrow.

These 3 Asiatic genera—*Beccariola*, *Dryadites*, and *Cymbachus*—are similar in broadly ovate, highly convex form and in sternal structure. Intercostal process of prosternum v-excised at apex, receiving front angle of pentagonal mesosternum. Similar sternal structure is seen in the Malagasy *Haploscelis* and South American *Acinaces* and *Amphix* and perhaps represents a primitive feature.

Many of the species of this complex are known from little material and the preparation of synopses has required study and dissection of type specimens. For access to such specimens I am indebted to J. Balfour-Browne and M. E. Bacchus of the British Museum (BMNH), A. Descarpentries of the Paris Museum (PM), R. Hertel of the Dresden Museum (DM), F. Hieke of Humboldt University (HUM), Zoltan Kaszab of the Hungarian Museum (MNM), and J. M. Kingsolver of U. S. National Museum (USNM). Additional material has been supplied by Michio Chûjô of Kagawa University, J. L. Gressitt of Bishop Museum (BISHOP)<sup>2</sup>, H. B. Leech of California Academy of Sciences (CAS), and R. Paulian, formerly at the Scientific Institute of Madagascar (ISM). The "\*" indicates that I have studied the type specimen.

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### Genus *Beccariola* Arrow

*Beccariola* Arr., 1943, *Ann. Mag. Nat. Hist.* ser. 11, **10**: 129 (n. name).—Strkr., 1953, *Gen. Insect.* **210**: 83.

*Beccaria* Gorch., 1885, *Ann. Mus. Civ. Genova* **22**: 521 (not of Trichense, 1870).

Subcycloid to broadly cordiform in outline, highly convex, coccinelloid in appearance but easily recognized by its long antennae, subulate last article of maxillary palp, and sternal structure. Mandible with apex short, sharp, with internal tooth. Article 2 of labial palp so wide

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ened and rounded distad that article 3 seems to arise from its medial edge. Occiput with fine cross ridges but front edge of pronotum without membranous area. Antennal articles 9, 10 with disto-medial angle acute, more decidedly in ♂.

**DISTRIBUTION:** Madagascar, SE Asia and islands to Taiwan.

In the key the word "pale" means yellow, orange or red. Drawings of elytra are intended to show color pattern only; other details should not be sought. No new combinations are made in this synopsis. Older names were catalogued under *Beccariola* by me in 1953.

#### KEY TO SPECIES OF BECCARIOLA

- |          |   |                   |
|----------|---|-------------------|
| 1.       | Elytra with seriate punctures.....                          | 2                 |
|          | Elytra without definite rows of punctures.....              | 12                |
| 2 (1).   | Elytron pale, edged with black (Philippines) .....          | <b>suturalis</b>  |
|          | Elytron dark with pale markings.....                        | 3                 |
| 3 (2).   | Elytron with 3 or 4 pale marks .....                        | 4                 |
|          | Elytron with 2 pale marks .....                             | 8                 |
| 4 (3).   | Elytron with 4 pale spots .....                             | 5                 |
|          | Elytron with 3 pale spots .....                             | 6                 |
| 5 (4).   | Pre-apical elytral spot round.....                          | <b>wallacei</b>   |
|          | Pre-apical spot transversely lunate.....                    | <b>selene</b>     |
| 6 (4).   | Pre-apical elytral spot lunate.....                         | <b>selene</b>     |
|          | Pre-apical spot round.....                                  | 7                 |
| 7 (6).   | Elytra together wider than long (New Britain) .....         | <b>petiginosa</b> |
|          | Elytra together as long as wide (Ambon) .....               | <b>subdita</b>    |
| 8 (3).   | Front pale elytral mark covering most or all of umbo.....   | 9                 |
|          | Front pale mark arciform, embracing umbo.....               | 11                |
| 9 (8).   | Length 4-5 mm.....  | <b>papuensis</b>  |
|          | Length 6 mm. ....   | 10                |
| 10 (9).  | Seriate punctures distinct over most of elytron .....       | <b>major</b>      |
|          | Seriate punctures distinct only near suture.....            | <b>confusa</b>    |
| 11 (8).  | Front lunule broad, its margins lobed (Celebes).....        | <b>orca</b>       |
|          | Front lunule narrow, its margins even (Philippines) .....   | <b>ovata</b>      |
| 12 (1).  | Elytra not marked with spots or bands .....                 | 13                |
|          | Elytra with pattern of spots or bands.....                  | 14                |
| 13 (12). | Elytron pale, base, side margin, apex black.....            | <b>pallida</b>    |
|          | Elytron blackish, umbo and apex rufous.....                 | <b>macra</b>      |
| 14 (12). | Elytron pale with 9-10 small black spots .....              | <b>overbecki</b>  |
|          | Elytron black with pale markings.....                       | 15                |
| 15 (14). | Elytron with pale lunule or cross-band near base .....      | 16                |
|          | Front marking of elytron rounded or radiate .....           | 19                |
| 16 (15). | Elytron with pale cross-band in front.....                  | <b>laeta</b>      |
|          | Elytron with pale lunule embracing umbo.....                | 17                |
| 17 (16). | Length 7 mm; elytra cordiform (Philippines).....            | <b>ovata</b>      |
|          | Length 4-5 mm; form short-oval .....                        | 18                |
| 18 (17). | Pale elytral marks constricted at middle (Philippines)..... | <b>bakeri</b>     |
|          | Elytral marks not constricted.....                          | <b>coccinella</b> |
| 19 (15). | Basal pale mark (s) of elytron rounded.....                 | 20                |
|          | Basal pale mark of elytron radiate .....                    | 27                |
| 20 (19). | Elytron with 2 very large pale areas (Philippines).....     | <b>cruciata</b>   |

	Elytron with 3 or more pale spots .....	21
21 (20).	Elytra with common pale area over middle of suture .....	22
	Elytra without common pale area .....	23
22 (21).	Philippines .....	<b>philippinica</b>
	Malacca .....	<b>septemmaculata</b>
23 (21).	Elytron with 5 pale spots .....	<b>duodecimpunctata</b>
	Elytron with 3 or 4 pale spots .....	24
24 (23).	Elytron with 4 pale spots (Nias I.) .....	<b>octomaculata</b>
	Elytron with 3 pale spots .....	25
25 (24).	Pronotum entirely black (Sumbawa) .....	<b>nigricollis</b>
	Front angles or sides of pronotum pale .....	26
26 (25).	Pronotum pale with median dark area (Philippines) .....	<b>philippinica</b>
	Pronotum dark, front angles broadly pale .....	<b>sexmaculata</b>
27 (19).	Elytron without pre-apical pale bar (Taiwan) .....	<b>fulgurata</b>
	Elytron with dentate pre-apical pale bar .....	28
28 (27).	Round dark spot within front pale mark close to scutellum .....	<b>longicornis</b>
	This spot close to umbo .....	29
29 (28).	Laos; Vietnam .....	<b>brevicornis</b>
	Bengal; Mysore .....	<b>cardoni</b>

**Beccariola papuensis** (Gorham) Fig. 1, 19.

*Beccaria papuensis* Gor., 1885, *Ann. Mus. Civ. Genova* 22: 522.

*Beccariola papuensis*: Arrow, 1943, *Ann. Mag. Nat. Hist.* ser. 11, 10: 130.—Strkr., 1953, *Gen. Insect.* 210: 84, fig.

Some variation in size of elytral spots has been noted. A pair of specimens from Swart Valley lack the pre-apical spot. A ♀ from Nabire also lacks the pre-apical spot and another ♀ from Nabire has no elytral spots. These 4 specimens have head, pronotum and legs dark red rather than black but the aedeagus of the Swart Valley ♂ indicates reference to *papuensis*.

Type material: 2 specimens from Ramoi, New Guinea, collected by Beccari and presumably in Genoa Museum.

NE NEW GUINEA: Bulolo, Aug., E. J. Ford; W. Highlands, Baiyer, Oct., *Castanea*-like trees, J. L. Gressitt; Torricelli Mts., Nengran, Nov., W. W. Brandt; Mosom, Salakawet Range, Sept., Ford; Wau, Morobe Distr., Jan., J. Sedlacek (BISHOP). NW NEW GUINEA: Swart Valley, Karubaka, Nov., Gressitt; Hollandia, Aug., Gressitt; Nabire, Sept., Gressitt; Bubia, Markham Valley, Sept., Gressitt (BISHOP). SE NEW GUINEA: Kiunga, Fly R., July, Brandt; Oriomo Sta., W. Distr., Oct., Gressitt (BISHOP); Maffin Bay, June, E. S. Ross (CAS).

**Beccariola wallacei** (Gorham) Fig. 2, 20.

*Beccaria wallacei* Gor., 1897, *Proc. Zool. Soc. London*, 463, pl. 32, fig. 6.

*Beccariola wallacei*: Arrow, 1943, *Ann. Mag. Nat. Hist.* ser. 11, 10: 130.

Gorham's beautiful lithograph shows a specimen in teneral coloration; the mature insect is deep black, each elytron with 4 blood-red spots. Length 5 mm.

Monotype from Aru I., A. R. Wallace. I have not been able to find this specimen.

NE NEW GUINEA: Wau, Morobe Distr., Jan., Feb., J. Sedlacek (BISHOP); Finschhafen, Apr., May, E. S. Ross (CAS). NW NEW GUINEA: Nabire, Sedlacek (BISHOP); Waigeu

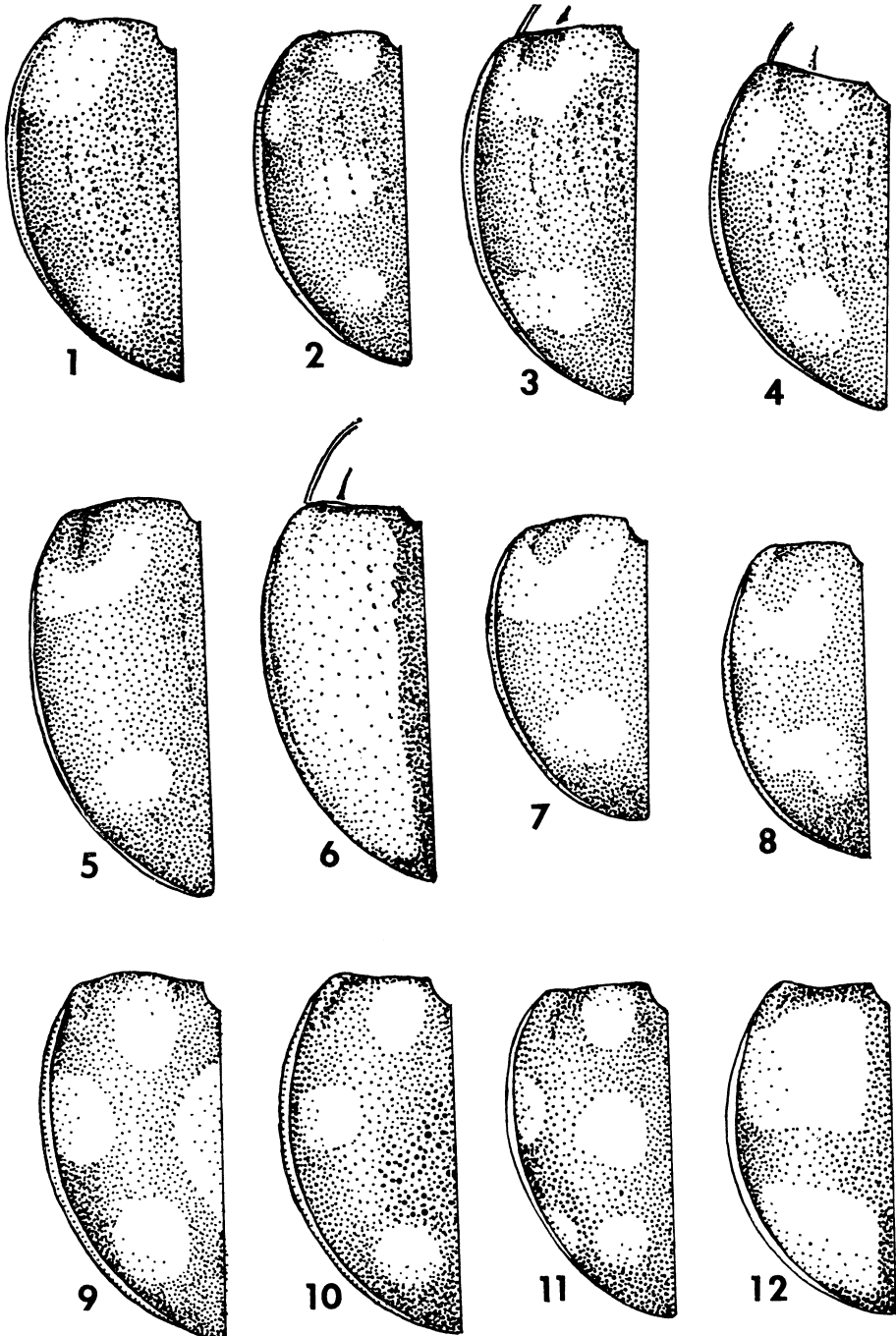


Fig. 1-12. Color pattern of left elytron: 1, *Beccariola papuensis* (Gor.); 2, *B. wal-lacei* (Gor.); 3, *B. orca* (Hllr.); 4, *B. petiginosa* Strkr., n. sp.; 5, *B. ovata* (Arr.); 6, *B. suturalis* (Hllr.); 7, *B. coccinella* (Arr.); 8, *B. bakeri* (Hllr.); 9, *B. philippinica* (Arr.); 10, *B. sexmaculata* (Arr.); 11, *B. duodecimpunctata* (Arr.); 12, *B. cruciata* (Arr.).

I. (ex Arrow). SE NEW GUINEA: Owen Stanley Range, Goilala, Bome, W. W. Brandt; W. Distr., Oriomo Sta., Oct., Gressitt; Kokoda-Pitoki, Mar., Gressitt (BISHOP).

**Beccariola selene** Strohecker, new species      Fig. 70, 71.

Deep black below and above, each elytron with 5 yellow or red spots, hind spot crescentic. Length 4.5-5 mm. Very similar in appearance and structure, including aedeagus, to *B. wallacei* but seems to present consistent differences. Median and juxtascutellar spots round (fused in Arabuka specimens), median spot obliquely cuneate, hind spot lunate. Seriate punctures distinct antero-mesad, confused caudad and laterad.

Holotype ♂ (BISHOP 8948), NE NEW GUINEA: Wau, Morobe Distr., 1250 m, Jan., J. Sedlacek. Allotype ♀ (BISHOP), Wau, 1500 m, Sept., Sedlacek.

NE NEW GUINEA: Arabuka, Morobe Distr., 2000 m, Jan., J. & M. Sedlacek; 16 km NW of Banz, June; Kassem Pass, July, J. Sedlacek; Purosa, 20 km SE of Okapa, Aug., J. & M. Sedlacek (BISHOP); Okapa, Feb., M. E. Bacchus (BMNH).

**Beccariola petiginosa** Strohecker, new species      Fig. 4, 21.

Short-oval, subcycloid in outline, deep black, each elytron with 3 round red spots—the smallest at mid-line of base, the largest posthumeral, the 3rd pre-apical. Length 5 mm. Very similar to *B. nigricollis* (Pic) but with rows of elytral punctures; punctures small but distinct.

Holotype ♂ (BISHOP 8953), allotype ♀ and paratype ♂ from New Britain: Gazelle Penin., Kerawat, 96 km, Sept., J. L. Gressitt.

MANUS I.: Momote, Dec., T. C. Maa. SOLOMON I.: Roroni, 35 km E of Honiara, May, R. Straatman (BISHOP).

**Beccariola subdita** Strohecker, new species      Fig. 17, 53, 54.

Deep black, each elytron with 3 round red spots, 1 on base, 1 transversely oval, behind shoulder, 1 pre-apical. Length 4.8 mm.

Very similar in pattern to *petiginosa* and *nigricollis* but smaller and of narrower form. The seriate punctures of elytra are larger than in *petiginosa*. Antennal articles 2-8 dark red-brown, 2-7 each longer than wide, 8 quadrate, club slightly longer than preceding 5 articles combined.

Monotype ♂ (Chûjô) from Ambon, May, A. M. R. Wegner.

**Beccariola major** Strohecker, new species      Fig. 67.

Deep black, elytra seriate-punctate, each with 2 red spots, abdominal sternites red. Length 6 mm.

Resembles *papuensis* but larger and more gradually narrowed caudad. Anterior red mark of elytron transversely subrectangular, narrowly separated from base, covering 2/3 width of elytron. Posterior spot round, on caudal slope.

Holotype ♂ (BISHOP 8954), NE New Guinea: Wau, Morobe Distr., 1150 m, J. & J. H. Sedlacek. Allotype ♀ from Wau, Jan., J. Sedlacek. A pair of paratypes are from Wau, taken by the Sedlaceks in Jan. and Sept. Females from Garaina are referred with some doubt to this species. Papua: Kokoda, Mar., J. L. Gressitt.

**Beccariola confusa** Strohecker, new species      Fig. 68, 69.

Very close in appearance to *B. major*. External differences noted are: duller above and below, abdominal sternites not red, anterior elytral spot broadly touching base, punctured striae indistinct except in sutural area of front half of elytron. Length 6 mm.

Monotype ♂ (BISHOP 8955), NE New Guinea: Sugoitei Vill., Toricelli Mts., 900 m, Feb., W. W. Brandt.

**Beccariola orca** (Heller)      Fig. 3.

*Beccaria orca* Hllr., 1898, *Abhandl. Mus. Dresden* 7: 40, pl. 3, fig. 7, 17.

*Beccariola orca*: Strkr., 1953, *Gen. Insect.* 210: 84.

I have seen no ♂ of this species. The color pattern seems distinctive. Length 5 mm. Monotype (DM) from N. Celebes; Minahasa, Dr C. Platea; Manado.

**Beccariola suturalis** (Heller)      Fig. 6, 23.

\**Beccaria suturalis* Hllr., 1923, *Stett. Ent. Ztg.* 84: 6.

*Beccariola suturalis*: Strkr., 1953, *Gen. Insect.* 210: 84.

Elytra cordiform, reddish yellow, with base, suture, side margin and apex narrowly black. Pronotum and thoracic sterna black, abdominal sternites reddish. Length 5-5.5 mm.

Lectotype ♂ (DM) from Surigao, Mindanao, P. I., Baker. A series taken by Baker at Surigao is in USNM.

**Beccariola ovata** (Arrow)      Fig. 5, 18, 22.

\**Beccaria ovata* Arr., 1923, *Trans. Ent. Soc. Lond.*: 489.

*Beccariola ovata*: Strkr., 1953, *Gen. Insect.* 210: 84.

Cordiform, deep black above except 2 orange marks on each elytron, the anterior a broad arc enclosing umbo, posterior transversely oval. Punctured striae indistinct except near suture. Length 7-8 mm.

Monotype ♂ (BMNH) from Iligan, Mindanao, Philippines, Baker.

PHILIPPINES: Mindanao, A. Moore (BMNH); Iligan, Baker (USNM); Masawan-Gundawan, Zamboanga del Norte, H. E. Milliron (BISHOP).

**Beccariola pallida** (Arrow)

\**Beccaria pallida* Arrow, 1923, *Trans. Ent. Soc. Lond.*: 488; 1925, *Fauna Br. India, Erotyl.*: 347, fig. 64.

*Beccariola pallida*: Strkr., 1953, *Gen. Insect.* 210: 84.

Outline very broadly oval, form subhemispherical, pale reddish yellow, elytra with side margin, base and apex narrowly black. Under surface pubescent. Length 5.5 mm.

Monotype ♀ (BMNH) from N. Malabar: Tahparamba, F. S. Nathan.

**Beccariola macra** Strohecker      Fig. 50.

\**Beccariola macra* Strkr., 1953, *Nat. Malgache* 5: 186, fig. 1.

Large for genus, short-oval, highly convex, generally rust red, elytra dusky with shoulder and apex broadly rust red. Length 7 mm.

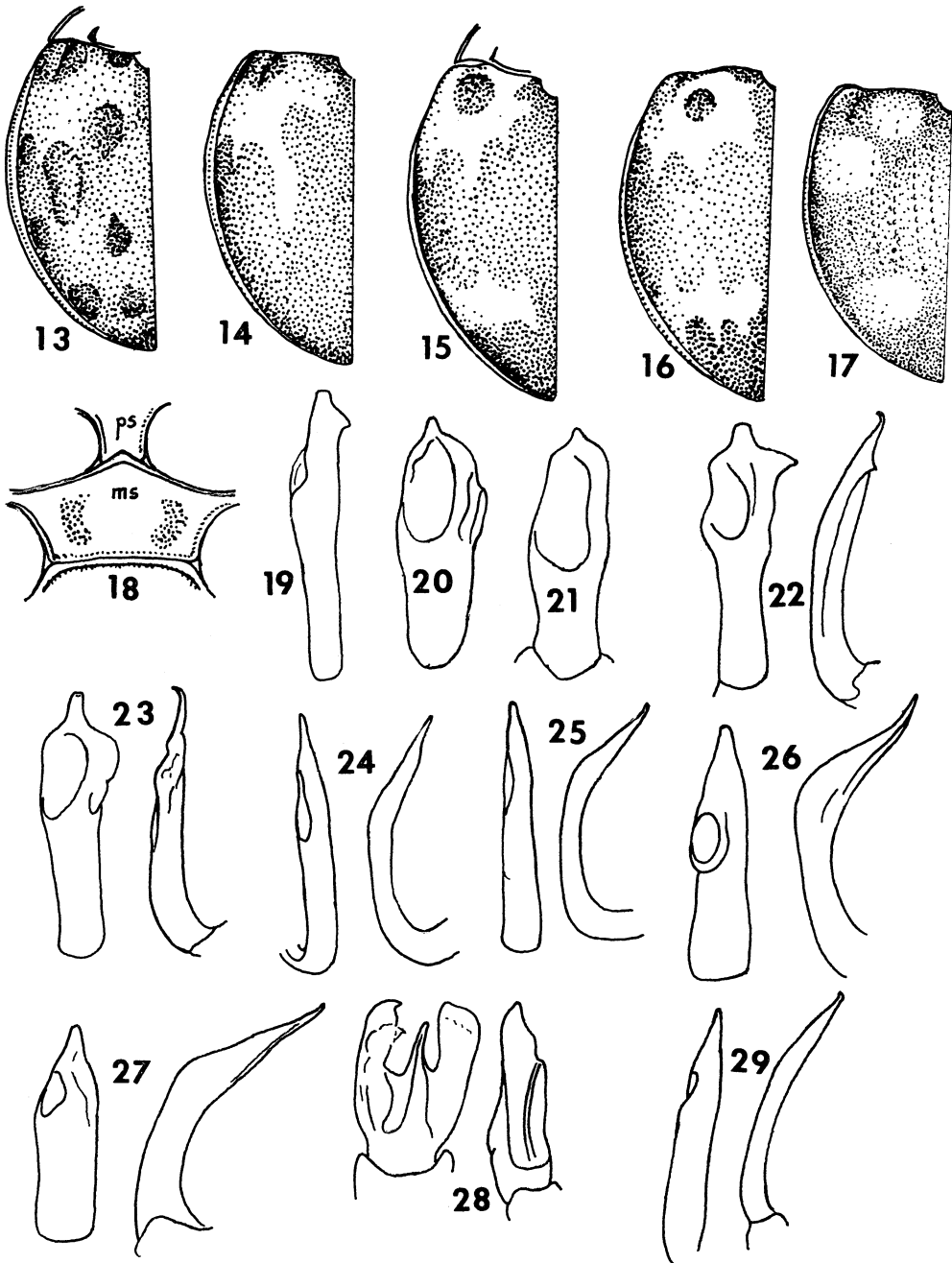


Fig. 13-29. Fig. 13-17 show color pattern of left elytron. Left member of numbered pairs and single fig. 19-21 show aedeagus in dorso-apical view; right member shows left side of aedeagus. 13, *Beccariola overbecki* (Gthr.); 14, *B. fulgurata* (Chûjô); 15, *B. cardoni* (Gor.); 16, *B. brevicornis* (Arr.); 17, *B. subdita* Strkr., n. sp.; 18, *B. ovata* (Arr.), pro- and mesosternum; 19, *B. papuensis* (Gor.).....Maffin Bay, N. Guinea; 20, *B. wallacei* (Gor.).....Wau, N. Guinea; 21, *B. petiginosa* Strkr., n. sp.....holotype; 22, *B. ovata* (Arr.).....monotype; 23, *B. suturalis* (Hllr.).....lectotype; 24, *B. ?coccinella* (Arr.).....Quop, Sarawak; 25, *B. bakeri* (Hllr.).....monotype; 26, *B. philippinica* (Arr.).....Sibuyan I., P. I.; 27, *B. sexmaculata* (Arr.).....lectotype; 28, *B. duodecimpunctata* (Arr.).....monotype; 29, *B. cruciata* (Arr.).....monotype.

Monotype ♀ (ISM) from Madagascar: Périnet, A. Robinson.

**Beccariola laeta** (Arrow)

\**Beccaria laeta* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 75.

*Beccariola laeta*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Nearly hemispherical in form, pronotum pale with median black area, elytra black with pale cross-bar behind shoulder, which reaches neither side margin nor suture, and a round pale spot on hind slope. Length 4.5 mm.

Close to *B. coccinella*, "but a little larger, with pronotum more finely and elytra more closely punctured".

Monotype ♀ (BMNH) from Sarawak: Quop, March, G. E. Bryant. Sarawak: Bau Distr., Pangkalan, Tebang, Sept., T. C. Maa (BISHOP).

SABAH: Singkor, Jan., Maa (BISHOP).

**Beccariola coccinella** (Arrow) Fig. 7, 24, 36.

\**Beccaria coccinella* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 74, pl. 1, fig. 10.

*Beccariola coccinella*: Strkr., 1953, *Gen. Insect.* **210**: 83.

Short-oval, black, front of pronotum broadly reddish and each elytron with 2 large red marks, one arciform across umbo, the other oval, pre-apical. Length 4 mm.

Lectotype ♂ (BMNH) from Perak, Doherty; this specimen has a "TYPE" label affixed by Arrow. Sarawak specimens (13) cited by Arrow are ♀♀ but a ♂ taken at Quop by C. J. Brooks differs in aedeagal structure from the lectotype. I suspect that these Sarawak specimens represent *B. laeta*.

**Beccariola bakeri** (Heller) Fig. 8, 25.

\**Beccaria bakeri* Heller, 1923, *Stett. Ent. Ztg.* **84**: 7.

*Beccariola bakeri*: Strkr., 1953, *Gen. Insect.* **210**: 83.

Short-oval, under surface, pronotum and antennal stalk rust red, elytra black, each with 2 orange cross-bands, front band turned basad at inner end, hind band turned caudad (described by Heller as 2 conjoined spots). Length 4 mm.

Monotype ♂ (DM) from Mt. Makiling, Luzon, Philippines, Baker.

**Beccariola cruciata** (Arrow) Fig. 12, 29.

\**Beccaria cruciata* Arr., 1923, *Trans. Ent. Soc. Lond.*: 488.

*Beccariola cruciata*: Strkr., 1953, *Gen. Insect.* **210**: 83.

Subhemispherical, pronotum orange-yellow, elytra black, each with 2 large pale areas, black areas of conjoined elytra appearing as a cross. Length 4-4.5 mm.

Monotype ♂ (BMNH) from Surigao, Mindanao, Philippines, C. F. Baker. I. Samar, Baker (USNM).

**Beccariola philippinica** (Arrow) Fig. 9, 26.

\**Beccaria philippinica* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 75.

*Beccaria septemguttata* Strkr., 1943, *Proc. US Nat. Mus.* **93**: 381, fig. 12, k. **New Synonymy.**

*Beccaria denticornis* Strkr., 1943, *op. cit.*: 382. **New Synonymy.**



*Beccariola philippinica*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Pronotum reddish with triangular black area at middle. Elytra black, each with 3 oval or rounded pale spots: basal, lateral near mid-length, pre-apical. The large oval spot covering middle of suture seems to be a teneral feature. Length 4-5 mm.

I have not dissected the types described by me (USNM 55878, 55879) but I feel confident, from study of a considerable series, of the synonymy. The differences cited between these 2 specimens are sexual.

Monotype ♀ (BMNH) from Philippines, H. Cuming.

PHILIPPINES: Mindanao: Surigao, Baker (BMNH, USNM); Butuan, Baker (BMNH); I. Samar, Baker (BMNH); Sibuyan I.

***Beccariola septemmaculata*** (Pic) Fig. 31.

\**Beccaria 7-maculata* Pic, 1932, *Mél. Exot.-Ent.* **59**: 26.

*Beccariola septem maculata*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Subhemispherical, black, each elytron with 3 round orange or yellow spots. A yellow patch covers the suture near mid-length. Pronotum with sides and front margin reddish. Very similar, except pale sutural area, to *B. sexmaculata* (Arr.) and possibly conspecific. Length 4 mm.

Lectotype ♀ (PM) from Malacca with Pic's "type" label. A ♂ with same locality data may be considered the allotype.

***Beccariola nigricollis*** (Pic)

\**Beccaria nigricollis* Pic, 1932, *Mél. Exot.-Ent.* **59**: 26.

*Beccariola nigricollis*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Subhemispherical, black, each elytron with 3 large orange spots: near scutellum, behind umbo, behind mid-length. Length 6 mm.

Lectotype ♀ (PM) from I. Sumbawa bears Pic's "type" label. Another ♀ from Sumbawa is presumably a paratype.

***Beccariola sexmaculata*** (Arrow) Fig. 10, 27.

\**Beccaria sex-maculata* Arrow, 1920, *Trans Ent. Soc. Lond.*: 73.

*Beccariola sex-maculata*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Hemispherical, black, front angles of pronotum broadly reddish, each elytron with 3 round red spots: near scutellum, lateral at mid-length, postmedian. Length 4.5 mm.

Lectotype ♂ (BMNH) from Perak bears museum "TYPE" label. Type series includes 2 specimens of undetermined sex from Perak and a ♀ from Mt. Merinjak, Sarawak.

SABAH (N. Borneo): Sapagaya Lumber Camp, Sandakan Bay, Nov., Gressitt (BISHOP).

***Beccariola overbecki*** (Guenther) Fig. 13, 32.

*Beccaria overbecki* Gthr., 1936, *Tijds. Ent.* **79**: 72, fig. 6.

*Beccariola overbecki*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Form typical of genus, pronotum yellow to rust-red, elytra yellowish, each with 9 or 10 rather small black spots and a narrow dark strip along suture. There is also a broad reddish band across middle of elytron. Study of a series indicates darkening of coloration with age, reducing prominence of dark spots and enhancing pale circumhumeral area; apex remains pale. Length 5 mm.

Holotype (DM) from Jogjakarta, Java, M. Overbeck. Paratypes (Deutsch. Ent. Inst.) from Karangandoel, K. Benner.

JAVA: G. Slamet, Apr., F. C. Drescher; Kadipaten, Mar., Drescher; Tjeriboo, Dec., Drescher (Bogor; Strkr.).

**Beccariola fulgurata** (Chûjô) Fig. 14, 33.

*Beccaria fulgurata* Chûjô, 1938, *Trans. Nat. Hist. Soc. Formosa* 28: 399; 1939, *Fauna Nippon*, 10, 8 (12): 99, fig. 54.

*Beccariola fulgurata*: Strkr., 1953, *Gen. Insect.* 210: 84.

Short-oval, black or brownish black, each elytron with a broad yellow lunule extending from base to side margin, leaving umbo dark. Hind margin of lunule emits 3 rays, of which the middle one is long and digitiform, extending caudad beyond elytral middle. Length 4-4.5 mm.

Monotype (Taiwan Agr. Res. Inst.) from Yamato, Karenkô-Chô, Taiwan, M. Yanagihara.

TAIWAN: Mt. Hoozan, H. Sauter.

**Beccariola brevicornis** (Arrow) Fig. 16, 34, 51.

\**Beccaria brevicornis* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 333.

*Beccariola brevicornis*: Strkr., 1953, *Gen. Insect.* 210: 83.

Oval, more elongate than usual in genus, black, each elytron with 2 large yellow areas, the anterior covering most of base, tridentate behind and enclosing a dark spot near umbo, the posterior with front and hind margins tridentate. Length 6 mm.

Lectotype ♀ (BMNH) from Houei Sai, Upper Mekong R., Laos, R. Vitalis. Arrow cites another specimen from Houei Sai but not its depot. Tonkin: Hoa-Binh, A. de Cooman (BMNH). My drawings were made from the ♂ of a pair from Hoa-Binh, which conform closely to the lectotype.

**Beccariola longicornis** (Arrow) Fig. 52.

\**Beccaria longicornis* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 333.

*Beccariola longicornis*: Strkr., 1953, *Gen. Insect.* 210: 84.

Subhemispherical, black, front angles of pronotum reddish, each elytron with 2 large dentate pale bands much as in *B. brevicornis* but more narrowly separated at suture and with dark spot in front band close to base and scutellum. Length 5 mm.

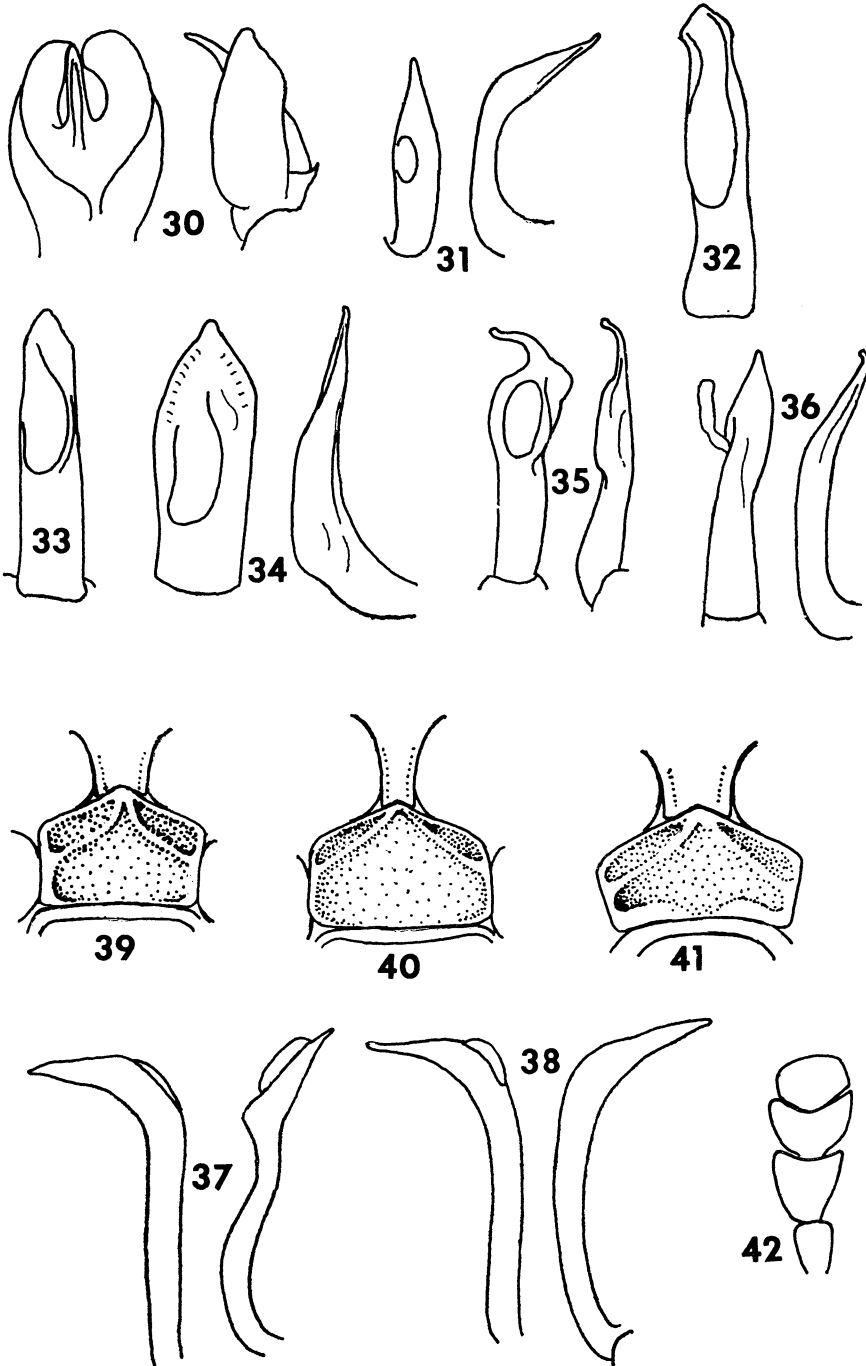
Monotype ♀ (BMNH) from Houei Sai, Upper Mekong R., Laos, R. Vitalis.

**Beccariola cardoni** (Gorham) Fig. 15, 35.

*Beccaria cardoni* Gor., 1897, *Proc. Zool. Soc. Lond.*: 464, pl. 52, fig. 8.—Arrow, 1925, *Fauna Br.*

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Fig. 30-42. Left member of numbered pairs and single fig. 32, 33 show dorso-apical view of aedeagus; right member shows left side of aedeagus: 30, *Beccariola octomaculata* (Pic).....monotype; 31, *B. septemmaculata* (Pic).....allotype; 32, *B. overbecki* (Gthr.).....Tjeribon, Java; 33, *B. fulgurata* (Chûjô).....Mt. Hoozan, Taiwan; 34, *B. brevicornis* (Arr.).....Hoa-binh, Tonkin; 35, *B. cardoni* (Gor.).....Mysore, India; 36, *B. coccinella* (Arr.).....lectotype; 37, *Dryadites concolor* (Arr.).....co-type; 38, *D. rudepunctatus* (Gor.).....Sumparbum, Burma; 39, *D. vitalis* Arr., pro- and mesosternum; 40, *D. concolor* (Arr.), pro- and mesosternum; 41, *D. rudepunctatus* (Gor.), pro- and mesosternum; 42, *D. vitalisi* Arr., antennal club.



*India, Erotyl.*: 346.

*Beccariola cardoni*: Strkr., 1953, *Gen. Insect.* **210**: 83.

Deep black, elytra cordiform, each with 2 multidentate orange bands, the anterior enclosing a dark spot near umbo, the posterior pre-apical, transverse. Length 6-7 mm.

Monotype (PM) from Barway, Bengal, Père Cardon.

INDIA: Mysore: Coorg Sanivarsandai (BMNH); Orissa: Serango, Ganjan Distr., 900 m, June, R. B. Lane (CAS).

My drawings were made from Sanivarsandai material determined by Arrow, who studied the monotype and presumably compared this material with it.

***Beccariola duodecimpunctata*** (Arrow) Fig. 11, 28.

\**Beccaria 12-punctata* Arrow, 1923, *Trans. Ent. Soc. Lond.*: 487.

*Beccariola duodecimpunctata*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Subhemispherical, black, front angles of pronotum reddish, each elytron with 5 round red spots. Antennae notably short, club about as long as articles 2-8 combined. Length 5.5 mm.

Monotype ♂ (BMNH) from Borneo, A. C. Haddon.

SARAWAK: ft. of Mt. Dulit, B. M. Hobby-A. W. Moore (BMNH). MALAYA: Pahang nr. Karak, Chintamani (BMNH). Sarawak specimen is ♀, Malayan specimen not in condition to dissect. This species and the next differ markedly from others in form of aedeagus but otherwise conform in generic features.

***Beccariola octomaculata*** (Pic) Fig. 30.

\**Beccaria 8-maculata* Pic, 1932, *Mél. Exot.-Ent.* **59**: 26.

*Beccariola octomaculata*: Strkr., 1953, *Gen. Insect.* **210**: 84.

Short-oval, somewhat cordiform, black, front angles of pronotum reddish, each elytron with 4 round red spots, 1 basal, 2 in transverse line near mid-length, 1 pre-apical. Antennae short, club equal to preceding 6 articles combined. Length 6 mm.

Monotype ♂ (PM) from Nias I. Compared by Pic to *B. wallacei* but related rather to *B. duodecimpunctata*.

#### Genus **Dryadites** Frivaldzsky

*Dryadites* Friv., 1883, *Terméz. Füzetek* **6**: 128 (Type: *D. borneensis* Friv.).

The type species and closely related forms have a coccinelloid habitus but are longer and less convex than typical *Beccariola*. Front edge of pronotum with a small membranous extension at middle. Mandible with apex produced and sharp and with large internal tooth. Labium and maxilla much as in *Beccariola*, last article of maxillary palp subulate, of labial palp transverse. Intercoxal process of prosternum v-excised to receive front angle of mesosternum, which is broadly pentagonal with a pair of oblique ridges convergent to front angle; these ridges apparently represent the primitive front edges of the mesosternum as seen in *Beccariola*.

On the basis of sternal and aedeagal features I have transferred to this genus *Brachytrycherus concolor* Arrow and *Amphisternus rudepunctatus* Gorham, the latter placed by Arrow under *Brachytrycherus*.

## KEY TO SPECIES OF DRYADITES

1. Pronotum and elytra with red or yellow areas..... 2  
 Entirely black above and below ..... 6
- 2 (1). Elytra without distinct rows of punctures ..... **grandis**  
 Elytra with distinct rows of punctures ..... 3
- 3 (2). Pale area covering most of elytron ..... 4  
 Pale area about 1/2 elytral length ..... 5
- 4 (3). Smaller, 5 mm (Borneo) ..... **latipennis**  
 Larger, 7 mm (Indochina)..... **vitalisi**
- 5 (3). Elytra purple with round red area behind middle ..... **purpureus**  
 Elytra black, red area extends in front of middle ..... **borneensis**
- 6 (1). Elytra very shining, punctures small ..... **concolor**  
 Elytra dull, punctures very large ..... **rudepunctatus**

**Dryadites borneensis** Frivaldzsky Fig. 44, 45.

\**Dryadites borneensis* Friv., 1883, *Termész. Füzetek* 6: 130, pl. 1, fig. 3, pl. 2, fig. 4-9.—Strkr., 1953, *Gen. Insect.* 210: 85, pl. 4, fig. 38.

*Mycetina erubescens* Gorh., 1901, *Stett. Ent. Ztg.* 62: 204.—Arrow, 1923, *Trans. Ent. Soc. Lond.*: 485.

Pronotum red with triangular black area. Elytron with basal and apical 1/4 black, middle occupied by red patch which almost reaches side margin and suture. Length 5-6 mm.

Lectotype ♂ (MNM) from Mt. Matang, Sarawak has "holotype" label (Csiki?). (Type series includes 3♀♀ from Mt. Matang, Xantus).

SARAWAK: Mt. Matang, G. E. Bryant (BMNH); Mt. Poi (CAS). SABAH; Pontianak (Strkr.); Sandakan Bay, Gressitt (BISHOP). SUMATRA: Siboga; Si Rambe, Dec., E. Modigliani (Strkr. ex Janson). Singapore, Biro (MNM).

**Dryadites purpureus** Arrow

\**Dryadites purpureus* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 25.

Elytra deep purple, each with large red patch on posterior 1/2. Pronotum narrower, front angles blunter than in *borneensis*. Antennae shorter, club narrow, parallel, its 3rd joint less elongate, according to Arrow. I am inclined to consider this name a synonym of *borneensis*.

Monotype ♀ (BMNH) from W. Sarawak: Quop, G. E. Bryant.

**Dryadites latipennis** Arrow Fig. 43.

\**Dryadites latipennis* Arrow, 1920, *Trans. Ent. Soc. Lond.*: 24.

"---closely similar to *D. borneensis* Friv.---but red patches cover the greater part of the surface of the elytra, whose outline they follow---. The insect is much broader and more hemispherical, and the elytra have rather wide flattened margins. The club of antennae is much smaller---." More evidence than is furnished by the type series is needed to establish the validity of *latipennis*.

Lectotype ♀ (BMNH) with "TYPE" label, and 2♀ syntypes from Mt. Matang, W. Sarawak, G. E. Bryant.

**Dryadites vitalisi** Arrow Fig. 39, 42, 48, 49.

\**Dryadites vitalisi* Arrow, 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 330.

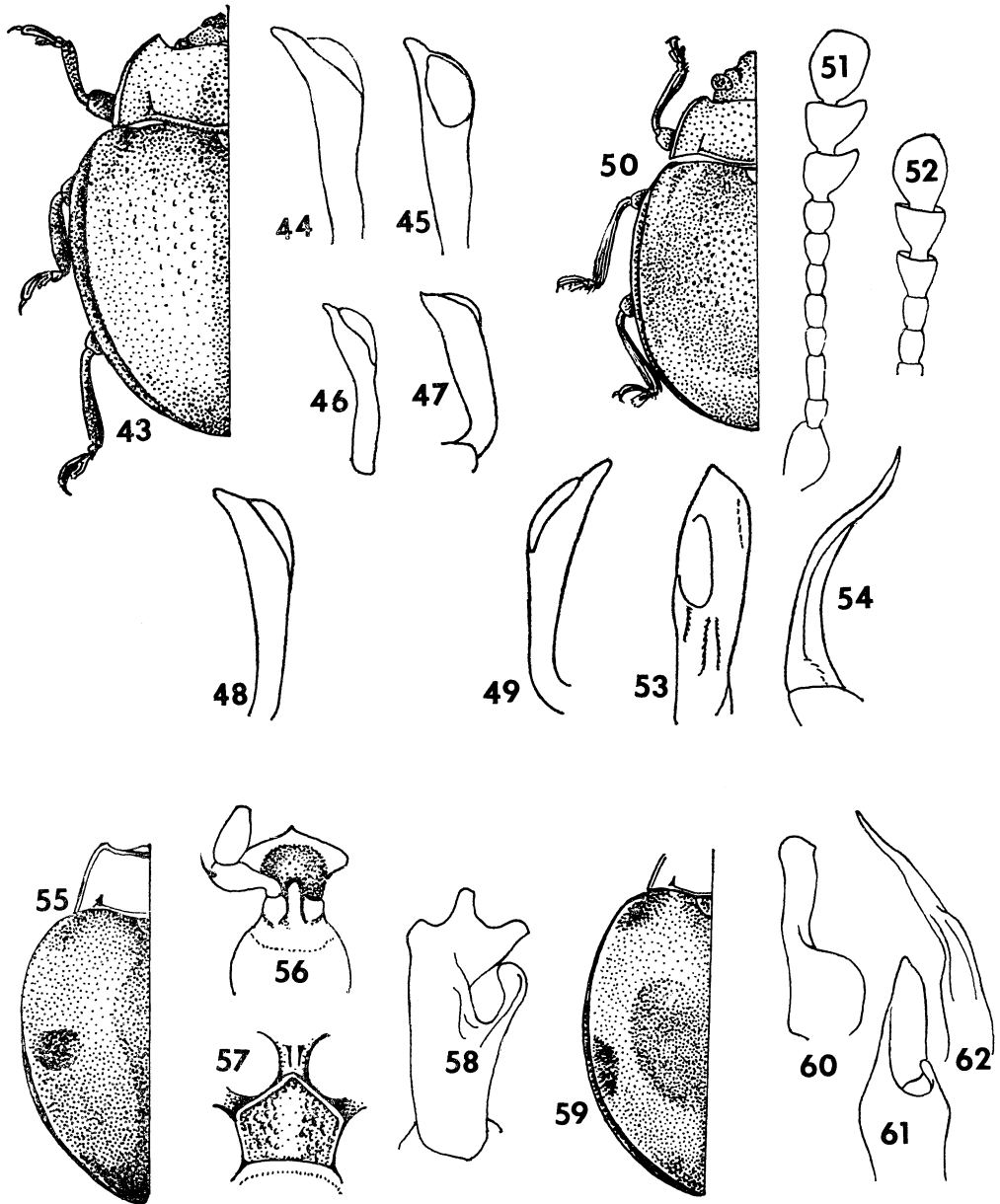


Fig. 43-62. 43, *Dryadites latipennis* Arr.....co-type; 44-45, *D. borneensis* Friv., aedeagus.....lectotype; 46-47, *D. grandis* (Pic), aedeagus.....monotype; 48-49, *D. vitalisi* Arr., aedeagus.....lectotype; 50, *Beccariola macra* Strkr.....monotype; 51, *B. brevicornis* (Arr.), antennal club.....Hoa-binh; 52, *B. longicornis* (Arr.), antennal club.....monotype; 53-54, *B. subdita* Strkr., aedeagus.....monotype; 55, *Cymbachus pulchellus* Grstkr.....Tjibodas, Java; 56, *ibid.*, labium; 57, *ibid.*, pro- and mesosternum; 58, *ibid.*, aedeagus; 59, *C. formosus* Gor.....Mishmi Hills, Burma; 60, *ibid.*, aedeagus; 61-62, *C. spilotus* Arr., aedeagus.....monotype.

Looks like a large specimen of *D. borneensis*; red area of elytron reaching almost to base, somewhat pointed behind, suture very narrowly black. Length 7 mm.

Lectotype ♂ and allotype ♀ (BMNH) from Laos: Luang Prabang, Don Khoua, Nov., R. Vitalis; Ban Van Eue, Vientiane Prov., July (BISHOP).

**Dryadites grandis** (Pic) Fig. 46, 47.

\**Mycetina grandis* Pic, 1930, *Mél. Exot.-Ent.* 56: 10.

*Dryadites grandis*: Strkr., 1953, *Gen. Insect.* 210: 85.

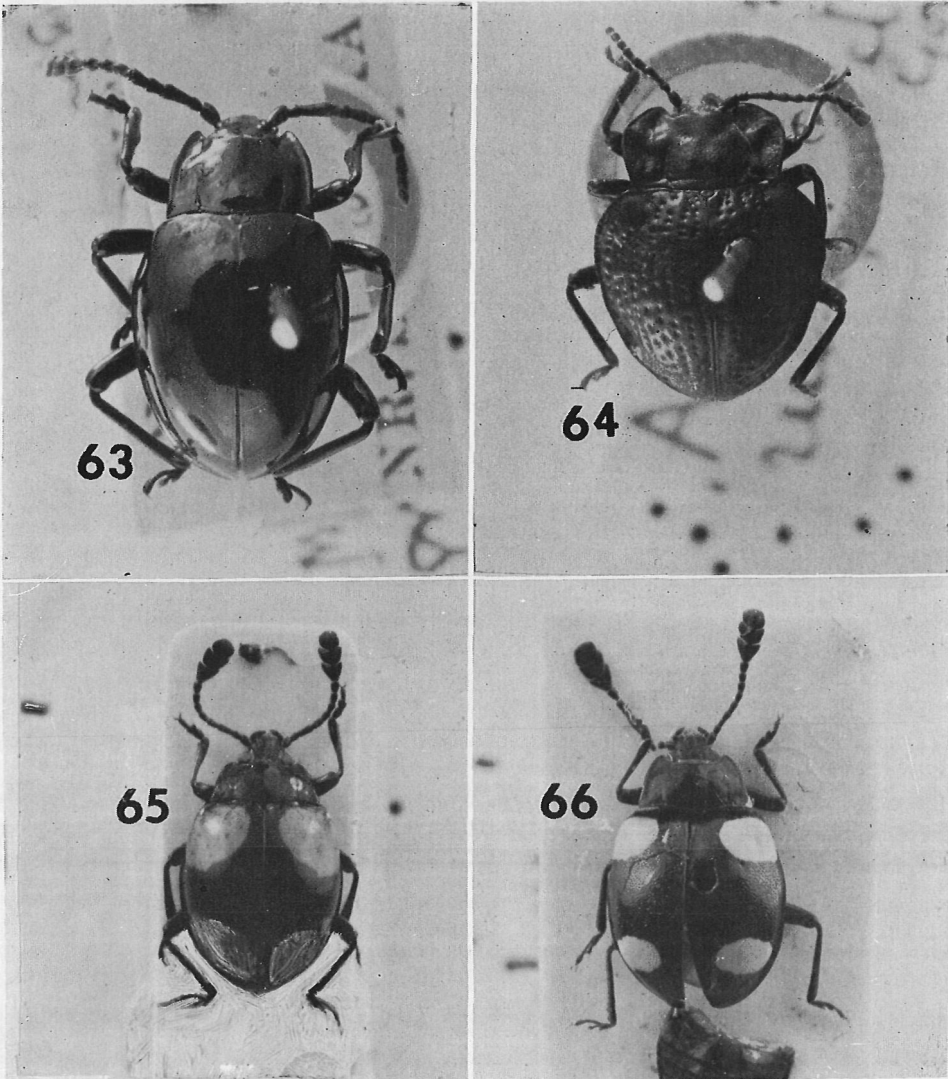


Fig. 63-66. 63, *Dryadites concolor* (Arr.).....lectotype; 64, *D. rudepunctatus* (Gor.)..... monotype; 65, *Cymbachus elegans* Arr.....monotype; 66, *C. spilotus* Arr.....monotype.

Pronotum red with central black area. Elytron black with very large red patch of vague boundaries. In appearance much like *borneensis* but red area of elytron more extensive and seriate punctures indistinct. Length 5.5 mm.

Monotype ♂ (PM) from Java. Java (Bogor).

**Dryadites concolor** (Arrow) Fig. 37, 40, 63.

\**Brachytrycherus concolor* Arrow, 1937, *Ann. Mag. Nat. Hist.* ser. 10, 20: 109.

Long-oval in outline, strongly convex and shining, entirely black. Protibia of ♂ with internal flange forming a very blunt tooth. Length 9 mm.

This is, as Arrow said, an isolated species but seems most comparable to the typical species of *Dryadites*. Elytra were described as impunctate but rows of minute punctures may be seen.

Lectotype ♂ (BMNH) with "TYPE" label, N. Borneo: Bettotan nr. Sandakan, Aug., H. M. Pendlebury. Type series includes 2 additional ♂♂ and 5♀♀ (BMNH).

**Dryadites rufepunctatus** (Gorham), n. comb. Fig. 38, 41, 64.

\**Amphisternus rufepunctatus* Gorh., 1897, *Proc. Zool. Soc. Lond.*: 457.

*Brachytrycherus rufepunctatus*: Arr., 1925, *Fauna Br. India, Erotyl.*: 293.

Form short, broad, deep dull black. Pronotum very wide, its surface uneven, sides much rounded to front angles. Elytra short-cordiform, strongly convex, with rows of crater-like punctures. Inner wings absent. Length 8 mm.

Another isolated species but assignment to *Dryadites* seems better than combinations used by Gorham and Arrow.

Monotype ♀ (BMNH) from Assam: Patkai Hills, Doherty.

BURMA: Putao Distr., Sumparbum, June, Mrs B. Fischer (BMNH).

#### Genus *Cymbachus* Gerstaecker

*Cymbachus* Grstkr., 1857, *Archiv Naturg.* 23: 233 (Type-species: *C. pulchellus* Grstkr.); 1858, *Mon. Endom.*: 140.—Arr., 1925, *Fauna Br. India, Erotyl.*: 280—Mader, 1938, *Ent. Nachr.* 12: 40.—Strkr., 1953, *Gen. Insect.* 210: 89.

Some generic features of sterna and labium are shown in illustrations. Form short-oval, elytra gibbous or subgibbous. Pronotum continuously narrowed from base to the rather sharp front angles, its sides almost straight, front margin with large membranous extension.

Of the 11 specific names listed under *Cymbachus* by me in 1953 only 4 are retained here. *Engonius laticollis* Achard, there referred to *Cymbachus*, I have placed in *Ohtaius* (*Pacif. Ins.* 6: 326). The other 6 species form a group for which a new generic name will be proposed.

#### KEY TO SPECIES OF CYMBACHUS

1. Elytron with 2 rounded yellow patches ..... 2  
Elytron not so marked ..... 3
2. Elytral spots small, widely separated ..... **spilotus**  
Spots large, intervals less than spot width ..... **elegans**
3. Elytra mostly ivory yellow (Java) ..... **pulchellus**  
Elytra dark blue with yellow fascia (Burma) ..... **formosus**



**Cymbachus pulchellus** Gerstaecker Fig. 55-58.

\**Cymbachus pulchellus* Grstrkr., 1857, *Archiv Naturg.* 23: 234; 1858, *Mon. Endom.*: 142, pl. 1, fig. 30, pl. 2, fig. 7.

Pronotum black, elytra pale yellow with base, suture, apex and a small lateral spot black, shoulders rounded, subcarinate. In ♂ front trochanter is briefly dentate, metasternum narrowly and sternite 1 broadly grooved. Length 6-7 mm.

The pattern of this insect is apparently mimicked by the aberrantly colored, sympatric *Eumorphus bipunctatus*.

Lectotype ♂ (HUM 21757) from Java. Tjibodas, Java, 1200 m, L. Cheesman (BMNH). Other specimens from Java in HUM and BMNH.

**Cymbachus formosus** Gorham Fig. 59, 60.

\**Cymbachus formosus* Gorh., 1897, *Proc. Zool. Soc. Lond.*: 460, pl. 32, fig. 1.—Arr., 1925, *Fauna Br. India, Erotyl.*: 281.

Pronotum steel-blue. Elytra blue with large C-shaped yellow mark on left elytron; this reversed on right. Length 5.5-6.5 mm.

Colors and pattern of this insect and of *Bolbomorphus theryi* Gor., which occurs in Yunnan, are much alike. The 2 species are not known to occur together but their ranges probably overlap.

Monotype ♀ (BMNH) from Ruby Mines, Burma, Doherty.

NE BURMA: Kambaiti, 2100 m, R. Malaise; Chipra, Mishmi Hills, 1455 m, M. Steele (BMNH).

**Cymbachus elegans** Arrow Fig. 65.

\**Cymbachus elegans* Arr., 1920, *Ann. Mag. Nat. Hist.* ser. 9, 5: 329; 1928, *Faune Col. Franc.* 2: 352.—Strkr. & Chûjô, 1964, *Nature & Life SE Asia* 3: 229, fig. 18, 19.

Black, each elytron with 2 large pale yellow patches, dark intervals narrower than width of

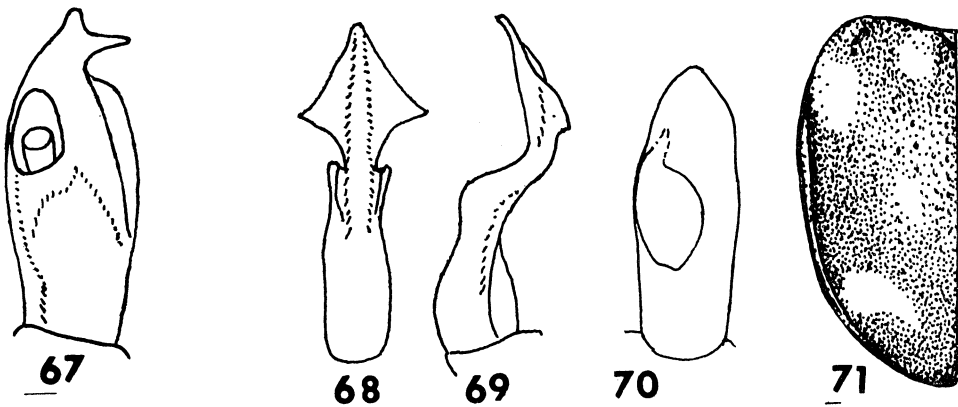


Fig. 67-71. 67, *Beccariola major* Strkr, n. sp., aedeagus, dorsal view.....holotype; 68-69, *B. confusa* Strkr., n. sp., aedeagus in dorsal and left side view.....monotype; 70, *B. selene* Strkr., n. sp., aedeagus, dorsal view.....holotype; 71, *ibid.*, elytral pattern.

pale areas. Length 6-7 mm.

Monotype ♂ (BMNH) from Laos: Nam Long, Upper Mekong R., R. Vitalis.

THAILAND: Doi Inthanon, K. Yoshikawa (Chûjô).

**Cymbachus spilotus** Arrow      Fig. 61, 62, 66.

\**Cymbachus spilotus* Arr., 1925, *Fauna Br. India, Erotyl.*: 281, pl. 1, fig. 1.

Very similar to *C. elegans* in structure, including aedeagus, but with pale elytral spots much smaller. Differences may be of racial rather than specific worth. Length 7 mm.

Monotype ♂ (BMNH) from Sikkim: Gopaldhara, H. Stevens.