

Copera annulata RIS, 1927, Zool. Meded. 10 : 17 (♂ ♀ W. Sumatra); LIEFTINCK, 1954, Treubia, 14 : 393 (♂ ♀ W. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 8 (S. Sumatra).

Range. — Malaya.

Sumatra.

Java (extreme west).

Habitat. — Tiny water-courses flowing through weedy ponds, lakes and marshes, especially in low exposed country, though occasionally found as high as 600 m. Widely distributed in Sumatra, but in Java confined to virgin forest swamps (Rawa Danu).

Copera imbricata (SELYS)

Psilocnemis imbricata SELYS, 1863, Bull. Acad. Belg. (2) 16 : 171-172. — ♂ W. Sumatra.

Psilocnemis lobimargo KRÜGER, 1898, Stett. ent. Ztg. 59 : 106-107 (♂ ♀ central N. E. Sumatra); FÖRSTER in LAIDLAW, 1907, Fasc. Malayenses, Zool. 4, Odon. 2 : 7 (note).

Copera lobimargo RIS, 1927, Zool. Meded. 10 : 17-19 (♂ ♀ central W. Sumatra), fig. 9 (♀ proth., Sumatra).

Copera acutimargo & *lobimargo* LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 8 (no. 35 pars. & no. 37) (S. Sumatra).

Copera imbricata LIEFTINCK, 1940, Treubia, 17 : 289-290 (key), 304-306, fig. 1 f-g (♂ tibia post.), pl. 10, fig. 6-9 (♂ ♀ head & thor.), pl. 11, fig. 2 & 9 (♂ abd.), pl. 12, fig. 10 (♀ abd.), pl. 13, fig. 3 & 8 (♂ app.), pl. 14, fig. 8 (♀ proth.) (♂ ♀ W. Sumatra).

Range. — Sumatra (west).

Habitat. — Brooks and small streams in the jungle, 50-600 m, in N. E. Sumatra also in company with *vittata acutimargo*.

Copera marginipes (RAMBUR)

Platycnemis marginipes RAMBUR, 1842, Hist. nat. Ins. Névropt.: 240. — ♂ Java.

Psilocnemis marginipes SELYS, 1863, Bull. Acad. Belg. (2) 16 : 168-169 (♂ Java, Malaya); SELYS, 1886, Mém. cour. Acad. Belg. 38 (4) : 123-124² (Java, Malaya).

Psilocnemis striatipes SELYS, 1863, Bull. Acad. Belg. (2) 16 : 169-170 (♀ Java).

Copera marginipes LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 385 (Kuala Aring);

LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 230 (♀ Siberut, ♀ Sipora); RIS, 1927, Zool. Meded. 10 : 17-18, fig. 8 (♀ proth., Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 192 (Malaya; Singapore); FRASER, 1932, Mém. Mus. Roy.

Hist. nat. Belg. (hors série) 4 : 7-9, fig. 2 (♂ heads, Sumatra); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 335-336 (Java, Sumatra), fig. 30 a (♂ thor.); LIEFTINCK, 1934, Treubia, 14 : 393 (Java); MULLER, 1937, De Trop. Natuur, 26²:

95-98, fig. 1-7 (photogr. insects, *per coll.* & ovip.)¹⁾; LIEFTINCK, 1940, Treubia,

¹⁾ Attempts at oviposition in crevices of table-board, misled by the reflecting surface of polished laboratory objects.

17 : 302-303, fig. 3 & 5 (larva & larval struct., Java); LIEFTINCK, 1948, *ibid.*
 19 : 284 (Sumatra, Mentawai, Java, Borneo); LIEFTINCK, 1953, *Idea*, 9 : 53
 (Panaitan); LIEFTINCK, 1953, *Verh. Naturf. Ges. Basel*, 64 : 127, 154 (Bali, notes
 distrib.).

• Range. — Siam; Malaya.

• Siberut & Sipora (Mentawai Is.); Sumatra.

• Panaitan; Java; Kangean; Bali.

• Borneo.

Habitat. — Slow flowing streams, runnels in marshes, shady ponds,
 &c.; from near sea-level up to about 900 m and also common in
 cultivated areas.

Copera vittata acutimargo (KRÜGER)

• *Psilocnemis acutimargo* KRÜGER, 1898, *Stett. ent. Ztg.* 59 : 105-106. — ♂ ♀ N.E.
 Sumatra.

• *Copera acutimargo* RIS, 1915, *Tijdschr. Ent.* 58 : 7 (♂ P. Babi; ♂ ♀ Simalur), fig.

• 1-2 (♀ proth.); RIS, 1927, *Zool. Meded.* 10 : 18 (♂ ♀ key & notes, Simalur);
 LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 8, no. 35 (*pars*, Sumatra).

• *Copera vittata acutimargo* LIEFTINCK, 1940, *Treubia*, 17 : 290-291 (key), 297-298
 (♂ ♀ Sumatra; ♀ Simalur) pl. 10, fig. 10 (♀ head & thor., Simalur), pl. 12,
 fig. 2 (♀ abd., Simalur), pl. 14, fig. 3 (♀ proth., Sumatra); LIEFTINCK, 1948,
Treubia, 19 : 284 (Sumatra & Simalur).

• Range. — Simalur & P. Babi; Sumatra (north).

Habitat. — Shady streams in low country.

Copera vittata javana LIEFTINCK

• *Copera vittata javana* LIEFTINCK, 1940, *Treubia*, 17 : 292 (key), 293-299 (♂ ♀ imago),
 300-303 (larva), fig. 1c (♂ tibia post.), fig. 2-4 (larva & larval struct.), pl. 10,
 fig. 23-25 (♂ ♀ head & thor.), pl. 11, fig. 3 (♂ abd.), pl. 12, fig. 3-4 (♀ abd.),
 pl. 13, fig. 4 (♂ app.), pl. 14, fig. 4 (♀ proth.) — ♂ ♀ Java.

• Range. — Java (west).

Habitat. — Confined to small streams and marshy spots in dense
 primitive forest at low elevation.

Copera vittata vittata (SELYS)

• *Psilocnemis vittata* SELYS, 1863, *Bull. Acad. Belg.* (2) 16 : 170. — ♂ Malaya.

• *Psilocnemis vittata* SELYS, 1886, *Mém. cour. Acad. Belg.* 38 (4) : 121-122 (♂ Ma-
 laya).

• *Psilocnemis atomaria* SELYS, 1886, *Mém. cour. Acad. Belg.* 38 (4) : 122-123 (♂ ♀
 Labuan, Borneo).

• *Copera atomaria* LAIDLAW, 1902, *Proc. Zool. Soc. London*, 2 : 386 (♂ ♀ Malaya);
 FÖRSTER in LAIDLAW, 1907, *Fasc. Malayenses, Zool.* 4, *Odön.* 2 : 7 ('races' dis-

cussed); LAIDLAW, 1917, *Rec. Ind. Mus.* 13 : 338 (♂ Borneo); LAIDLAW, 1920, *Proc. Zool. Soc. London* : 334, fig. 3 (♀ proth., ♂♀ Sarawak); KIMMINS, 1936, *J. Fed. Mal. States Mus.* 18 : 88 (♂♀ Sarawak)?

Copera acutimargo SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 336, fig. 30 b-c (♂ thor., ♂♀ C. Sumatra); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 8 (*pars*, Sumatra).

Copera vittata vittata LIEFTINCK, 1940, *Treubia*, 17 : 291 (key), 295-297 (Malaya, Sumatra, Billiton, Borneo, Banguay), fig. 1 d (♂ tibia post.), pl. 10, fig. 11-19 (head & thor., ♂♀ Malaya & Borneo), pl. 11, fig. 4-7 (♂ abd., Malaya & Borneo), pl. 12, fig. 5-8 (♀ abd., Borneo), pl. 13, fig. 5-6 (♂ app., Malaya & Borneo), pl. 14, fig. 5-6 (♀ proth., Borneo).

Range. — Siam; Malaya.

Sumatra (east); Billiton.

Borneo; Banguay.

Habitat. — Brooks and streams in swampy forest of the lowlands.

Family COENAGRIIDAE (AGRIONIDAE auct.)

Subfamily ARGINAE

Genus ONYCHARGIA SELYS

Onychargia SELYS, 1865, *Bull. Acad. Belg.* (2) 20 : 416.

(Genotype: *Onychargia atrocyana* SELYS, ♂ Malaya)

Onychargia atrocyana SELYS

Onychargia atrocyana SELYS, 1865, *Bull. Acad. Belg.* (2) 20 : 416. — ♂ Malaya.

Onychargia atrocyana SELYS, 1889, *Ann. Mus. civ. Genova*, 27 : 481 (Sumatra); KARSCH, 1900, *Abh. Senckenb. naturf. Ges.* 25 : 212 (Borneo); CALVERT in HAGEN, 1902, *Bull. Mus. Comp. Zool. Harv. Coll.* 39 : 117, pl. 2, fig. 24 a-b (♂ app.); LAIDLAW, 1920, *Proc. Zool. Soc. London* : 335 (Borneo); LAIDLAW, 1926, *J. Mal. Br. R. Asiatic Soc.* 4 : 232 (Siberut); RIS, 1927, *Zool. Meded.* 10 : 21 (Sumatra); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 197 (Selangor); LAIDLAW, 1934, *ibid.* 17 : 553 (Kedah Peak); LIEFTINCK, 1934, *Treubia*, 14 : 393-394 (Java, notes); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 9-10 (S. Sumatra); FRASER, 1942, *Proc. R. Ent. Soc. London (B)* 11 : 98 (Malaya); LIEFTINCK, 1948, *Treubia*, 19 : 284 (Mentawai, Sumatra, Java, Borneo); LIEFTINCK, 1953, *Idea*, 9 : 54 (Panaitan).

Range. — Siam; Malaya.

Siberut (Mentawai Is.); Sumatra; Bangka; Billiton.

Panaitan; Java.

Borneo.

Habitat. — Leaf-bottomed ponds and marshes in forested areas, usually in low country, but in the Malay States also collected at 1100-1250 m. A very local species with arboricolous habits.

Subfamily COENAGRIINAE

Genus **CERIAGRION** SELYS

Ceriagrion SELYS, 1876, Bull. Acad. Belg. (2) 42 : 525-526.

(Genotype: *Agrion cerinorubellum* BRAUER, ♂ Ceylon)

***Ceriagrion annulosum* LIEFTINCK**

Ceriagrion annulosum LIEFTINCK, 1934, Stylops, 3 : 11-12, fig. 4 (♂ app.) — ♂ W. Java.

Ceriagrion annulosum LIEFTINCK, 1934, Treubia, 14 : 394 (Java, Sumatra, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (♂ S. Sumatra).

Range. — Sumatra (south).

Java.

Habitat. — Weedy runnels and small brooks meandering through marshes in dense, primitive forest. Occurs from near sea-level up to about 900 m.

***Ceriagrion bellona* LAIDLAW**

Ceriagrion bellona LAIDLAW, 1915, Sarawak Mus. Journ. 2 : 274. — ♂ Sarawak (N. W. Borneo).

Ceriagrion bellona LAIDLAW, 1920, Proc. Zool. Soc. London : 335 (♂ Borneo); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551, 560-561, fig. 4 (♂ app., N. Borneo).

Range. — Borneo (northwest and north).

Habitat. — Probably restricted to mountainous regions. Hitherto only known from Mt. Kinabalu (1000 m), and from Mt. Matang in Sarawak.

***Ceriagrion calamineum* LIEFTINCK**

Ceriagrion calamineum LIEFTINCK, 1951, Treubia, 21 : 185-186 (♂♀ key), 189-193, fig. 2 (♂ app., S. Java). — ♂♀ Penang; ♂♀ Sumatra; ♂♀ Java (*terr. typ.*); ♂♀ Kangean.

Ceriagrion coromandelianum LIEFTINCK, 1934, Treubia, 14 : 394-395 (♂♀ Java); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 353, fig. 53 (♂ app., E. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (♂ S. Sumatra).

Range. — Penang.

Sumatra.

Java; Kangean.

Habitat. — Ponds, lakes and marshes, chiefly in low country. Found also here and there at higher altitudes in suitable places, up to 1700 m. Sometimes occurring gregariously in countless numbers, often far away from water.

Ceriagrion cerinorubellum (BRAUER)

Agrion (Pyrrhosoma) cerinorubellum BRAUER, 1866, Novara Exped., Zool. 1, Neur.: 59, pl. 1, fig. 10 (♂ app.) — ♂ Ceylon.

Ceriagrion cerinorubellum SELYS, 1876, Bull. Acad. Belg. (2) 42 : 526-527 (♂ ♀ Malaya; Labuan, Borneo); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 481 (Nfas); KARSCH, 1891, Entom. Nachr. 17 : 243 (♀ Sumatra); KRÜGER, 1898, Stett. ent. Ztg. 59 : 119-120 (♂ Penang); RIS, 1913, Abh. Senckenb. naturf. Ges. 34 : 519 (Key, Malaya, Sumatra, Borneo); RIS, 1915, Tijdschr. Ent. 58 : 13 (Simalur); LAIDLAW, 1926, J. Mal. Bf. R. Asiatic Soc. 4 : 231 (♂ Siberut, notes); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 200 (♂ Singapore, note); FRASER, 1932, Mém. Mus. Roy. Hist. nat. Belg. (hors série) 4 : 9-10 (♂ Borneo); LAIDLAW, 1933, Bull. Raffles Mus. 7 : 101 (♂ ♀ S. Natuna); LIEFTINCK, 1934, Treubia, 14 : 394 (Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (S. Sumatra, Riouw Arch.); LIEFTINCK, 1948, Treubia, 19 : 285 (distrib.).

Range. — Siam; Penang; Malaya.

Simalur; Nias; Siberut (Mentawai Is.); Sumatra; Durian, (Riouw Arch.); Bangka; Billiton.

Java (west).

Natuna; Karimata; Borneo.

Habitat. — Found in similar situations to *annulosum*, but is a much commoner insect and has a wide distribution outside Malaysia. In Java it is very rare, only a single locality being known.

Ceriagrion hoogerwerfi LIEFTINCK

Ceriagrion hoogerwerfi LIEFTINCK, 1940, Treubia, 17 : 360-361, fig. 14 (♂ app.) — ♂ N. Sumatra.

? *Ceriagrion melanurum* KRÜGER, 1898, Stett. ent. Ztg. 59 : 120 (♂ N. E. Sumatra).

Range. — Sumatra (north and southwest).

Habitat. — Forest-marshes and lakes in the mountains, 1100-1500 m.

Ceriagrion latericum LIEFTINCK

Ceriagrion latericum LIEFTINCK, 1951, Treubia, 21 : 185-186 (key), 193-196, fig. 3 (♂ app., Surba). — ♂ ♀ Malaya; ♂ ♀ Sumatra (*terr. typ.*); ♂ ♀ Java.

Ceriagrion erubescens KRÜGER, 1898, Stett. ent. Ztg. 59 : 120 (♂ N. E. Sumatra); LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 389 (♂ ♀ Kelantan); ? RIS, 1927, Zool. Meded. 10 : 25 (♂ ♀ C. Sumatra); LIEFTINCK, 1934, Treubia, 14 : 395 (♂ Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (♂ S. Sumatra); LIEFTINCK, 1939, Treubia, 17 : 50 (S. W. Java).

Ceriagrion latericum LIEFTINCK, 1953, Idea, 9 : 54 (Panaitan).

Range. — Malaya.

Sumatra.

Panaitan; Java.

Habitat. — Sunny forest marshes and weedy ponds in low country. A much scarcer insect than *calamineum*, with more retiring habits.

Ceriagrion pendleburyi LAIDLAW

Ceriagrion pendleburyi LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 198-199, fig. 6 (♂ app.) — ♂♀ Perak (Malaya).

Range. — Malaya.

Habitat. — Known only from Batang Padang, about 600 m. ¹⁾

Ceriagrion praetermissum LIEFTINCK

Ceriagrion praetermissum LIEFTINCK, 1929, Tijdschr. Ent. 72 : 115-116, fig. 9 (♂ app.) — ♂♀ W. Java.

Ceriagrion praetermissum LIEFTINCK, 1934, Treubia, 14 : 395 (Java & Sumatra, bionomics); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 353 (♂ E. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (S. Sumatra).

Range. — Sumatra (northeast to extreme south).

Java.

Habitat. — Occurs in sunny swampy localities, lakes with rich aquatic vegetation being preferred. From near sea-level up to 600 m.

Genus PSEUDAGRION SELYS

Pseudagrion SELYS, 1876, Bull. Acad. Belg. (2) 42 : 490-492.

(Genotype: *Agrion furcigerum* RAMBUR, ♂ hab. ign. = S. Africa)

Pseudagrion australasiae SELYS

Pseudagrion microcephalum race? *australasiae* SELYS, 1876, Bull. Acad. Belg. (2) 42 : 491, 506 (*pars*). — ♂ Pulu Besoar (Malaya).

Pseudagrion microcephalum RIS, 1916, Suppl. Entom. 5 : 40 (references, *pars*); LIEFTINCK, 1932, Nova Guinea, 15, Zool. : 575-576 (erron. synonym. notes).

Pseudagrion bengalense RIS, 1927, Zool. Meded. 10 : 23-25, 45, fig. 11 (♂ app., Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 198 (Singapore, note); FRASER, 1933, Fauna Brit. India, Odon. 1 : 276 (key), 282-284 (loc. diff. & ♀ descr., Java), fig. 119 (♂ app.); LIEFTINCK, 1934, Treubia, 14 : 395-396 (Java); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 349 (key), 350 (♂ Sumatra, ♂ Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 11 (Sumatra); LIEFTINCK, 1936, Konowia, 15 : 167-170, fig. (♂ app., holotype, P. Besoar).

Range. — Siam; Malaya & Singapore; Pulu Besoar.

Sumatra.

Java.

Habitat. — Ponds and lakes with a rich aquatic vegetation, from the coast upwards to 1700 m. Breeds also in slightly brackish water.

¹⁾ I think that *C. nigroflavum* FRASER, from Lower Burma and Siam (*Fauna Brit. India*, Odon. 1, 1933 : 314, 323-324, fig. 138) is a close ally of *pendleburyi*, if it is not identical with it.

***Pseudagrion coomansi* LIEFTINCK**

Pseudagrion coomansi LIEFTINCK, 1937, Treubia, 16 : 86-90, fig. 17 & 18 d (♂ app. & thor.) — ♂ Bangka; ♂ ♀ Billiton, ♂ ♀ W. Borneo (*terr. typ.*).

Pseudagrion microcephalum RIS, 1911, Ann. Soc. ent. Belg. 55 : 235 (W. Borneo); RIS, 1916, Supplem. Entom. 5 : 41, 42 (*pars*), fig. 17 (♂ app., W. Borneo); ? LAIDLAW, 1920, Proc. Zool. Soc. London : 335 (♀ Sarawak); LIEFTINCK, 1932, Nova Guinea, 15, Zool. : 576 (*pars*, Borneo).

Range. — Malaya.

Bangka; Billiton.

Borneo (west and south).

Habitat. — Marshes and ponded streams in shady surroundings.

Apparently confined to the plains and common in south Borneo over tiny brooks in peat-bog areas.

***Pseudagrion microcephalum* (RAMBUR)**

Agrion microcephalum RAMBUR, 1842, Hist. nat. Ins. Névropt. : 259. — ♂ Bombay (India).

Pseudagrion microcephalum SELYS, 1876, Bull. Acad. Belg. (2) 42 : 491, 504-506 (*pars*: Singapore, ♂ ♀ Java); LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 388 (Kelantan); RIS, 1915, Tijdschr. Ent. 58 : 13 (♂ Simalur); RIS, 1916, Supplem. Entom. 5 : 40-41 (*pars*), fig. 15 (♂ app., Simalur); LIEFTINCK, 1932, Nova Guinea, 15, Zool. : 576-577 (*pars*: Java, Bali); LIEFTINCK, 1934, Treubia, 14 : 396 (Java, Verlaten I., Bali); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 349-350, fig. 48 a-c (♂ abd., Sumatra & Java); LIEFTINCK, 1935, Misc. Zool. Sufl. 92-93 : 11 (P. Wé; Sumatra); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 122 (Bali); LIEFTINCK, 1948, Treubia, 19 : 285 (Simalur, Sumatra, Java, Borneo); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 485 (Verlaten I., Krakatau group); LIEFTINCK, 1953, Idea, 9 : 54 (Panaitan); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 127, 156 (Bali).

Range. — Malaya & Singapore I.

P. Wé; Simalur; Sumatra; Billiton; Verlaten I. (Krakatau group).

Panaitan; Java; Bali.

Borneo.

Habitat. — Widely distributed throughout Malaysia and breeding in all stagnant and slow flowing waters, chiefly in the plains. Occurs also in the hills and mountains, up to 1400 m, where it breeds in garden ponds and small lakes. Also common in brackish water marshes and lagoons of the tidal zone.

Pseudagrion nigrofasciatum LIEFTINCK

Pseudagrion nigrofasciatum LIEFTINCK, 1934, Stylops, 3 : 6-8, fig. 1-2 (♂ thor. & app.) — ♂ ♀ E. Java.

Pseudagrion nigrofasciatum LIEFTINCK, 1934, Treubia, 14 : 396 (Java); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 124 footnote (synon. notes, ♂ ♀ central Java); LIEFTINCK, 1937, Treubia, 16 : 88-90 (key & notes, central & E. Java).

Pseudagrion infracavum SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 346, 349 (key), 350, fig. 48 d & 49 (♂ abd. & app., E. Java).

Range. — Java (not west).

Habitat. — Found in similar situations to *microcephalum*, but much scarcer and apparently restricted to central and east Java.

Pseudagrion perfuscatum LIEFTINCK

Pseudagrion perfuscatum LIEFTINCK, 1937, Treubia, 16 : 94-97, fig. 21 (♂ app.) — ♂ ♀ W. Borneo.

Pseudagrion pruinosum LAIDLAW, 1915, Sarawak Mus. Journ. 2 : 275 (Sarawak); LAIDLAW, 1920, Proc. Zool. Soc. London : 335 (Borneo); HINCKS, 1930, Sarawak Mus. Journ. 4 : 51 (♂ Sarawak, note).

Range. — Borneo (universal).

Habitat. — Similar to *pruinosum*. Breeds equally in sluggish streams and swiftly running brooks, usually in shady surroundings. Also in semi-cultivated areas and apparently restricted to the plains.

Pseudagrion pilidorsum pilidorsum (BRAUER)

Agria pilidorsum BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 553-554. — ♂ ♀ Manila (Luzon) & Mindanao (Philippine Is.).

Range. — Extra-regional.]

Pseudagrion pilidorsum enganoense LIEFTINCK

Pseudagrion pilidorsum enganoense LIEFTINCK, 1948, Treubia, 19 : 285, 290-291, fig. 6 (♂ app.) — ♂ ♀ Engano.

Range. — Engano.

Pseudagrion pilidorsum obscurum LIEFTINCK

Pseudagrion pilidorsum obscurum LIEFTINCK, 1936, Revue Suisse Zool. 43 : 128 (key), 131-132, fig. 12 b (♂ app.) — ♂ Nias.

Pseudagrion pilidorsum LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 4 (♂ Nias).

Pseudagrion pilidorsum obscurum LIEFTINCK, 1948, Treubia, 19 : 284.

Range. — Nias.

***Pseudagrion pilidorsum simalurum* LIEFTINCK**

Pseudagrion pilidorsum simalurum LIEFTINCK, 1948, Treubia, 19 : 285, 289-290, fig. 5 (♂ app.) — ♂ Simalur.

Pseudagrion pilidorsum RIS, 1915, Tijdschr. Ent. 58 : 12-13 (♂ Simalur); ? LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 219 (Sumatra: error), 231 (♂ Sipora, Mentawai).

Pseudagrion pilidorsum ? *obscurum* LIEFTINCK, 1936, Revue Suisse Zool. 43 : 123 (Simalur).

Range. — Simalur; Sipora (Mentawai Is.) ?¹⁾

***Pseudagrion pruinorum pruinorum* (BURMEISTER)**

Agrion pruinorum BURMEISTER, 1839, Handb. Ent. 2 : 821. — ♂ Java.

Pseudagrion pruinorum CALVERT, 1898, Trans. Amer. Ent. Soc. 25 : 41-42 (notes on type, Java); SELYS, 1876, Bull. Acad. Belg. (2) 42 : 491, 517-519 (♂ ♀ Java); FRASER, 1932, Mém. Mus. Roy. Hist. nat. Belg. (hors série) 4 : 9 (*pars*, Java).

Pseudagrion pruinorum pruinorum SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 346-348 (♂ ♀ Java), fig. 47 c (♂ head); LIEFTINCK, 1934, Treubia, 14 : 396-397 (Java & S. Sumatra, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 11 (S. Sumatra, notes); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 134 (♀ Bali, notes); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 127, 157 (Bali, notes).

Range. — Sumatra (Lamong distr.).

Java; Bali.

Habitat. — Haunts the grassy banks of small streams and irrigation-channels, from near sea-level upwards to about 1500 m. Prefers shady surroundings but is also found in cultivated areas.

***Pseudagrion pruinorum ranauense* SCHMIDT**

Pseudagrion pruinorum ranauense SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 347 (♂ ♀ key), 348. — ♂ ♀ S. Sumatra.

Pseudagrion pruinorum KRÜGER, 1898, Stett. ent. Ztg. 59 : 119 (♂ Sumatra); RIS, 1915, Nova Guinea, 13, Zool. : 97 (key), 98 (*partim*? ♂ W. Sumatra, ♂ Malaya), fig. 18 (♂ app., Malaya); CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 162 (♂ ♀ C. Sumatra); RIS, 1927, Zool. Meded. 10 : 23 (♂ ♀ Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 2 (♂ Sumatra); ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 197 (♂ Malaya); FRASER, 1932, Mém. Mus. Roy. Hist. nat. Belg. (hors série), 4 : 9 (*pars*: Sumatra); ? FRASER, 1933, Fauna Brit. India, Odon. 1 : 306 (Siam)²⁾.

Pseudagrion pruinorum fraseri SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 347 (♂ ♀ key), 348 (♂ N., central & S. Sumatra).

Pseudagrion pruinorum ranauense LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 11 (Sumatra, notes).

Range. — Siam?; Malaya?

Sumatra (except Lampong distr.)

1) The subspecies of *pilidorsum* from the Mentawai Islands is still insufficiently characterized.

2) The racial status of Siamese and Malayan *pruinorum* remains uncertain.

Pseudagrion rubriceps rubriceps SELYS¹⁾

Pseudagrion rubriceps SELYS, 1876, Bull. Acad. Belg. (2) 42 : 510-511. — ♂ India;
♂ Java (*terr. typ.*).

Pseudagrion decorum KRÜGER, 1898, Stett. ent. Ztg. 59 : 119 (♂ N. E. Sumatra).

• *Pseudagrion rubriceps* RIS, 1930, Arkiv f. Zool. 21 A : 21-22 (♂♀ N. E. Sumatra,
key & notes); LIEFTINCK, 1934, Treubia, 14 : 397 (Java, notes); LIEFTINCK,
1935, Misc. Zool. Sum. 92-93 : 11 (♂ N. Sumatra).

Range. — Malaya.

Sumatra.

• Java.

Habitat. — Slow running streams, irrigation-channels and brooks
with a rich aquatic vegetation; also rivulets in mangrove swamps,
rubber plantations etc., often in company with *pruinsum*. Highest
recorded altitude about 1000 m.

Genus ARCHIBASIS KIRBY

• *Archibasis* KIRBY, 1890, Syn. Cat. Neur. Odon.: 156.
(Genotype: *Stenobasis melanocyana* SELYS, ♂ Malaya)

Archibasis incisura LIEFTINCK

Archibasis incisura LIEFTINCK, 1949, Nova Guinea, new ser., 5: 185, 186 (♂ keys),
188, fig. 229 & 233 (♂ app.) — ♂♀ W. Borneo.

• Range. — Borneo (west and south).

Habitat. — Small, swiftly running brooks in shady surroundings and
in low-lying country.

Archibasis melanocyana (SELYS)

Stenobasis melanocyana SELYS, 1877, Bull. Acad. Belg. (2) 43 : 110. — ♂ "Malacca".

Archibasis melanocyana LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 184, 187 (♂
keys), 188 (♂ Malaya, ♂ Sumatra, ♂ Billiton, ♂ Borneo), fig. 228 & 232 (♂
app., W. Borneo).

Range. — Penang; Malaya.

Sumatra; Billiton.

Borneo (universal).

Habitat. — Occurs in similar surroundings to *incisura*.

Archibasis oscillans (SELYS)²⁾

• *Stenobasis oscillans* SELYS, 1877, Bull. Acad. Belg. (2) 43 : 108-109. — ♂♀ "Bangka
ou Siam", *recte* Siam.

1) This is the same species as *P. flayifrons* NEEDHAM & GYGER, from Luzon
[Philipp. J. Sci. 1939, 70 : 281 (key), 285-286, pl. 16, fig. 231-234 (♂ app.)] The type
is from Manila, where I took a series of both sexes on Nov. 24th, 1953.

2) Synonymous with *A. mimetes praeclara* (FRASER), from western peninsular
India.

Archibasis oscillans LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 185, 187 (♂ keys), 189-191 (♂ Sumatra, ♂ Java), fig. 223 & 231 (♂ app., type Siam).

Range. — Siam.

Sumatra (east and south).

Java (south).

Habitat. — Streams and rivers in forested areas of the plains. Probably widely distributed in Malaysia, but a much scarcer species than *viola*.

Archibasis tenella LIEFTINCK

Archibasis tenella LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 184, 186 (♂ keys), 188, fig. 235-236 (♂ app., W. Borneo). — ♂ ♀ W. & E. Borneo (*terr. typ.*); ♂ Billiton.

Range. — Billiton.

Borneo (universal).

Habitat. — Sluggish streams in lowland forest.

Archibasis viola LIEFTINCK

Archibasis viola LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 184, 185-186 (♂ keys), 188-189, fig. 230 & 234 (♂ app., Karimondjawa). — ♂ Sumatra; ♂ ♀ Engano; ♂ ♀ Billiton; ♂ ♀ Java; ♂ ♀ Karimondjawa (*terr. typ.*); ♂ ♀ W. & E. Borneo.

Archibasis melanocyana RIS, 1927, Zool. Meded. 10 : 25 (♂ Sumatra); RIS, 1930, Arkiv f. Zool. 21 A : 15 (key), 16-17 (♂ Sumatra; ♂ ♀ Bangka; ♂ Borneo), fig. 5 (♂ app., Bangka); ? LAIDLAW, 1931, Bull. Raffles Mus. 5 : 91 (♀ Mangalum I.); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 198 (Selangor), 247 (Borneo, notes); ? LAIDLAW, 1933, Bull. Raffles Mus. 7 : 100 (♂ Anambas); LIEFTINCK, 1934, Treubia, 14 : 397-398 (♂ S. Java; ♂ ♀ Karimondjawa); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (Sumatra); ? KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 94 (♀ Sarawak); LIEFTINCK, 1939, Treubia, 17 : 50 (S. W. Java; ? FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 97 (♂ Malaya).

Archibasis viola LIEFTINCK (*nom. nud.*), 1948, Treubia, 19 : 285, 289 (♂ ♀ Engano, notes).

Range. — Malaya; Anambas?

Engano; Sumatra; Bangka; Billiton.

Java; Karimondjawa.

Borneo; Mangalum?

Habitat. — Small streams and spring-fed brooks in shady forest-marshes and along the banks of tiny rivulets near sea-level. Breeds only in fresh water, but occurs also in the mangrove forests along the coast.

Genus **STENAGRION** LAIDLAW

Stenagrion LAIDLAW, 1915, Proc. Zool. Soc. London : 39.
 (Genotype: *Pseudagrion dubium* LAIDLAW, ♂ N. Borneo)

Stenagrion dubium (LAIDLAW)

Pseudagrion (?) *dubium* LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93, 97-98, fig. 5 (♂ app.) — ♂ N. Borneo.

Stenagrion dubium LAIDLAW, 1915, Proc. Zool. Soc. London : 39 (♂ ♀ N. Borneo); LAIDLAW, 1918, *ibid.* : 231, fig. 10 (♂ wings, type); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 550 (N. Borneo).

Range. — Borneo.

Habitat. — Swampy forests. On Mt. Kinabalu and Mt. Batu Lawi (Sarawak) found at about 1000 m, but in western Borneo also occurring in low country.

Genus **TEINOBASIS** KIRBY

Teinobasis KIRBY, 1890, Syn. Cat. Neur. Odon. : 157.
 (Genotype: *Telebasis superba* SELYS, ♂ ♀ Menado, Celebes)

Teinobasis euglena LIEFTINCK

Teinobasis euglena LIEFTINCK, 1934, Stylops, 3 : 8-11, fig. 3 (♂ app.) — ♂ ♀ S. Sumatra, ♂ ♀ S. Java (*terr. typ.*).

Teinobasis combusta KRÜGER, 1898, Stett. ent. Ztg. 59 : 120-121 (♀ N. E. Sumatra).

Teinobasis euglena LIEFTINCK, 1934, Treubia, 14 : 398 (Sumatra & Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (Sumatra); LIEFTINCK, 1939, Treubia, 17 : 50 (S. W. Java); LIEFTINCK, 1948, *ibid.* 19 : 285, 291-292 (♂ ♀ Engano).

Range. — Engano; Sumatra.

Java.

Habitat. — Marshes and shallow pools in virgin lowland forests.

Teinobasis kirbyi LAIDLAW

Teinobasis kirbyi LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 386, 387. — ♂ Perak (Malaya).

Teinobasis kirbyi LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 202; KIMMINS, 1936, *ibid.* 18 : 97 (comp. descr.), fig. 14 B (penis, type).

Range. — Malaya.

Habitat. — Known only from the type locality on Gunung Inas, in Perak.

Teinobasis laidlawi KIMMINS

Teinobasis laidlawi KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 95-97, fig. 13 A-B & 14 A (♂ thor., app. & penis) — ♂ N. W. & N. Borneo.

Teinobasis superba LAIDLAW, 1918, Proc. Zool. Soc. London : 231 (♂ Sarawak).

Teinobasis ? kirbyi LAIDLAW, 1920, Proc. Zool. Soc. London : 337-338, fig. 4 (♂ app., Sarawak).

Teinobasis sp. LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 249 (♂ N. Borneo).

Range. — Borneo.¹⁾

Habitat. — Lowland forest.

Teinobasis rajah LAIDLAW

Teinobasis rajah LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93, 97. — ♂ N. Sarawak (N. W. Borneo).

*Teinobasis leonorae*²⁾ LIEFTINCK, 1937, Treubia, 16 : 97-99, fig. 22 (♂ app., Penang).

Range. — Penang.

Borneo (north and southeast).

Habitat. — Swampy forest in low country; apparently a common species in the alluvial plains of Borneo.

Teinobasis ruficollis (SELYS)

Telebasis ruficollis SELYS, 1877, Bull. Acad. Belg. (2) 43 : 113, 119-120. — ♂ Singapore (Malaya).

Teinobasis ruficollis RIS, 1927, Zool. Meded. 10 : 25 (♂ C. Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10 (♂ Durian).

Range. — Singapore I. (Malaya).

Sumatra (central); Durian I. (Riouw Arch.); Billiton.

Teinobasis suavis LIEFTINCK

Teinobasis suavis LIEFTINCK, 1953, Treubia, 22 : 244-246, fig. 5 a-b (♂ app., ♀ apex abd.) — ♂♀ S. E. Borneo.

Range. — Borneo (southeast).

Habitat. — Lowland forest.

Genus *PERICNEMIS* SELYS

Pericnemis SELYS, 1863, Bull. Acad. Belg. (2) 16 : 151.

(Genotype: *Pericnemis stictica* SELYS, ♂ Java)

Pericnemis stictica SELYS

Pericnemis stictica SELYS, 1863, Bull. Acad. Belg. (2) 16 : 152. — ♂ Java.

Pericnemis stictica SELYS, 1877, Bull. Acad. Belg. (2) 43 : 132-134 (♂♀ Java);

KRÜGER, 1898, Stätt. ent. Ztg. 59 : 125 (♀ Sumatra); LAIDLAW, 1902, Proc. Zool.

¹⁾ - Examples in our collection from southeast Borneo apply perfectly to the original description.

²⁾ The synonymy of this species was established only recently and confirmed Mr. D. E. KIMMINS at the British Museum.

Soc. London, 2 : 386 (♂ Malaya); RIS, 1911, Ann. Soc. ent. Belg. 55 : 238 (♀ W. Borneo); RIS, 1927, Zool. Meded. 10 : 25-26 (♀ Sumatra, ♀ Java); LIEFTINCK, 1934, Treubia, 14 : 388-399 (Java, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 10-11 (Sumatra); LIEFTINCK, 1941, Ent. Med. Ned. Indië, 7 : 45 (Java, bionomics); LIEFTINCK, 1948, Treubia, 19 : 285, 289 (♀ Engano).

Range. — Malaya.

Engano; Sumatra.

Java.

Borneo? ¹⁾

Habitat. — Hill-sides, ravines and marshy spots in the forest in places with an abundant growth of bamboo. Occurs from sea-level up to 1200 m in the mountains, also in semi-cultivated areas. So far as is known it breeds exclusively in rain water which collects in the stumps of old bamboo, or in the water-containing stems of solid bamboo, cut down by native wood-fellers between the internodes, at some distance from the ground. Larva of the normal Coenagriid type; caudal gills thin, vertical lamellate, enormously expanded.

Pericnemis triangularis LAIDLAW

Pericnemis triangularis LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 248. — ♀ N. Borneo.

Range. — Borneo; Banguay.

Remarks. — I have examined only solitary females, from Banguay as well as from the lowlands of east and southeast Borneo. The male of *triangularis* appears to be still unknown.

Genus AMPHICNEMIS SELYS ²⁾

Amphicnemis SELYS, 1863, Bull. Acad. Belg. (2) 16 : 152-153.

(Genotype: *Amphicnemis wallacii* SELYS, ♂ Sarawak)

Amphicnemis amabilis LIEFTINCK

Amphicnemis amabilis LIEFTINCK, 1940, Treubia, 17 : 363, 366 (♂ ♀ key), 368-370, fig. 15 (♂ thor.), pl. 15, fig. 2 (♂ app.) — ♂ ♀ E. Borneo.

Range. — Borneo (east).

¹⁾ I agree with Dr. LAIDLAW (*in litt.*) that some doubt exists as to the occurrence of this species in Borneo. Only female specimens having been recorded from the island, it is possible that all should be referred to *triangularis*.

²⁾ The larvae of several — if not all — species of *Amphicnemis* live in water which collects between the bases of the leaves of terrestrial plants, in very humid forest.

***Amphicnemis annae* LIEFTINCK**

Amphicnemis annae LIEFTINCK, 1940, *Treubia*, 17 : 364-365, 367 (♂ ♀ key), 370-371, pl. 15, fig. 4 (♂ proth.), pl. 16, fig. 4 (♂ app.) — ♂ ♀ W. Borneo.

Amphicnemis wallacii RIS, 1911, *Ann. Soc. ent. Belg.* 55 : 236-237 (♂ — not ♀ — W. Borneo, incl. key), fig. 5 (♂ app.); LAIDLAW, 1913, *Proc. Zool. Soc. London* : 70 (♂ Sarawak), 74 (♂ key), pl. 4, fig. 7 (♂ proth.).

Range. — Borneo (west and northwest).

***Amphicnemis bicolor* (MARTIN)**

Teinobasis bicolor MARTIN, 1897, *Ann. Soc. ent. France*, 66 : 593-594. — ♂ Banguay I. (N. Borneo).

Amphicnemis bicolor LIEFTINCK, 1940, *Treubia*, 17 : 363 (♂ key), 368 (type re-examined).

Range. — Banguay I. (off N. Borneo).

Remarks. — Known only from the type locality.

***Amphicnemis billitonis* LIEFTINCK**

Amphicnemis billitonis LIEFTINCK, 1940, *Treubia*, 17 : 365, 367 (♂ ♀ key), 374, pl. 15, fig. 4 (♂ proth.), pl. 16, fig. 1 (♂ app.) — ♂ ♀ Billiton.

Range. — Billiton.

***Amphicnemis dactylostyla* LIEFTINCK**

Amphicnemis dactylostyla LIEFTINCK, 1953, *Treubia*, 22 : 386-388, fig. 2¹ (♂ app.) — ♂ ♀ S. Borneo.

Range. — Borneo (south).

Habitat. — In dense primitive lowland forest, near Sampit. Flying about among bushes of *Pandanus* in company of *erminea*, but much scarcer than this. Larva probably also adapted to a life in water-containing plants.

***Amphicnemis ecornuta* SELYS**

Amphicnemis ecornuta SELYS, 1889, *Ann. Mus. civ. Genova*, 27 : 482-483. — ♂ C. Sumatra.

Amphicnemis ecornuta KRÜGER, 1898, *Stett. ent. Ztg.* 59 : 123-125 (♂ ♀ N. E. Sumatra); LAIDLAW, 1913, *Proc. Zool. Soc. London* : 74 (key); LIEFTINCK, 1937, *Treubia*, 16 : 101 (note); LIEFTINCK, 1940, *ibid.* 17 : 363, 366 (♂ ♀ key), 367-368 (♂ ♀ N. E. & S. Sumatra), fig. 15 (♂ thor.), pl. 15, fig. 3 (♂ app.)

Range. — Sumatra.

Habitat. — Apparently widely distributed and occurring also in hilly country, from 150-950 m alt.

Amphicnemis erminea LIEFTINCK

Amphicnemis erminea LIEFTINCK, 1953, Treubia, 22 : 247-251, fig. 6 c-e. (♂ app., ♀ proth.) — ♂ ♀ S. E. Borneo.

Amphicnemis erminea LIEFTINCK, 1953, Treubia, 22 : 392 (note on supposed larva).

- Range. — Borneo (southeast and south).
- Habitat. — Among dense undergrowth in lowland forest. In southern Borneo the larva of probably this species was recently found by the author in water collected in the leaf-axils of a *Pandanus*, which grew abundantly in the forest marshes near Sampit and Pemantang.

Amphicnemis gracilis KRÜGER

Amphicnemis gracilis KRÜGER, 1898, Stett. ent. Ztg. 59 : 121-123. — ♂ ♀ N. E. Sumatra.

Amphicnemis gracilis LAIDLAW, 1913, Proc. Zool. Soc. London : 74 (♂ ♀ key); LIEFTINCK, 1940, Treubia, 17 : 365, 367 (♂ ♀ key), 372-373 (♂ ♀ N. E. & E. Sumatra), pl. 15, fig. 4 (♂ ♀ proth.), pl. 16, fig. 2 (♂ app.)

Range. — Sumatra.

Amphicnemis kuiperi LIEFTINCK

Amphicnemis kuiperi LIEFTINCK, 1937, Treubia, 16 : 99-101, fig. 23 (♂ app.) — ♂ ♀ Billiton.

- *Amphicnemis kuiperi* LIEFTINCK, 1940, Treubia, 17 : 363-364, 366 (♂ ♀ key, Billiton).
- Range. — Billiton.

Amphicnemis madelenae LAIDLAW

Amphicnemis madelenae LAIDLAW, 1913, Proc. Zool. Soc. London : 71-72, 74 (key), pl. 4, fig. 6-6a (♂ proth. & app.) — ♂ Sarawak (N. W. Borneo).

Amphicnemis madelenae LIEFTINCK, 1940, Treubia, 17 : 364, 367 (♂ ♀ key), 376-377 (♂ ♀ W. Borneo).

Range. — Borneo (west and northwest).

Habitat. — Caught over small brooks and rivulets trickling through forest-marshes in low country, but probably breeding in water-containing plants.

Amphicnemis mariae LIEFTINCK

- *Amphicnemis mariae* LIEFTINCK, 1940, Treubia, 17 : 366 (♂ key), 374-375, pl. 15, fig. 1 (♂ app.) — ♂ E. Borneo.

Range. — Borneo (east).

***Amphicnemis martini* RIS**

Amphicnemis martini RIS, 1911, Ann. Soc. ent. Belg. 55 : 237-238, fig. 6 (♂ app.) —
♂ W. Borneo.

Amphicnemis martini LAIDLAW, 1913, Proc. Zool. Soc. London : 72-73 (♂ ♀, Sarawak); LIEFTINCK, 1940, Treubia, 17 : 362, 366 (♂ ♀ key), 375-376 (♂ ♀ W. Borneo).

Range. — Borneo (west and northwest).

***Amphicnemis pandanicola* LIEFTINCK**

Amphicnemis pandanicola LIEFTINCK, 1953, Treubia, 22 : 388-392, fig. 2² (♂ app. & ♂ ♀ proth?) — ♂ ♀ S. Borneo.

Range. — Borneo (south).

Habitat. — Found in company of *erminea* among dense undergrowth in a forest swamp near Sampit. Larva probably also in axils of *Pandanus* leaves.

***Amphicnemis platystyla* LIEFTINCK**

Amphicnemis platystyla LIEFTINCK, 1953, Treubia, 22 : 246-247, fig. 6 a-b (♂ app.) — ♂ S. E. Borneo.

Range. — Borneo (southeast).

***Amphicnemis remiger* LAIDLAW**

Amphicnemis remiger LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93, 96-97, fig. 4 (♂ app.) — ♂ N. Sarawak (N. W. Borneo).

Amphicnemis remiger LAIDLAW, 1913, Proc. Zool. Soc. London : 72, 74 (♂ key); LIEFTINCK, 1940, Treubia, 17 : 363 (♂ key).

Range. — Borneo (north).

***Amphicnemis smedleyi* LAIDLAW**

Amphicnemis louisae smedleyi LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 232, fig. 3 (♂ app.) — ♂ ♀ Mentawai Is.

? *Amphicnemis louisae* RIS, 1915, Tijdschr. Ent. 58 : 13-14 (♀ Simalur).

Amphicnemis smedleyi LIEFTINCK, 1940, Treubia, 17 : 364, 366 (♂ ♀ key), 373-374 (♂ ♀ Siberut); LIEFTINCK, 1948, ibid. 19 : 285 (? Simalur; Mentawai).

Range. — Simalur(?); Siberut and Pagai (Mentawai Is.).

***Amphicnemis wallacii* SELYS**

Amphicnemis wallacii SELYS, 1863, Bull. Acad. Belg. (2) 16 : 153. — ♂ Sarawak (N. W. Borneo).

Amphicnemis wallacii SELYS, 1877, Bull. Acad. Belg. (2) 43 : 128-129 (♂ Sarawak).

Amphicnemis louisa LAIDLAW, 1913, Proc. Zool. Soc. London : 71 (♂ ♀ Sarawak), 74 (♂ ♀ key), pl. 4, fig. 5-5a (♂ proth. & app.); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 95 (♀ N. Borneo).

Amphicnemis wallacii LIEFTINCK, 1940, Treubia, 17 : 365, 367 (♂ ♀ key), 371-372 (♂ type redeser.; ♀ ♀ W. Borneo), pl. 15, fig. 4 (♂ proth.), pl. 16, fig. 3 (♂ app.).

Range. — Borneo (west and northwest).

Genus ARGIOCNEMIS SELYS

Argiocnemis SELYS, 1877, Bull. Acad. Belg. (2) 43 : 135-136.

(Genotype: *Argiocnemis rubescens* SELYS, ♀ Queensland)

[*Argiocnemis rubescens rubescens* SELYS

Argiocnemis rubescens SELYS, 1877, Bull. Acad. Belg. (2) 43 : 136-137. — ♀ Queensland (Australia).

Range. — Extra-regional.]

Argiocnemis rubescens rubeola SELYS

Argiocnemis rubeola SELYS, 1877, Bull. Acad. Belg. (2) 43 : 137-138 (pars). — "Malaisie"; Java.

Argiocnemis rubeola SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 297 (pars: Java, Malaya); KRÜGER, 1898, Stett. ent. Ztg. 59 : 126 (♂ ♀ Sumatra, incl. *Rasse sumatrana*); LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 387 (♂ Malaya).

Argiocnemis lunulata SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 297 (pars: Java).

Argiocnemis nigricans KRÜGER, 1898, Stett. ent. Ztg. 59 : 126 (♂ Sumatra); LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 387-388 (♂ ♀ Malaya).

Argiocnemis rubescens RIS, 1913, Abh. Senckenb. naturf. Ges. 34 : 516-518 (refer., discuss.; pars), 518 (♂ Malaya); RIS, 1930, Arkiv f. Zool. 21 A : 11-12 (pars; discuss.); LIEFTINCK, 1932, Nova Guinea, 15, Zool. : 588 (notes, distrib.); FRASER, 1933, Fauna Brit. India, Odon. 1 : 406-408 (Siam); LIEFTINCK, 1934, Treubia, 14 : 399 (Java, notes); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 97-98 (♂ ♀ Sarawak); LIEFTINCK, 1939, Treubia, 17 : 50 (S. W. Java).

Range. — Siam; Malaya.

Sumatra.

Java (not east).

Borneo.

Habitat. — Clear stagnant or slowly running waters in forested areas, from near sea-level up to 1500 m. Widely distributed and often occurring in large colonies.

Genus COENAGRION KIRBY

Coenagrion KIRBY, 1890, Syn. Cat. Neur. Odon.: 148.(Genotype: *Libellula puella* LINNAEUS, Sweden)*Cercion* NAVÁS, 1907, Broteria, 6 : 55.(Genotype: *Agrion lindenii* SELYS, ♂ ♀ Europa)**Coenagrion dyeri (FRASER)***Argioenemis dyeri* FRASER, 1919, Rec. Ind. Mus. 16 : 451-452. — ♂ India.*Argioenemis gravelyi* FRASER, 1919, Rec. Ind. Mus. 16 : 451 (♀ India).*Coenagrion dyeri* LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 162 (P. Wé, note), fig. 17-18 (♂ wings & arculus region, P. Wé).

Range. — P. Wé (northern extremity of Sumatra).

Habitat. — A permanent colony of this remarkable species has established itself at the lake Anak Laut near Sabang (Pulu Wé), in which it breeds. Adult males rest flat on floating aquatic plants over open water, while teneral individuals congregate in great numbers, taking shelter among shrubbery alongside the lake, before returning to their breeding place.

Coenagrion malayanum (SELYS)*Enallagma* (?) *malayanum* SELYS, 1876, Bull. Acad. Belg. (2) 41 : 536-537. — ♂ Java.*Agrion malayanum* SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 350-352, fig. 50-52 (♂ abd. & app., type & E. Java, ♀ proth. & apex abd., E. Java); SCHMIDT, 1938, Sitzb. Akad. Wiss. Wien, 147 : 146 (note).*Enallagma malayanum* LIEFTINCK, 1934, Treubia, 14 : 403-404 (♂ S. Java, notes).*Coenagrion malayanum* LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 162, 163 (S. Java, notes), fig. 16 & 19 (♂ wings & arculus region, S. Java).

Range. — Java.

Habitat. — Shallow lakes, ponds and lagoons. Probably widely distributed, but very local and often left unnoticed on account of its shyness and the peculiar habit of resting on floating leaves of water-plants, both sexes keeping over open water and usually well out of reach. Though essentially an insect of the plains, also found in montane areas (Mt. Ardjuna, upwards of 1900 m). Breeds also in brackish water of lagoons (southcoast). The distribution and habitat suggest high adaptability coupled with involuntary dispersal by wind currents. Known also from India, Ceylon and Assam. I have seen specimens from various islands in the Pacific, including the Loo Choo islands.

Genus **MORTONAGRION** FRASER*Mortonagrion* FRASER, 1920, J. Bombay Nat. Hist. Soc. 27 : 147-148.(Genotype: *Mortonagrion varralli* FRASER, ♂ ♀ Bombay, India)**Mortonagrion amoenum** (RIS)*Agriocnemis amoena* RIS, 1915, Tijdschr. Ent. 58 : 10-12, fig. 5 (♂ app.) — ♂ ♀ Simalur.*Mortonagrion amoenum* RIS, 1930, Arkiv f. Zool. 21 A : 7 (key), 12-13 (♂ ♀ Simalur); LIEFTINCK, 1934, Stylops, 3 : 15 (S. Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (S. Sumatra & W. Borneo); LIEFTINCK, 1937, Treubia, 16 : 104 (♂ ♀ Sumatra; ♂ ♀ Java; ♀ W. Borneo); LIEFTINCK, 1939, ibid. 17 : 51 (S. W. Java); LIEFTINCK, 1948, ibid. 19 : 285 (Simalur, Sumatra, Java, Borneo).

Range. — Simalur; Sumatra (central and south).

Java (west).

Borneo (west).

Habitat. — Weedy bog-ponds and marshes in virgin forest; low country.

Mortonagrion appendiculatum LIEFTINCK*Mortonagrion appendiculatum* LIEFTINCK, 1937, Treubia, 16 : 102-104, fig. 24 (♂ app.) — ♂ ♀ Billiton.*Mortonagrion appendiculatum* LIEFTINCK, 1953, Treubia, 22 : 395, fig. 3 b (♂ proth., Billiton).

Range. — Billiton.

Habitat. — Apparently occurring in similar situations to *amoenum*.**Mortonagrion arthuri** FRASER*Mortonagrion arthuri* FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 97, fig. 1 a-b (♂ app.) — ♂ Wellesley (W. Malaya).

Range. — Malaya.

Remarks. — Known only from the type locality.

Mortonagrion falcatum LIEFTINCK*Mortonagrion falcatum* LIEFTINCK, 1934, Stylops, 3 : 12-15, fig. 5 (♂ app.) — ♂ ♀ Karimondjawa Is. (Java Sea).*Mortonagrion falcatum* LIEFTINCK, 1934, Treubia, 14 : 402 (Karimondjawa, notes); LIEFTINCK, 1937, ibid. 16 : 104 (♂ ♀ Billiton; ♂ Java).

Range. — Malaya (Johore).

Sumatra (east); Billiton.

Java (west); Karimondjawa.

Borneo (east).

Habitat. — Forest marshes in low-lying country. Prefers shady places among dense undergrowth. Probably a salt tolerant species.

Mortonagrion forficulatum LIEFTINCK

Mortonagrion forficulatum LIEFTINCK, 1953, *Treubia*, 22 : 392-395, fig. 3 (♂ app & proth.) — ♂ ♀ S. Borneo.

Range. — Borneo (southeast and south).

Habitat. — Among dense undergrowth in swampy forest. Breeds in shallow rain pools and marshes in damp situations. Adults cover short distances in flight and hug the water's surface closely.

Mortonagrion simile RIS

Mortonagrion simile RIS, 1930, *Arkiv f. Zool.* 21 A : 6 (key), 7-10, fig. 3 (♂ app.) — ♂ ♀ N. E. Sumatra.

Mortonagrion simile LIEFTINCK, 1934, *Stylops*, 3 : 14-15 (♂ W. Borneo); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 12 (♂ ♀ S. Sumatra; W. Borneo).

Range. — Sumatra (universal).

Borneo (west and south).

Habitat. — Probably widely distributed. Occurs also over shallows of sluggish streams and rivers and goes upwards to 600 m in the hills.

Genus **AGRIOCNEMIS** SELYS

Agriocnemis SELYS, 1877, *Bull. Acad. Belg.* (2) 43 : 142-143.

(Genotype: *Agrion pygmaeum* RAMBUR, ♀ Ind. or.)¹⁾

Agriocnemis alcyone LAIDLAW²⁾

Agriocnemis alcyone LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 249-250. — ♂ ♀ Sarawak (Borneo).

Range. — Borneo (universal).

Habitat. — Common in the swampy alluvial forests of Borneo.

Agriocnemis d'abreu FRASER.

Agriocnemis d'abreu FRASER, 1919, *Rec. Ind. Mus.* 16 : 454. — ♀ Central Prov., India.

Agriocnemis d'abreu LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 201-202 (♂ Pahang, Malaya).

Range. — Siam; Malaya.

¹⁾ See F. C. FRASER, 1949, *Trans. R. Ent. Soc. London*, 100 : 136.

²⁾ A re-description of this very aberrant species is urgently required. Its generic status is open to question as it combines characters of *Agriocnemis*, *Argiocnemis* and *Mortonagrion*, more especially those of the two last-mentioned genera. A comparison of our series of *alcyone* with a paratype ♂ from Bettotan, has revealed that — owing possibly to a typographical error — the measurements of the types were incorrectly given. Our specimens measure: ♂ abdomen 20.5-21.5, hind wing 12.0-13.0, ♀ 21.0, 14.0 mm.

Agriocnemis femina (BRAUER)¹

Agriocnemis (Ischnura) femina BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 554-556. —

♂ ♀ Luzon & Basilan (Philippine Is.).

Agriocnemis incisa SELYS, 1877, Bull. Acad. Belg. (2) 43 : 143, 149 (loc. diff.; Singapore; ♀ Java); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 483 (Nias); KRÜGER, 1898, Stett. ent. Ztg. 59 : 127 (Penang); LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 388 (♂ ♀ Kelantan).

Agriocnemis materna SELYS, 1877, Bull. Acad. Belg. (2) 43 : 143, 151-152 (♂ ♀ Sumatra); KARSCH, 1891, Entom. Nachr. 17 : 243 (Sumatra); KRÜGER, 1898, Stett. ent. Ztg. 59 : 127 (Sumatra, Java).

Agriocnemis pulverulans LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 388 (♂ Kelantan).

Agriocnemis femina RIS, 1916, Supplem. Entom. 5 : 22-28 (general survey, distrib. & synonym.; ♂ ♀ Singapore, ♂ ♀ Simalur, ♂ ♀ Java, ♂ Borneo), fig. 3 (♂ app., Borneo); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 232 (♂ Siberut, ♀ S. Pagai); RIS, 1927, Zool. Meded. 10 : 22 (Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 2 (Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 200 (Singapore); LAIDLAW, 1933, Bull. Raffles Mus. 7 : 100 (♂ ♀ Anambas); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 339 (Sumatra, Java, Bali); LIEFTINCK, 1934, Treubia, 14 : 401 (Java, Karimondjawa); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (Sumatra); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 97 (♂ ♀ N. W. Borneo); LIEFTINCK, 1936, De Trop. Natuur, 25, jub.-no.: 104 (Java), fig. 5 (photogr. ♂ ins.); LIEFTINCK, 1948, Treubia, 19 : 285, 292 (Sumatra, Simalur, Nias, Mentawai, Engano, Java, Borneo); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 486 (Lang I., Krakatau group).

Range. — Siam; Penang; Malaya; Anambas Is.

P. Wé; Simalur; Nias; Siberut & S. Pagai (Mentawai Is.);

Engano; Sumatra; Bangka; Billiton; Sebesi; Lang I. (Krakatau group).

Java; Karimondjawa; Bali.

Borneo; Banguay.

Habitat. — Common throughout Malaysia and found at altitudes up to about 1600 m. Breeds in all stagnant and slow flowing waters. A salt tolerant and wind-borne species with great dispersal faculties.

Agriocnemis minima SELYS

Agriocnemis minima SELYS, 1877, Bull. Acad. Belg. (2) 43 : 143, 145-146. — ♂ Java.

Agriocnemis minima KRÜGER, Stett. ent. Ztg. 59 : 126 (♂ Penang); LIEFTINCK, 1930, Treubia, 12 : 151-153, fig. 17-18 (♂ proth. & app., Java); LIEFTINCK, 1934, ibid. 14 : 401-402 (Java, bionomics).

¹ Since RIS's treatment (1916) this polytypic species has not been critically revised, chiefly because of the complicated nomenclature, which is involved in great difficulty. Despite its enormous range and the supposed interbreeding of mixed populations in regions of overlap, a considerable number of geographical races will probably prove recognizable. In Sumatra, at least, there is definite proof of the occurrence of two well definable subspecies.

Range. — Penang.

Sumatra (east); Billiton.

Java (west and central south).

Borneo (south and east).

Habitat. — Forest swamps and shallow marshes with a rich aquatic vegetation, hitherto only met with in low country. Very local, but plentiful where found.

Agriocnemis naia FRASER

Agriocnemis naia FRASER, Dec. 1923, J. Bombay Nat. Hist. Soc. 29 : 747 (♂ key), pl. 3, fig. 13 (♂ apex abd.) — ♂ Sine patria.

Agriocnemis naia FRASER, 1933, Fauna Brit. India, Odon. 1 : 381 (key), 387-389 (♂ ♀ King I., Mergui, Lower Burma), fig. 166 (♂ app.).

Range. — Penang (Malaya).

Remarks. — I have seen good series of both sexes from Penang I., which correspond in every respect with the existing descriptions.

Agriocnemis nana (LAIDLAW)

Agriocnemis nana LAIDLAW, 1914, Rec. Ind. Mus. 8 : 348, pl. 16, fig. 10 (♂ app.) — ♂ Burma.

Agriocnemis nana LIEFTINCK, 1930, Treubia, 12 : 153-155, fig. 19-20 (♂ proth. & app., Perak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 201 (♂ Pahaag).

Range. — Siam; Malaya & Singapore I.

Habitat. — Breeds alike in grassy marsh-lands and running waters, but preferably in the shallows of small streams in open country.

Agriocnemis pygmaea (RAMBUR)

Agriocnemis pygmaea RAMBUR, 1842, Hist. nat. Ins. Névropt.: 278. — ♀ Ind. or.

Agriocnemis pygmaea BRAUER, 1864, Abh. Zool.-bot. Ges. Wien, 14 : 161 (Singapore).

Agriocnemis pygmaea SELYS, 1877, Bull. Acad. Belg. (2) 43 : 143, 146-148 (♂ ♀ loc. diff.; Java); RIS, 1912, Tijdschr. Ent. 55 : 159 (♀ N. Java); RIS, 1916, Suppl. Entom. 5 : 20-22 (synon., distrib.); FRASER, 1932, Mém. Mus. Roy. Hist. nat. Belg. (hors série), 4 : 10-11 (♀ Java); LIEFTINCK, 1934, Treubia, 14 : 402 (Java, Karimondjawa, Bawean); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (Sumatra); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 97 (Langkawi I. W. Malaya); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 167 (Bali).

Range. — Penang; Malaya.

Sumatra.

Java; Karimondjawa; Bawean; Bali.

Habitat. — A wide-ranging insect, with habits similar to those of *femina*. Highest recorded altitude 1700 m.

Genus ISCHNURA CHARPENTIER

Ischnura CHARPENTIER, 1840, Lib. Europ.: 20.(Genotype: *Agrion tuberculatum* CHARP. 1825 = *Agrion elegans* VAN DER LINDEN, 1820)*Nanosura* KENNEDY, 1920, Ohio J. Sci. 21 : 88.(Genotype: *Ischnura aurora* BRAUER, ♂ ♀ Tahiti)• *Ischnura aurora aurora* BRAUER¹⁾*Ischnura aurora* BRAUER, 1865, Abh. Zool.-bot. Ges. Wien, 15 : 510. — ♂ ♀ Tahiti.• *Ischnura aurora* SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 344 (♂ ♀ Java, notes);
LIEFTINCK, 1934, Treubia, 14 : 400-401 (Java, notes imago & larva).*Ischnura aurora aurora* LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 220-222
(references, synonym., distrib.).

Range. — Java.

Habitat. — Restricted to high altitudes in Java and extremely abundant where found. Occurs in scattered colonies and breeds in mountain lakes and marshes, from 1600-2200 m. Not yet found elsewhere in Malaysia.

Ischnura senegalensis (RAMBUR)*Agrion senegalense* RAMBUR, 1842, Hist. nat. Ins. Névropt.: 276-277. — ♂ ♀ Senegal.*Ischnura senegalense* SELYS, 1876, Bull. Acad. Belg. (2) 41 : 273-274 (Java).• *Ischnura senegalensis* RIS, 1915, Tijdschr. Ent. 58 : 9 (♀ Simalur); RIS, 1927, Zool. Meded. 10 : 21 (♂ ♀ Sumatra); RIS, 1928, Wiener Ent. Ztg. 44 : 160 (♀ C. Sumatra); VAN DER MEER MOHR, 1930, Treubia, 12 : 290 (P. Berhala, Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 200 (Siam); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 339-344, fig. 35-41 (♂ ♀ struct.; Java, Sumatra, Bali); LIEFTINCK, 1934, Treubia, 14 : 401 (Java, Krakatau, Karimondjawa, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (Sumatra); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 95 (♂ N. Borneo, note); LIEFTINCK, 1936, De Trop. Natuur, 25, jub. no.: 104 (Java), fig. 6 (photo ♂ ♀ in cop.); LIEFTINCK, 1948, Treubia, 19 : 285 (Simalur, Sumatra, Java, Borneo); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 486 (Krakatau & Verlaten I.); LIEFTINCK, 1949, Nova Guinea, new ser., 5 : 230-231 (distrib.).

Range. — Siam; Penang; Malaya.

P. Wé; Simalur; Sumatra; P. Berhala; Bangka; Billiton;
Sebesi; Krakatau & Verlaten I.

Java; Thousand Is.; coral isles (Djakarta Bay); Karimondjawa; Bawean; Kangean; Bali.

Borneo; Banguey.

Habitat. — Universally distributed from sea-level up to 3015 m on all stagnant and slow running waters. A salt tolerant species.

¹⁾ Syn.: *Agrion delicatum* HAGEN 1858 (*nom. nud.*)

Genus **XIPHIAGRION** SELYS

Xiphiagrion SELYS, 1876. Bull. Acad. Belg. (2) 41 : 321.
(Genotype: *Xiphiagrion cyanomelas* SELYS, ♂ ♀ "Moluques")

Xiphiagrion cyanomelas SELYS

Xiphiagrion cyanomelas SELYS, 1876, Bull. Acad. Belg. (2) 41 : 321-322. — ♂ ♀ "Moluques".

Xiphiagrion cyanomelas RIS, 1915, Tijdschr. Ent. 58 : 12, 21 (♂ ♀ Simalur); LIEFTINCK, 1929, *ibid.* 72 : 143-147 (♂ ♀ Java), fig. 33-34 (♂ penis & app.); LIEFTINCK, 1934, *Treubia*, 14 : 400 (Java, bionomics, distrib.); LIEFTINCK, 1936, *Revue Suisse Zool.*, 43 : 153-156 (larval struct., loc. diff.), fig. 16 b (larval labium, Java); LIEFTINCK, 1948, *Treubia*, 19 : 285, 292 (♂ ♀ Engano; Simalur, Sumatra, Java); LIEFTINCK, 1949, *Nova Guinea, new ser.*, 5 : 195-197 (notes).

Range. — Simalur; Engano; Sumatra.

Java.

Borneo.

Habitat. — A species of eastern origin, with a wide but scattered distribution throughout Indonesia and usually occurring in large colonies where found. Breeds equally in stagnant water and in brooks with a slow current, but always in open country, from near sea-level up to 1500 m. In Java found in barren mountainous areas (crater-lakes, solfataras), but elsewhere also along the borders of ponds, reservoirs, etc. Can stand tepid and mineralized waters. Probably wind-borne.

Genus **ACIAGRION** SELYS

Aciagrion SELYS, 1891, *Ann. Mus. civ. Genova*, 30 : 509-511.
(Genotype: *Pseudagrion hisopa* SELYS, ♂ Malaya)

Aciagrion aciculare LIEFTINCK

Aciagrion aciculare LIEFTINCK, 1929, *Tijdschr. Ent.* 72 : 117-121, fig. 10-11 (♂ penis & app.) — ♂ ♀ W. Java.

Aciagrion aciculare LIEFTINCK, 1934, *Stylops*, 3 : 17 (♂ add. descr., Java & Sumatra); SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 344, fig. 42 (♀ abd.; ♂ ♀ Java); LIEFTINCK, 1934, *Treubia*, 14 : 402-403 (Java, notes); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 12 (♂ ♀ Sumatra).

Range. — Sumatra (east and south); Billiton.

Java (west and central south).

Habitat. — Weedy ponds and forest marshes, from sea-level up to 1000 m. Chiefly in low country.

Aciagrion borneense RIS

Aciagrion borneense RIS, 1917, Ann. Soc. ent. Belg. 55 : 234-235, fig. 2-3* (♂ wings & app.) — ♂ W. Borneo.

Aciagrion borneense LAIDLAW, 1924, Proc. U.S. Nat. Mus. 66 : 4 (key), 7 (♂ ♀ Lower Siam; Malaya), pl. 1, fig. 10, 12 & 13 (♂ apex abd., penis, ♀ apex abd., Siam); RIS, 1927, Zool. Meded. 10 : 22-23 (♂ ♀ Sumatra); LAIDLAW, J. Fed. Mal. States Mus. 17 : 553 (Kedah Peak).

Range. — Siam; Malaya.

Sumatra (west).

• Borneo (west and south).

Habitat. — Swampy forest in low country; caught in Malaya as high as 800-1100 m on Kedah Peak.

Aciagrion fasciculare LIEFTINCK

Aciagrion fasciculare LIEFTINCK, 1934, Stylops, 3 : 15-17, fig. 6-7 (penis & app.) — ♂ W. Java.

Aciagrion fasciculare LIEFTINCK, 1934, Treubia, 14 : 403 (Java, notes).

Range. — Java (west).

Habitat. — Only known from a few marshes and shallow lakes in the hills of West Java, 800-900 m.

Aciagrion feuerborni SCHMIDT

Aciagrion feuerborni SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 344-346, fig. 43-46 (♂ app., penis, ♀ proth. & abd.) — ♂ ♀ N. Sumatra.

Pseudagrion hypermelas KRÜGER, 1898, Stett. ent. Ztg. 59 : 119 (♂ N. E. Sumatra).

Range. — Sumatra (north).

Habitat. — Forest lakes in submontane areas, 1200-1600 m.

Aciagrion hisopa hisopa (SELYS)

Pseudagrion ? hisopa SELYS, 1876, Bull. Acad. Belg. (2) 42 : 509-510. — ♂ Pulo Besoar (Malaya).

Aciagrion hisopa LAIDLAW, 1924, Proc. U.S. Nat. Mus. 66 : 3 (key), 5-6, pl. 1, fig. 8 (penis, Singapore; ♂ ♀ Malaya).

Range. — Malaya.

Aciagrion tillyardi LAIDLAW

Aciagrion tillyardi LAIDLAW, 1919, Rec. Ind. Mus. 16 : 187. — ♂ ♀ Assam.

Aciagrion tillyardi LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (♂ N. E. Sumatra).

Range. — Sumatra (northeast).

Suborder ANISOPTERA

Family GOMPHIDAE

Subfamily LINDENIINAE²⁾

Genus ICTINOGOMPHUS COWLEY

Ictinogomphus COWLEY, 1934, *Entomologist*, 67 : 274.

(Genotype: *Ictinus ferox* RAMBUR, ♂ Senegal)

Indictinogomphus FRASER, 1939, *Proc. R. Ent. Soc. London (B)* 8 : 21.

(Genotype: *Diastatomma rapax* RAMBUR, ♂ Bombay, India²⁾)

Austrictinogomphus FRASER, 1940, *Trans. R. Ent. Soc. London*, 90 : 548, 550.

(Genotype: *Ictinus acutus* LAIDLAW, ♂ Borneo)

***Ictinogomphus acutus* (LAIDLAW)**

Ictinus acutus LAIDLAW, 1914, *Proc. Zool. Soc. London* : 51-52, pl. 1, fig. 3 (♂ app.)

— ♂ Sarawak (N. W. Borneo).

Ictinus acutus SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 357 (key, not seen).

indictinogomphus acutus FRASER, 1939, *Proc. R. Ent. Soc. London (B)* 8 : 21.

Austrictinogomphus acutus FRASER, 1940, *Trans. R. Ent. Soc. London*, 93 : 550
("Distribution Papuan", *err.* = Borneo!), pl. 6, fig. 4 (penis); FRASER, 1940,
Australian Zoologist, 9 : 372 (footnote).

Range. — Billiton.

Borneo.

Habitat. — Sluggish lowland streams and bog-ponds, especially those on peaty soil in forest swamps.

***Ictinogomphus decoratus decoratus* (SELYS)**

Ictinus decoratus SELYS, 1854, *Bull. Acad. Belg.* 21 (2) : 89. — ♂♀ Java.

Diastatomma decorata BURMEISTER, 1839, *Handb. Ent.* 2 : 832 (♂ Java, *nom. nud.*)

Ictinus decoratus SELYS & HAGEN, 1858, *Mém. Soc. Sci. Liège*, 11 : 533-535 (♂♀ Java), pl. 14, fig. 4 (♂♀ struct.); CALVERT, 1898, *Trans. Amer. Ent. Soc.* 25 : 51 (♂ BURMEISTER'S ex.); WILLIAMSON, 1907, *Proc. U.S. Nat. Mus.* 33 : 279; LAIDLAW, 1930, *Trans. Ent. Soc. London*, 78 : 177; SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 359 (key), 362 (♂♀ E. Java), fig. 54, 61 d & 64 (♂ wing-base, abd. & thor.); LIEFTINCK, 1934, *Treubia*, 14 : 436-437 (S. Sumatra & Java; bionomics, larva &c.); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 18-19 (♂♀ Sumatra, notes on races); SCHMIDT, 1936, *Senckenbergiana*, 18 : 270, fig. 1 a (exuvia, Java).

Ictinogomphus decoratus LIEFTINCK, 1936, *De Trop. Natuur*, 25, jub.-no.: 103 (W. Java), fig. 3-5 (photogr., ♀ insects).

Indictinogomphus decoratus FRASER, 1939, *Proc. R. Ent. Soc. London (B)* 8 : 21.

1) Syn.: *Ictinogomphinae*.

2) In a recent paper on Australian Gomphidae (*Cat. Coll. Selys*, 21, Gomphidae, 1953 : 10), F. C. FRASER referred the polytypic Australo-Papuan species *I. australis* (SELYS) to the genus *Austrictinogomphus*, apparently overlooking his own genus *Indictinogomphus*, to which both *rapax* and *australis* had been assigned already by the same author on a previous occasion [*Proc. R. Ent. Soc. London*, 1939 (B) 8 : 21].

Range. — Sumatra (south).

Billiton ¹⁾.

Java.

Habitat. — Sluggish streams, ponds and lakes in wooded districts, from near sea-level up to 650 m.

Ictinogomphus decoratus melaenops (SELYS)

Ictinus melaenops SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 532-533 (♀), 686-687 (♂), pl. 15, fig. 1 (♂ apex abd.) — ♂♀ Malaya.

Ictinus melaenops SELYS, 1859, Bull. Acad. Belg. (2) 7 : 548-549 (♂♀ Malaya); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 279, 280-281 (Trang, Lower Siam), fig. 7 & 8 (♂ & ♀ wings), fig. 29³ (thor.); RIS, 1911, Ann. Soc. ent. Belg. 55 : 239-240 (♂ W. Borneo; ♂♀ Perak), fig. 9 (thor.); LAIDLAW, 1914, Proc. Zool. Soc. London : 53 (♀ Sarawak); RIS, 1927, Zool. Meded. 10 : 26 (♂ centr. Sumatra, notes on variation); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 4 (♂ N. E. Sumatra); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 177; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 207 (♂ Selangor); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 359 (key), 362 (♂♀ N. E. & S. Sumatra; ♂ Borneo), fig. 57b-c (♀ occiput, S. & N. E. Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 18-19 (S. Sumatra, notes on intermediates).

Ictinus ? decoratus SELYS, 1889, Ann. Mus. civ. Genova, 27 : 469 (*pars*, Bangka, no descr.).

Ictinus melaenops race *sumatranus* KRÜGER, 1899, Stett. ent. Ztg. 59 : 315-316 (♂♀ N. E. Sumatra).

Indictinogomphus melaenops FRASER, 1939, Proc. R. Ent. Soc. London (B) 8 : 21; FRASER, 1942, *ibid.* (B) 11 : 99 (♂ Malaya).

Ictinogomphus decoratus melaenops LIEFTINCK, 1948, Treubia, 19 : 286 (Nias, Sumatra, Borneo).

Range. — Siam; Malaya.

P. Wé; Nias; Sumatra (north and central) ²⁾; Bangka. Borneo ³⁾.

Genus GOMPHIDIA SELYS

Gomphidia SELYS, 1854, Bull. Acad. Belg. (21) 2 : 86.

(Genotype: *Gomphidia T-nigrum* SELYS, ♂♀ N. India)

Gomphidictinus FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 99-100⁴⁾.

(Genotype: *Gomphidictinus wheeleri* FRASER = *Gomphidia perakensis* LAIDLAW, ♂ Malaya)

Gomphidia abbotti abbotti WILLIAMSON

Gomphidia abbotti WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 282-285, fig. 9 (♂ wings), fig. 10 A-B (♂ app.), fig. 29⁵ (♂ thor.) — ♂ Trang (Lower Siam).

¹⁾ Populations from Billiton are nearer to typical *decoratus* than to *melaenops*.
²⁾ In south Sumatra the ranges of the two subspecies overlap. In one population insects inseparable from both *decoratus* and *melaenops* may occur together with those which are exactly intermediate.

³⁾ Some specimens from southeastern districts approach Javan *decoratus* in the extent of the light markings on the thorax.

?*Gomphidia macclachlani* KRÜGER, 1899, Stett. ent. Ztg. 59 : 314-315 (♂ N. E. Sumatra); ?RIS, 1927, Zool. Meded. 10 : 26-27 (♂ central Sumatra).

Gomphidia abbotti abbotti LIEFTINCK, 1948, Treubia, 19 : 261-263 (♂ Jor, Perak & P. Wé, N. Sumatra), 265-266 (key), fig. 13 C-D (♂ genit., Siam, recte Perak), fig. 14 B & 15 C-D (♂ app., Siam, recte Perak).

Range. — Siam; Malaya.

P. Wé; Sumatra (not south).

Gomphidia abbotti audax LIEFTINCK

Gomphidia abbotti audax LIEFTINCK, 1948, Treubia, 19 : 263-264, 264-266 (key), fig. 13 E-F (♂ genit.), fig. 14 C & 15 E-F (♂ app.) — ♂ S. Sumatra.

Range. — Sumatra (south).

Gomphidia caesarea LIEFTINCK

Gomphidia caesarea LIEFTINCK, 1929, Tijdschr. Ent. 72 : 139-143, fig. 31-32 (♂ thor. & app.) — ♂ W. Borneo.

Gomphidia caesarea LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 179; LIEFTINCK, 1948, Treubia, 19 : 258 (note).

Range. — Borneo (central west).

Habitat. — Only known from the type locality. Low country.

Gomphidia javanica FÖRSTER

Gomphidia javanica FÖRSTER, 1899, Ann. Soc. ent. Belg. 43 : 66-68. — ♂ E. Java.

Gomphidia javanica KRÜGER, 1899, Stett. ent. Ztg. 59 : 328-329 (♂ Java); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 281; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 179; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 363-364 (♂ W. Java), fig. 66 (♂ thor.); LIEFTINCK, 1934, Treubia, 14 : 437 (W. & E. Java, notes); LIEFTINCK, 1950, *ibid.* 20 : 664-665 (phenology).

Range. — Java.

Habitat. — Slow flowing streams in forested areas, 100-600 m. Very local. Adults travel up and down stream, perching on twigs in the stream-bed and never leave their breeding place. Larva of massive robust build, sluggish, cryptically coloured, living among trash and rotten leaves on the lenitic side of the stream.

Gomphidia macclachlani SELYS

Gomphidia macclachlani SELYS, 1873, Bull. Acad. Belg. (2) 35 : 767-768. — ♂ ♀ Labuan (N. Borneo).

Gomphidia macclachlani WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 281-282; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 178; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 237 (♀ N. Borneo); LIEFTINCK, 1948, Treubia, 19 : 258-261, 265 (key; ♂ type; ♂ W., N. & S. E. Borneo; ♂ Billiton), fig. 13 (♂ genit., W. Borneo), fig. 14 A & 15 A-B (♂ app., W. Borneo).

Range. — Billiton.

Borneo.

Habitat. — Found in similar situations to *javanica*, sometimes breeding in brooks with a very slow current.

Gomphidia perakensis LAIDLAW

- *Gomphidia perakensis* LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 81-82, pl. 6, fig. 1-2 (♂ insect, coloured) — ♂ Perak (Malaya).
- *Gomphidia perakensis* WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 281, 282; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 208 (♂ Perak & Pahang);
- *Gomphidictinus wheeleri* FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 99-101 (♂ Malaya), fig. 2 (wing-bases, fig. 3 a-e (♂ genit. & app.)).

Range. — Malaya.

Habitat. — Forest streams, 300-400 m.

Subfamily HAGENIINAE

Genus *SIEBOLDIUS* SELYS

Sieboldius SELYS, 1854, Bull. Acad. Belg. 21 (2) : 83.

(Genotype: *Sieboldius japonicus* SELYS, ♂ — not ♀ — Japan, *err. pro* Borneo)

Sieboldius japonicus SELYS

- *Sieboldius japonicus* SELYS, 1854, Bull. Acad. Belg. 21 (2) : 83-84 (*pars*, ♂ only). — ♂ "Japon" (*recte* Borneo).
- *Sieboldius japonicus* SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 504-506 (*pars*, ♂ Borneo only), pl. 13, fig. 3 (♂ struct.); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 285 (♂ Trang, Lower Siam), fig. 11 (♂ wings, Siam), fig. 297 (♂ thor., id.); LAIDLAW, 1914, Proc. Zool. Soc. London : 53 (♂ Sarawak); LIEFTINCK, 1929, Versl. 62^e winterverg. N. E. V., Tijdschr. Ent. 72 : xlv-xlvii (larva, Perak); HINCKS, 1930, Sarawak Mus. Journ. 4 : 52 (♂ Sarawak); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 175-176; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 207 & 237 (Perak & ♂ N. Borneo); LIEFTINCK, 1933, Bull. Raffles Mus. 7 : 102-108 (larva, Jor in Perak), fig. 1 (larval labium), pl. 2, fig. 1-3 (photogr., larva), pl. 3, fig. 1-3 (larval struct.); LIEFTINCK, 1935, Mis. Zool. Sum. 92-93 : 18 (♂ S. Sumatra).
- *Sieboldius japonicus* SELYS, 1883, Ann. Soc. ent. Belg. 27 : 113-115 (♂ Borneo, descr. & notes); FÖRSTER, 1914, Arch. Naturgesch. 80 : 82 (♂ ♀ centr. W. Sumatra, note).
- *Sieboldius grandis* KRÜGER, 1899, Stett. ent. Ztg. 59 : 311-314 (♀ N. E. Sumatra); LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 82-83 (♂ Perak), pl. 6, fig. 3, 3 a & 4 (♂ ins., coloured; apex abd. & body).

Range. — Siam; Malaya.

Sumatra.

Borneo.

Habitat. — Swift running rivers and streams in virgin jungle of the lowlands, not above 600 m. Males settle on boulders in mid-stream. Breeds probably in shallow leaf-bottomed marshes in the neighbourhood of its riverine habitat, or in rock-pools.

Subfamily EPIGOMPHINAE

Genus LEPTOGOMPHUS SELYS

Leptogomphus SELYS, 1878, Bull. Acad. Belg. (2) 46 : 442-443.
(Genotype: *Leptogomphus semperi* SELYS, ♂ Mindanao)

Leptogomphus coomansi LAIDLAW

Leptogomphus coomansi LAIDLAW, 1936, Treubia, 15 : 267-269, fig. 1 (♂ app. & genit.) — ♂ W. Borneo.

?*Leptogomphus semperi* WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 293, fig. 17 (♂ wings, Borneo).

Leptogomphus coomansi LIEFTINCK, 1948, Treubia, 19 : 245-247 (♂ ♀ W. Borneo), pl. 8 (♀ occiput & thor.), fig. 10 (♀ genit.).

Range. — Borneo.

Habitat. — Runnels in forest-marshes of the lowlands.

Leptogomphus lansbergei assimilis KRÜGER

Leptogomphus lansbergei c.g. *assimilis* KRÜGER, 1899, Stett. Ent. Ztg. 59 : 307-308.
— ♂ ♀ N. E. Sumatra.

Leptogomphus assimilis WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 291, 292-293.

Leptogomphus lansbergei LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 226-228 (♂ ♀ Sipora; ♀ Pagai; ♂ W. Sumatra), fig. 1 (♀ vertex, Sipora).

Leptogomphus lansbergei assimilis RIS, 1927, Zool. Meded. 10 : 28-29 (♂ W. Sumatra), fig. 13-18 (♂ app., genit. & thor.); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 179; ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 237 (♂ N. Borneo, no descr.); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 20 (♂ ♀ S. Sumatra); LIEFTINCK, 1948, Treubia, 19 : 245-246 (comp. notes, Sumatra), fig. 9 (♀ occiput, S. W. Sumatra), 251-254 (larva, S. Sumatra), pl. 10, fig. 1-6 (larva & larval struct., S. Sumatra); LIEFTINCK, 1948, ibid.: 286 (Mentawai Is.; Sumatra; ? Borneo).

Range. — Sipora & Pagai (Mentawai Is.); Sumatra.
Borneo (?).

Habitat. — Widely distributed in Sumatra, from 50 m to 650 m above sea-level.

***Leptogomphus lansbergei lansbergei* SELYS**

Leptogomphus ? lansbergei SELYS, 1878, Bull. Acad. Belg. (2) 46 : 446-447. — ♀ Java.

Leptogomphus ? lansbergei SELYS, 1878, Bull. Acad. Belg. (2) 46 : 446-447. — ♀ Java.

Leptogomphus lansbergei WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 291, 292-293; FRASER, 1926, Treubia, 8 : 480 (♀ Java), fig. 4 b (combined ♂ + ♀ insect!); FRASER, 1927, J. Bombay Nat. Hist. Soc. 31 : 885 (♂ Java), fig. 2³ (♂ app.); RIS, 1927, Zool. Meded. 10 : 28, fig. 15 (♂ app., W. Java); FRASER, 1940, Trans. R. Ent. Soc. London, 90, pl. 4, fig. 9 (penis).

Gomphus (Malayogomphus) semiteres FÖRSTER, 1914, Arch. Naturgesch. 80 : 77-79 (♂ ♀ S. W. Java).

Leptogomphus lansbergei lansbergei RIS, 1927, Zool. Meded. 10 : 28, fig. 15 (♂ app., W. Java); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 179; LIEFTINCK, 1934, Treubia, 14 : 441-442 (Java, bionomics); LIEFTINCK, 1948, ibid. 19 : 245-246 (comp. notes, Java), fig. 9 (♀ occiput, centr. Java), 251-254, fig. 11³ (larva, W. Java, ecol. & biol. notes); LIEFTINCK, 1950, ibid. 20 : 664-665 (phenology).

Range. — Java.

Habitat. — Shallow streams and runnels flowing through marshy spots in dense primitive forest. Occurs from near sea-level up to 800 m. Adults rest on leaves in sunlit openings. Larva hidden among benthic debris in pools or on the lenitic shore of a stream.

***Leptogomphus mariae* LIEFTINCK**

Leptogomphus mariae LIEFTINCK, 1948, Treubia, 19 : 249-251, pl. 8 (♀ occiput & thor.), fig. 10 (♀ genit.) — ♀ E. Borneo.

• Range. — Borneo (east).

Habitat. — Lowland forest.

***Leptogomphus pendleburyi* LAIDLAW**

Leptogomphus pendleburyi LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551, 555-556, fig. 1 (♂ app.) — ♂ Mt. Kinabalu (N. Borneo).

Leptogomphus pendleburyi LIEFTINCK, 1948, Treubia, 19 : 251 (note on type).

Range. — Borneo (north).

Habitat. — Known only from the type locality, at about 1000 m.

***Leptogomphus risi* LAIDLAW**

• *Leptogomphus risi* LAIDLAW, 1933, Bull. Raffles Mus. 7 (1932) : 95-96, fig. 1 (♂ app.) — ♂ Kedah (Malaya).

Range. — Malaya.

Habitat. — Known only from near Jitra (Kedah).

Leptogomphus williamsoni LAIDLAW

Leptogomphus williamsoni LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93, 94-95, fig. 1-2 (♂ genit. & app.) — ♂ N. Sarawak (N. W. Borneo).

Leptogomphus williamsoni LAIDLAW, 1914, Proc. Zool. Soc. London : 54-55; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 180; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 237; LAIDLAW, 1934, ibid. 17 : 551 (Sarawak); LIEFTINCK, 1948, Treubia, 19 : 247-249 (♀ E. Borneo), pl. 8 (♀ occiput & thor.), fig. 10 (♀ genit.).

Range. — Borneo (northwest and east).

Habitat. — Collected at about 700 m on Mt. Batu Lawi, and in east Borneo in low-lying forest.

Genus MICROGOMPHUS SELYS

Microgomphus SELYS, 1858, Mém. Soc. Sci. Liège, 11 : 360.

(Genotype: *Microgomphus chelififer* SELYS, ♂ Malaya)

Microgomphus chelififer chelififer SELYS

Microgomphus chelififer SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 361-362, pl. 6, fig. 3 (♂ occiput, genit. & app.) — ♂ Mt. Ophir (Malaya).

Microgomphus chelififer SELYS, 1859, Bull. Acad. Belg. (2) 7 : 533-534 (type); KRÜGER, 1899, Stett. ent. Ztg. 59 : 302 (♂ N. E. Sumatra); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 295-296, fig. 21-22 (♂ wings, type Mt. Ophir; ♀ wings, Borneo); LAIDLAW, 1914, Proc. Zool. Soc. London : 54 (♂ Saribas, Borneo); LIEFTINCK, 1929, Tijdschr. Ent. 72 : 128-130 (♂ type, ♀ W. Borneo), fig. 21 (♂ thor., type); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 182; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 237 (♂ N. Borneo).

Range. — Malaya; Sumatra (not south).

Borneo (universal).

Microgomphus chelififer thelyphonus LIEFTINCK

Microgomphus thelyphonus LIEFTINCK, 1929, Tijdschr. Ent. 72 : 125-128, 130 (key), fig. 17-20 (♂ thor. & app., ♀ occiput & genit.) — ♂ ♀ S. W. Java.

Microgomphus thelyphonus LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 183.

Microgomphus chelififer thelyphonus LIEFTINCK, 1934, Treubia, 14 : 442 (♂ S. Sumatra & ♂ S. Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 19 (♂ ♀ S. Sumatra); LIEFTINCK, 1959, Treubia, 20 : 664-665 (phenology).

Range. — Sumatra (south).

Java (west and central south).

Habitat. — Shady forest brooks with a sandy bottom in densely wooded areas. Adults rest on gravel bars and are never found away from their breeding places. Lowland and hills, up to 500 m.

Genus **HELIOGOMPHUS** LAIDLAW

Heliogomphus LAIDLAW, 1922, Rec. Ind. Mus. 24 : 375, 378-379.

(Genotype: *Heliogomphus selysi* FRASER, ♂ Burma)

*Lamelligomphus*¹⁾ FRASER, 1922, Rec. Ind. Mus. 24 : 426.

(Genotype: *Onychogomphus biforceps* SELYS, ♂ Darjeeling)

Heliogomphus blandulus LIEFTINCK

Heliogomphus blandulus LIEFTINCK, 1929, Tijdschr. Ent. 72 : 123-125, fig. 14-16
(♂ thor., genit. & app.) — ♂ W. Borneo.

Heliogomphus blandulus LAIDLAW, 1930, Trans. Zool. Soc. London, 75 : 182; FRASER, 1942, Trans. R. Ent. Soc. London, 92 : 335 (key), fig. 3¹⁶ (♂ thor.) & pl. 1, fig. 4 (♂ app.).

Range. — Borneo (central west).

Habitat. — Known only from the type locality, in a marshy spot beside a stream in dense jungle.

Heliogomphus drescheri LIEFTINCK

Heliogomphus drescheri LIEFTINCK, 1929, Tijdschr. Ent. 72 : 121-123, 147, fig. 12-13
(♂ thor. & app.) — ♂♀ central Java.

Heliogomphus drescheri LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 182;

- SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 365 (♂ Java); LIEFTINCK, 1934, Treubia, 14 : 442 (Java & S. Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 19 (♂♀ S. Sumatra); FRASER, 1940, Trans. R. Ent. Soc. London, 90, pl. 4, fig. 8
- (penis); FRASER, 1942, ibid. 92 : 335 (key), fig. 3¹⁵ (thor.), pl. 1, fig. 7 (♂ app.); LIEFTINCK, 1948, Treubia, 19 : 251, fig. 11¹ (larva, W. Java).

Range. — Sumatra (south).

Java.

Habitat. — Breeds in shallow, leaf-bottomed brooks and seepages in virgin forest, also in marshy spots and runnels beside larger streams, 300-950 m. Settles on surrounding herbage and never wanders far from its breeding-place. Larva flat, leaf-like, very sluggish, found among rotten leaves and debris in pools and shallows on the lenitic side of a stream.

• 1) *Lamelligomphus* was originally proposed for the larva of an Indian species of *Heliogomphus* (specific identity uncertain) and *ipso facto* is synonymous with *Heliogomphus*. This larva was inadvertently associated with the imago of *Onychogomphus biforceps* SELYS, which subsequently became the genotype of *Lamelligomphus*. Since *O. biforceps* and allied species have nothing to recommend their generic segregation, *Lamelligomphus* becomes also a synonym of *Onychogomphus*. (See LIEFTINCK, 1941, Treubia, 18 : 248-249 & 251-253; and p. 91 of this list.)

***Heliogomphus gracilis* (KRÜGER)**

Leptogomphus ? *gracilis* KRÜGER, 1899, Stett. ent. Ztg. 59 : 302-306. — ♂♀ N. E. Sumatra.

Leptogomphus gracilis WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 291, 292.

Heliogomphus gracilis LAIDLAW, 1922, Rec. Ind. Mus. 24 : 379; RIS, 1927, Zool. Meded. 10 : 27-28 (♂ centr. Sumatra), fig. 12-14 (♂ app., genit. & thor.); LAIDLAW, 1930, Trans. Zool. Soc. London, 78 : 181; FRASER, 1926, Treubia, 8 : 480-481; FRASER, 1942, Trans. R. Ent. Soc. London, 92 : 335 (key), fig. 3^s (thor.) & pl. 1, fig. 13 (♂ app.).

Range. — Sumatra (not south).

Habitat. — Found in similar situations to *drescheri*, up to about 1000 m.

***Heliogomphus kelantanensis* (LAIDLAW)**

Gomphus kelantanensis LAIDLAW, 1902, Proc. Zool. Soc. London, 2 : 382 (foot-note, *nom. nov.* for *G. consobrinus* *nec* WALSH).

Gomphus consobrinus LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 80 (♂♀ Kelantan, Malaya), pl. 5, fig. 5 (♂ insect).

Leptogomphus kelantanensis WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 291, 292; LAIDLAW, 1914, Proc. Zool. Soc. London : 55; LAIDLAW, 1922, Rec. Ind. Mus. 24 : 378; LAIDLAW, 1925, Proc. Zool. Soc. London, 2 : 444, fig. 2 (♂ wings, type); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 181; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 208; LIEFTINCK, 1933, Bull. Raffles Mus. 7 : 109-113 (♀ exuv., Malaya), fig. 2 (larval labium), pl. 2, fig. 6 & pl. 4, fig. 1-4 (larva & larval struct.); FRASER, 1942, Trans. R. Ent. Soc. London, 92 : 335 (key), 2¹⁻² (♂ app.), fig. 3² (thor.); LIEFTINCK, 1948, Treubia, 19 : 251, fig. 11² (larva, Perak).

Range. — Malaya.

Genus MACROGOMPHUS SELYS

Macrogomphus SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 347-348.

(Genotype: *Heterogomphus robustus* SELYS, ♂ Tibet)

***Macrogomphus decemlineatus* SELYS**

Macrogomphus decemlineatus SELYS, 1878, Bull. Acad. Belg. (2) 46 : 414 (key), 418-419. — ♂ Lahat, Palembang (E. Sumatra).

Macrogomphus decemlineatus SELYS, 1889, Ann. Mus. civ. Genova, 27 : 469 (Sintang, W. Borneo); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 289; LAIDLAW, 1914, Proc. Zool. Soc. London : 54 (♂ Sarawak); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 184; LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 20 (♂ E. Sumatra).

Range. — Sumatra; Billiton.
Borneo.

Habitat. — Sluggish streams in lowland forest.

Macrogomphus abnormis SELYS¹⁾

Macrogomphus abnormis SELYS, 1884, C. R. Soc. ent. Belg. 28, séance 5.1.1884 : 10.

— ♀ ? Borneo.

Macrogomphus abnormis WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 288; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 184.

• Range. — Borneo.

Habitat. — Known only from the type locality.

Macrogomphus parallelogramma albardae SELYS²⁾

Macrogomphus albardae SELYS, 1878, Bull. Acad. Belg. (2) 46 : 413-414 (key), 416.

418. — ♂ "Palembang, Sumatra", *recte* Bangka (*terr. typ.*); ♀ Lahat, Palembang (E. Sumatra).

Macrogomphus albardae SELYS, 1889, Ann. Mus. civ. Genova, 27 : 469 (Sumatra & Bangka); KRÜGER, 1899, Stett. ent. Ztg. 59 : 300-301 (♂ ♀ N. E. Sumatra); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 289; RIS, 1911, Ann. Soc. ent. Belg. 55 : 238-239 (♂ W. Borneo, ♂ N. E. Sumatra), fig. 7 (♂ thor., W. Borneo), fig. 8 (♂ abd., N. E. Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 4 (♀ N. E. Sumatra); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 184; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 208 (♂ Lower Siam).

Macrogomphus parallelogramma albardae LIEFTINCK, 1935, Treubia, 15 : 196-201 (Penins. Siam; ♂ ♀ N. E., E. & S. Sumatra; ♂ Bangka; ♂ W. Borneo), fig. 9 (♂ app., W. Borneo).

• Range. — Siam.

Sumatra; Bangka; Billiton.

• Borneo (west and south).

Habitat. — Occurs in similar situations to the next.

Macrogomphus parallelogramma parallelogramma (BURMEISTER)

Diastomma parallelogramma BURMEISTER, 1839, Handb. Ent. 2 : 832-833. — ♀

Java.

Heterogomphus ? parallelogramma SELYS, 1854, Bull. Acad. Belg. 21 (2) : 28 (*see* BURMEISTER).

Macrogomphus parallelogramma SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 350-352 (♀ Java, type), 663-665 (♂ Java), 688 (add. descr.), pl. 5, fig. 5 (♀ struct., type), pl. 20, fig. 4 (♂ struct.); SELYS, 1869, Bull. Acad. Belg. (2)

1) The validity of this species is still open to doubt. I have re-examined the type in the Brussels Museum and found that it agrees well with *quadratus*, the configuration of the occipital plate being identical in the two species. The only well-marked difference is found in the strangely aberrant colour-scheme of the thorax of *abnormis*, and I have never seen anything approaching it in our material of the allied species. It seems likely that the name will eventually have to be reduced to a synonym of *quadratus*. The ♂ of *abnormis* has never been found.

2) Although it is difficult to draw a line between *albardae* from Billiton and south Sumatra and populations of the typical race from Java, it seems just possible with fair series before us to separate the two forms on average colour characteristics.

28¹: 172 (comp. descr.); SELYS, 1878, *ibid.* (2) 46 : 414 (key, ♂ ♀ Java); CALVERT, 1898, *Trans. Amer. Ent. Soc.* 25 : 51 (♀ type); WILLIAMSON, 1907, *Proc. U.S. Nat. Mus.* 33 : 289; RIS, 1912, *Tijdschr. Ent.* 55 : 162 (♀ W. Java); LAIDLAW, 1930, *Trans. Ent. Soc. London*, 78 : 183; SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 364-365 (♂ ♀ W. Java), fig. 67 (♀ faces-marks); LIEFTINCK, 1934, *Treubia*, 14 : 440-441 (♂ ♀ Java, bionomics); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 19 (♂ ♀ S. Sumatra, notes); LIEFTINCK, 1950, *Treubia*, 20 : 664-665 (phenology).
Macrogomphus parallelogramma parallelogramma LIEFTINCK, 1935, *Treubia*, 15 : 195-201 (♂ ♀ Java, S. E. & S. Sumatra, incl. key).

Range. — Sumatra (south).

Java.

Habitat. — Confined to wooded districts of the alluvial plains, also in cultivated areas. Adults often wander far away from water, taking shelter in shrubbery and neighbouring woods. Often crepuscular ¹⁾. Breeds in sluggish streams with silty or muddy bottoms, but also in forest brooks with a bottom of clean sand or fine gravel.

Macrogomphus phalantus LIEFTINCK

Macrogomphus phalantus LIEFTINCK, 1935, *Treubia*, 15 : 201-203, fig. 10-12 (♂ thor., genit. & app.) — ♂ ♀ W. Borneo.

Range. — Sumatra (east).

Borneo (west).

Habitat. — Swampy forest in low country. Once taken at dusk, and at Palembang captured soon after midnight while flying to and fro in a verandah alongside of a house.

Macrogomphus quadratus SELYS

Macrogomphus quadratus SELYS, 1878, *Bull. Acad. Belg.* (2) 46 : 412-413 (key), 415-416. — ♂ Sumatra.

Macrogomphus quadratus SELYS, 1889, *Ann. Mus. civ. Genova*, 27 : 469 ("Sumatra?; Borneo"); KRÜGER, 1899, *Stett. ent. Ztg.* 59 : 296-298 (♂ ♀ N. Borneo); WILLIAMSON, 1907, *Proc. U.S. Nat. Mus.* 33 : 287-288, 290 (♂ Big Tambelan), fig. 14, 16 & 29^s (♂ wings, app. & thor.); LAIDLAW, 1930, *Trans. Ent. Soc. London*, 78 : 183 ("Sumatra, Borneo"); HINCKS, 1930, *Sarawak Mus. Journ.* 4 : 52 (♂ Sarawak); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 20 (♂ S. E. Sumatra; W. Borneo, note).

Range. — Tambelan I. (South China Sea).

Sumatra (southeast and south); Billiton.

Borneo.

Habitat. — Sluggish streams in lowland forest.

¹⁾ Females are attracted to artificial light. Near Djasinga males were repeatedly observed hovering about sunset over a forest stream and remaining suspended in the air for many minutes in succession, about four feet above the water-mark.

Macrogomphus thoracicus MACLACHLAN

Macrogomphus thoracicus MACLACHLAN, 1884, C. R. Soc. ent. Belg. 28, séance 5.1. 1884 : 7. — ♀ Perak (Malaya).

Macrogomphus quadratus FÖPSTER, 1899, Ann. Soc. ent. Belg. 43 : 65-66 (♀ N. E. Sumatra).

Macrogomphus thoracicus KRÜGER, 1899, Stett. ent. Ztg. 59 : 298-300 (♂ ♀ N. E. Sumatra); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 288; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 184 ("Malaya"); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 208 (♂ Perak).

Range. — Malaya.

Sumatra (north & northeast).

Subfamily GOMPHINAE

Genus **MEROGOMPHUS** MARTIN

Merogomphus MARTIN, 1904, Mission Pavie, Zool. 3 : 214-215.

(Genotype: *Merogomphus paviei* MARTIN, ♂ ♀ Indo-China)

Merogomphus femoralis LAIDLAW

Merogomphus femoralis LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 210-212. — ♂ Selangor (Malaya).

Range. — Malaya.

Habitat. — Known only from Kuala Lumpur.

Merogomphus parvus (KRÜGER)

Leptogomphus parvus KRÜGER, 1899, Stett. ent. Ztg. 59 : 308-311. — ♂ ♀ N. E. Sumatra.

Merogomphus parvus WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 292-293; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 180.

Merogomphus parvus SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 365-366 (♂ ♀ types), fig. 68-70 (♀ thor., occiput & genit.); LIEFTINCK, 1941, Treubia, 18 : 234-235 (♂ type & ♂ S. Sumatra), 235-236 (♂ imago, S. Sumatra), 235-236 (♂ larva, id.), pl. 9, fig. 1-6 (larva & larval struct.), pl. 13, fig. 3-5 (♂ genit. & app.).

Range. — Sumatra.

Habitat. — Hill forest streams.

Genus **BURMAGOMPHUS** WILLIAMSON

Burmagomphus WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 273, 298-301.

(Genotype: *Burmagomphus arboreus* LIEFTINCK, ♂ Burma, n.n. pro *B. williamsoni*)

FRASER nec FÖRSTER = *B. vermiculatus* WILLIAMSON nec *vermicularis* MARTIN)

Burmagomphus arthuri LIEFTINCK

Burmagomphus arthuri LIEFTINCK, 1953, Treubia, 22 : 251-252, fig. 7 (♂ occiput, apex abd. & genit.) — ♀ S. E. Borneo.

Range. — Borneo (southeast).

Burmagomphus inscriptus (SELYS)

Onychogomphus ? inscriptus SELYS, 1878, Bull. Acad. Belg. (2) 46 : 422-423. — ♀ Java.

Onychogomphus inscriptus WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 309, 311 (key).

Burmagomphus jacobsoni RIS, 1912, Tijdschr. Ent. 55 : 162-164 (♂ N. Java), pl. 6, fig. 8 (♂ wings), pl. 7, fig. 5-7 (♂ thor., genit. & app.); LAIDLAW, 1922, Rec. Ind. Mus. 24 : 399 (note venation).

Burmagomphus inscriptus LIEFTINCK, 1929, Tijdschr. Ent. 72 : 130-131 (♂ ♀ Java), fig. 22 (♀ apex abd., type); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 190 (note); SCHMIDT, Arch. Hydrob. Suppl. 13 : 367 (key); LIEFTINCK, 1934, Treubia, 14 : 440. (W. & N. E. Java).

Range. — Java.

Habitat. — Slow flowing woodland streams in low country.

Burmagomphus insularis LAIDLAW

Burmagomphus vermiculatus insularis LAIDLAW, 1914, Proc. Zool. Soc. London : 55-57, pl. 1, fig. 2 (♂ thor.) — ♂ Sarawak (N. W. Borneo).

Burmagomphus insularis LAIDLAW, 1922, Rec. Ind. Mus. 24 : 399; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 189; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 367 (key); LIEFTINCK, 1953, Treubia, 22 : 252 (note).

Range. — Borneo (northwest).

Habitat. — Known only from the type locality.

Burmagomphus javicus SCHMIDT

Burmagomphus javicus SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 368 (key), 368-369, fig. 72-75 (♂ genit., ♀ occiput, ♂ thor. & ♀ genit.) — ♂ ♀ W. Java.

Burmagomphus javicus LIEFTINCK, 1934, Treubia, 14 : 440 (♀ W. Java, note); LIEFTINCK, 1950, *ibid.* 20 : 664-665 (phenology); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 131, 167-171 (♂ ♀ W. Java, notes imago & larva, variation &c.), fig. 32-33 (♂ ♀ thor., W. Java).

Range. — Java (west) ¹⁾.

Habitat. — Small clean-bottomed streams in forested areas, 100-600 m. Settles on foliage beside the streams in which it breeds. Larva very sluggish, buried superficially in fine sand or silt.

Burmagomphus williamsoni FÖRSTER

Burmagomphus vermicularis williamsoni FÖRSTER, 1914, Arch. Naturgesch. 80 : 76. — ♂ ♀ Jor (Perak, Malaya).

Burmagomphus spec. LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 189.

¹⁾ Occurs also in Sumba (LIEFTINCK, *loc. cit.* 1953).

Burmagomphus scimundi LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 212-214 (♂♀ Pahang, Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 368 (key, Borneo *err.*)

Burmagomphus williamsoni LIEFTINCK, 1940, Ceylon J. Sci. (B) 22 : 111-112 (synon.).

Range. — Malaya.

Genus ACROGOMPHUS LAIDLAW

Acrogomphus LAIDLAW, 1925, Proc. Zool. Soc. London : 439-440.

(Genotype: *Acrogomphus fraseri* LAIDLAW, ♂♀ S. India)

Acrogomphus malayanus LAIDLAW

Acrogomphus malayanus LAIDLAW, 1925, Proc. Zool. Soc. London : 443-444, fig. 1 (♂ wings). — ♂ Pulau Aor, Johore (Malaya).

Acrogomphus malayanus LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 192; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 214-215; LIEFTINCK, 1935, Treubia, 15 : 205; LIEFTINCK, 1937, *ibid.* 16 : 118-119 (notes venation); LIEFTINCK, 1941, *ibid.* 18 : 244-246 (larva, Perak), pl. 12, fig. 1-5 (larva & larval struct., Perak).

Range. — Malaya.

Acrogomphus minor LAIDLAW

Acrogomphus minor LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 215-217. — ♂ Selangor (Malaya, *terr. typ.*); ♀ Lower Siam.

• *Acrogomphus minor* LIEFTINCK, 1935, Treubia, 15 : 205.

Range. — Siam; Malaya.

Acrogomphus walshae LIEFTINCK

Acrogomphus walshi LIEFTINCK, 1935, Treubia, 15 : 203-205, fig. 13-15 (♂ thor., genit. & app.) — ♂ S. W. Sumatra.

Acrogomphus walshae LIEFTINCK, 1937, Treubia, 16 : 118 (footnote, *nom. emend.*), 118-119 (notes venation); LIEFTINCK, 1941, *ibid.* 18 : 240-242 (♂ S. Sumatra, ♂♀ Java), 242-244 (larva, S. Sumatra), pl. 11, fig. 1-5 (larva & larval struct., Sumatra), pl. 13, fig. 1-2 (♀ imago, occiput & apex abd., Java).

Range. — Sumatra (southern part).

Java (west).

Habitat. — Shady hill forest streams, 250-650 m, preferably those running through deep ravines. Habits arboreal, adults resting on leaves of neighbouring trees and shrubbery. Larva with strong burrowing habits, living well concealed and deeply buried in sand.

Genus **ONYCHOGOMPHUS** SELYS

- Onychogomphus* SELYS, 1854, Bull. Acad. Belg. 21 (2) : 30.
(Genotype: *Libellula forcipata* LINNAEUS, Europa)
*Lamelligomphus*¹⁾ FRASER, 1922, Rec. Ind. Mus. 24 : 426.
(Genotype: *Onychogomphus biforceps* SELYS, ♂ Darjeeling)
Nepogomphus FRASER, 1934, Fauna Brit. India, Odon. 2 : 159, 282-284.
(Genotype: *Onychogomphus modestus* SELYS, ♂ Bengal)

***Onychogomphus aemulus* LIEFTINCK**

Onychogomphus aemulus LIEFTINCK, 1937, Treubia, 16 : 115-119, fig. 31-32 (♂ thor., genit. & app.) — ♂ S. Sumatra.

Range. — Sumatra (south).

Habitat. — Caught over a shady forest brook in low country near Menggala (Lamongan).

***Onychogomphus banteng* LIEFTINCK**

Onychogomphus banteng LIEFTINCK, 1929, Tijdschr. Ent. 72 : 133-136, fig. 25-27 (♂ thor., genit. & app.) — ♂ W. Java.

Lamelligomphus banteng LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 194.

Onychogomphus banteng LIEFTINCK, 1934, Treubia, 14 : 438.

Range. — Java (west).

Habitat. — Known only from a single male taken on the slopes of Mt. Salak, presumably about 1000 m.

***Onychogomphus castor* LIEFTINCK**

Onychogomphus castor LIEFTINCK, 1941, Treubia, 18 : 246-249 (incl. key), pl. 13, fig. 6 (♂ thor.), pl. 14, fig. 1-3 (♂ genit. & app.) — ♂ Kelantan (Malaya).

Range. — Malaya.

Habitat. — Known only from the type locality in Kelantan.

***Onychogomphus fruhstorferi* LIEFTINCK**

Onychogomphus modestus fruhstorferi LIEFTINCK, 1934, Tijdschr. Ent. 77 : 34-36, fig. 7 (♂ app., Java). — ♂ W. & E. Java.

Onychogomphus modestus (forma) RIS, 1927, Zool. Meded. 10 : 30-31, 46 (♂ Kerintji, W. Sumatra), fig. 19-21 (♂ app., thor. & genit.).

Onychogomphus modestus fruhstorferi LIEFTINCK, 1934, Treubia, 14 : 439 (♂ F. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 22 (♀ S. Sumatra).

Onychogomphus fruhstorferi LIEFTINCK, 1948, Arkiv f. Zool. 41 A : 23 (discussion; bona species); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 125, 128, 141-172 (♂ Bali, notes).

¹⁾ See footnote on p. 84.

Range. — Sumatra.

Java; Bali.

Habitat. — Small clean-bottomed streams in dense forest, 100-650 m. Settles on leaves of neighbouring shrubs or on sunlit spots of gravel bars in the stream-bed.

Onychogomphus geometricus SELYS

Onychogomphus geometricus SELYS, 1854, Bull. Acad. Belg. 21 (2) : 31. — ♀ Java.

Onychogomphus geometricus SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 280-282 (♂ ♀ Java), pl. 1, fig. 1 (♂ ♀ struct.); SELYS, 1869, Bull. Acad. Belg. (2) 28 : 172-173 (♂ Java, add. descr.); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 309, 311; LAIDLAW, 1922, Rec. Ind. Mus. 24 : 406 (key, Java; ? Sumatra); LIEFTINCK, 1929, Tijdschr. Ent. 72 : 131-133 (♂ & ♀ type, W. & E. Java), fig. 23-24 (♂ genit. & ♀ thor.); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 194; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 369 (♂ ♀ W. Java), fig. 76-77 (♂ thor.)

Onychogomphus geometricus geometricus LIEFTINCK, 1934, Treubia, 14 : 438-439 (W. & E. Java).

Range. — Java.

Habitat. — Fast running streams in forested areas, upwards to 1200 m, also in low cultivated areas. An arboreal species, widely but sparingly distributed.

Onychogomphus nigrescens LAIDLAW

Onychogomphus geometricus var. *nigrescens* LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 80-81. — ♀ Kelantan (Malaya).

Range. — Malaya.

Habitat. — Known only from a single female.

Onychogomphus perplexus LIEFTINCK

Onychogomphus geometricus perplexus LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 20-21, fig. 2 (♂ genit. & app.) — ♂ N. E. Sumatra.

Onychogomphus saundersii KRÜGER, 1899, Stett. ent. Ztg. 59 : 295-296 (♂ ♀ N. E. Sumatra).

Onychogomphus geometricus perplexus LIEFTINCK, 1937, Treubia, 16 : 112-113 (discussion of allied forms).

Range. — Sumatra (northeast).

Onychogomphus pollux LIEFTINCK

Onychogomphus pollux LIEFTINCK, 1941, Treubia, 18 : 247-249 (imago, incl. key), 249-253 (larva & bionomics), pl. 13, fig. 7 (♂ thor.), pl. 14, fig. 4-6 (♂ genit. & app.), pl. 15, fig. 1-4 (larva & larval struct.) — ♂ S. Sumatra.

Range. — Sumatra (south).

Habitat. — Adults captured over a tiny tributary brook while resting on small stones in the bed. Larvae dredged from sand under the bank of a torrential main stream in primitive forest, about 500 m above sea-level.

***Onychogomphus rappardi* LIEFTINCK¹⁾**

Onychogomphus rappardi LIEFTINCK, 1937, *Treubia*, 16 : 110-113 (incl. discussion of related forms), fig. 27 & 28 (♂ thor., genit. & app.) — ♂ Benkulen (S. W. Sumatra).

?*Onychogomphus saundersii* CAMPION, 1925, *J. Fed. Mal. States Mus.* 8 : 162-163 (♂ Kerintji, W. Sumatra).

?*Onychogomphus saundersi* (forma) RIS, 1927, *Zool. Meded.* 10 : 29-30, 45-46 (♂ Kerintji, W. Sumatra).

Onychogomphus geometricus FRASER, 1932, *Mém. Mus. Roy. Hist. nat. Belg.* (hors série) 4 : 17-18 (♂♀ Takengon, N. Sumatra).

Range. — Sumatra.

Habitat. — Caught in Benkulen over an exposed stream near Pagar Gunung, 550 m, and also in the bed of a rocky forest brook on Mt. Dempo, 1000 m.

***Onychogomphus thienemanni* SCHMIDT**

Onychogomphus thienemanni SCHMIDT, 1934, *Arch. Hydrob. Suppl.* 13 : 369-371, fig. 78-80 (♂ thor., genit. & app.) — ♂ W. Java.

Range. — Sumatra (south).
Java (west).

Habitat. — A male of this species was secured by the author in the southern Lampong district over a fast running river in virgin forest, about 400 m alt. Rests on boulders in mid-stream.

¹⁾ Comes nearest to *perplexus* and, like this, is a close ally of *geometricus*. The synonymy as given under this species is only tentative, as none of the existing descriptions of these Sumatran insects is accompanied by figures of the genital organs and anal appendages. A direct comparison of the specimens in question is needed to unravel their identity. RIS's "*saundersi* forma" is said to agree with the original description of Indian *saundersii* and to correspond closely to HAGEN's figures of the genital organs of the type (*Mém. Soc. Sci. Liège*, 1858, 11, pl. 1, fig. 2). However, I possess a camera lucida drawing of the hamuli, taken also from the type in the Brussels Museum, and this is not only totally different from HAGEN's sketch in the monograph but also quite unlike our published drawings of the same organs of *geometricus*, *perplexus*, and *rappardi*. There is consequently a strong element of doubt about the occurrence of the genuine *saundersii* SELYS-HAGEN in Sumatra, and even within the boundaries of the Malaysian subregion. Until we know more of their distribution and variation, it seems best to keep all described species or subspecies (i.e. *geometricus*, *virescens*, *perplexus* and *rappardi*) separate, and distinct from *saundersii*.

Genus **PARAGOMPHUS** COWLEY

Paragomphus COWLEY, 1934, Entomologist, 67 : 201.

(Genotype: *Gomphus cognatus* RAMBUR, ♀ hab. ign. = ? *Cafreria*)¹⁾

Mesogomphus FÖRSTER, 1906, Jahrb. Nassau. Ver. Naturk., Wiesb.

59 : 323 (*nom. praeocc.*)

• (Genotype: *Mesogomphus nguelicus* FÖRSTER, ♀ Usambara)

Paragomphus capricornis (FÖRSTER)

Onychogomphus capricornis FÖRSTER, 1914, Arch. Naturgesch. 80 : 79-80. — ♂ Jor (Perak, Malaya).

Mesogomphus capricornis LAIDLAW, 1928, Proc. Zool. Soc. London : 332; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 193; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 214 (♂ Singapore, ♀ Selangor, no descr.).

Range. — Malaya.

Paragomphus reinwardtii (SELYS)

Onychogomphus reinwardtii SELYS, 1854, Bull. Acad. Belg. 21 (2) : 38-39. — ♂ ♀ Java.

Onychogomphus reinwardtii SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 320-322 (♂ ♀ Java), pl. 3, fig. 6 (♂ ♀ struct.); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 310, 311; LAIDLAW, 1922, Rec. Ind. Mus. 24 : 404.

Mesogomphus reinwardti LIEFTINCK, 1929, Tijdschr. Ent. 72 : 136-139 (♂ S. Java), fig. 28-30 (♂ thor., genit. & app.); LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 192; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 371-372 (key), 372-373 (♀ type, ♂ ♀ W. & E. Java), fig. 82 a, 83 a, 84 a-b (♂ app. inf., ♀ genit., ♂ ♀ abd.).

Mesogomphus reinwardti reinwardti LIEFTINCK, 1934, Tijdschr. Ent. 77 : 18, 20-21 (♂ ♀ W. Java), 21-23 (larva, W. Java), fig. 1-2 (exuvia & larval struct.), fig. 3 a & 4 (♂ thor. & penis); LIEFTINCK, 1934, Treubia, 14 : 439 (Java, bionomics);

Paragomphus reinwardti LIEFTINCK, 1950, Treubia, 20 : 664-665 (phenology); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 125, 128, 172 (♂ ♀ Bali, notes).

Range. — Java; Bali.

Habitat. — Clean-bottomed woodland streams of various size and capacity. Preferably in low country, but goes up to 650 m into the hill forest and occurs also in cultivated areas. Males rest on gravel banks near the water's edge, or on boulders in mid-stream, often gregariously.

Paragomphus simplex (LIEFTINCK)

Mesogomphus reinwardti simplex LIEFTINCK, 1934, Tijdschr. Ent. 77 : 18, 19-20 (key), 23-27, fig. 3 b & 4 (♂ thor. & app., S. Sumatra) — ♂ ♀ S. Sumatra (*terr. typ.*); ♀ N. E. Sumatra).

• 1) COWLEY's selection of *cognatus* as the genotype of *Paragomphus* is unfortunate and superfluous as FÖRSTER had already fixed *nguelicus* for his genus *Mesogomphus*. This fact has apparently been overlooked by subsequent writers. Unless *nguelicus* (♂ unknown!) is not a *Paragomphus*, this species should, I think, be adopted as the genotype.

Mesogomphus simplex SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 372 (key), 373-374 (♂ ♀ S. Sumatra), fig. 83 b, 84 c-d, 85 & 86 (♀ genit., ♂ ♀ abd., ♂ thor. & app.)

Mesogomphus reinwardti simplex LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 20.

Paragomphus simplex LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 172 (note).

Range. — Sumatra.

Habitat. — Found in similar situations to *reinwardtii*, from 50 m to about 500 m alt.

Genus MEGALOGOMPHUS CAMPION

Megalogomphus CAMPION, 1923, Ann. Mag. Nat. Hist. (9) 12 : 669.

(Genotype: *Heterogomphus smithii* SELYS, ♂ Sylhet)

Megalogomphus icterops (MARTIN)

Heterogomphus icterops MARTIN, 1902, Bull. Mus. Hist. nat. 7 : 506. — ♂ Java.

Heterogomphus icterops MARTIN, 1904, Mission Pavie, Zool.: 212 (♂ Java); WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 316; LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 197; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 375-377 (♀ W. Java), fig. 91-92 (♀ thor. & abd., allotype); LIEFTINCK, 1934, Treubia, 14 : 438 (♂ Sarawak, ♂ Java); LIEFTINCK, 1935, ibid. 15 : 205-207 (♂ Sarawak, ♂ S. Sumatra, ♂ W. Java); LIEFTINCK, 1941, ibid. 18 : 236-237 (♂ ♀ imago, W. & S. Java; ♂ Sumatra, Billiton & Borneo), 237-240 (larva, W. Java & W. Borneo), pl. 10, fig. 1-7 (larva & larval struct.); LIEFTINCK, 1950, ibid. 20 : 664-665 (phenology).

Heterogomphus icterops borneensis LAIDLAW, 1914, Proc. Zool. Soc. London : 57-58 (♂ N. Borneo), pl. 1, fig. 3 (insect).

Range. — Sumatra (south); Billiton.

Java (west).

Borneo (west and north).

Habitat. — Forest brooks and small streams, usually in low country, but in the foot-hills of the Barisan range (Sumatra) upwards to 700 m. Restricted to undisturbed areas and never found away from its parent stream.

Megalogomphus junghuhni LIEFTINCK

Megalogomphus junghuhni LIEFTINCK, 1934, Stylops, 3 : 266-267, fig. 2 (insect).

— ♀ Java.

Megalogomphus junghuhni LIEFTINCK, 1934, Treubia, 14 : 438 (Java, note).

Range. — Java.

Habitat. — Known only from a single female; precise locality unknown.

Megalogomphus sumatranus (KRÜGER)

Heterogomphus sumatranus KRÜGER, 1899, Stett. ent. Ztg. 59 : 294-295. — ♂ N. E. Sumatra.

Heterogomphus unicolor MARTIN, 1902, Bull. Mus. Hist. nat. 7 : 506 (♂ Siam); MARTIN, 1904, Mission Pavie, Zool.: 211-212; WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 316 (note).

Heterogomphus sumatranus WILLIAMSON, 1907, Proc. U.S. Nat. Mus. 33 : 316; LAIDLAW, 1918, Proc. Zool. Soc. London : 232 (♂ Sarawak).

Megalogomphus unicolor LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 197.

Megalogomphus sumatranus LAIDLAW, 1930, Trans. Ent. Soc. London, 78 : 197; SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 375-377 (♂ ♀ N. E. Sumatra), fig. 87c, 89 & 90 (♀ genit., ♀ occiput & ♂ app., type & allotype); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 67 (♂ Sarawak).

Range. — Siam; Malaya.

Sumatra (northeast).

Borneo (northwest).

Family AESHNIDAE**Subfamily GOMPHAESCHNINAE****Genus OLIGOAESCHNA SELYS**

Oligoaeschna SELYS, 1889, Ann. Mus. civ. Genova, 27 : 470-471.

(Genotype: *Oligoaeschna modiglianii* SELYS, ♂ Nias)

Jagoria KARSCH, 1889, Entom. Nachr. 15 : 238 (nom. praecoc.)

(Genotype: *Jagoria poeciloptera* KARSCH, ♀ Luzon)

***Oligoaeschna amata* (FÖRSTER)**

Jagoria amata FÖRSTER, 1903, Insekten-Börse, 20 : 1-2 (sep.) — ♂ Brunei (N. W. Borneo).

*Jagoria poeciloptera*¹⁾ MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 132-133 (pars! ♂ N. W. & S. Borneo), fig. 129 (♂ app., Borneo); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 18 (pars).

Oligoaeschna amata LIEFTINCK, 1940, Treubia, 17 : 377, 380-381 (♂ holotype N. W. Borneo, re-descri.), 384 (♂ key), fig. 16 (♂ h. wing-base).

Range. — Borneo.

Habitat. — Little or nothing is known of the habits and breeding-places of *Oligoaeschna*, and the larva is unknown. All species are probably crepuscular or nocturnal.

¹⁾ *O. poeciloptera* KARSCH, 1889, Entom. Nachr. 15 : 238-239 (pars: ♀ Luzon). Not regional.

***Oligoaeschna bühri* (FÖRSTER)**

Jagoria bühri FÖRSTER, 1903, Insekten-Börse, 20 : 2 (sep.) — ♂ Brunei (N. W. Borneo).

Jagoria bühri MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 131-132 (♂ type; ♀ identity doubtful), fig. 128 (♂ app., type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 18.

Oligoaeschna bühri LIEFTINCK, 1940, Treubia, 17 : 377, 378, 384 (♂ key, N. W. Borneo); LIEFTINCK, 1953, ibid. 22 : 255 (♂ N. E. Sumatra).

Range. — Sumatra.
Borneo.

***Oligoaeschna modiglianii* SELYS**

Oligoaeschna modiglianii SELYS, 1889, Ann. Mus. civ. Genova, 27 : 471-472, fig. (♂ wings). — ♂ incompl., Nias I.

?*Jagoria poeciloptera* KARSCH, 1889, Entom. Nachr. 15 : 239 (*pars!* ♂ Singapore).

?*Jagoria (Oligoaeschna) modiglianii* KRÜGER, 1899, Stett. ent. Ztg. 59 : 288-290 (♀ N. E. Sumatra, ♀ Brunei, N. W. Borneo; identity of both uncertain).

Jagoria (Oligoaeschna) poeciloptera KRÜGER, 1899, Stett. ent. Ztg. 59 : 327-328 (♂ Brunei, N. W. Borneo).

?*Dolaechna elacatura* NEEDHAM, 1907, Bull. Amer. Mus. Nat. Hist. 23 : 142-144, fig. 3 (photogr. ♀ ins., Mindai, S. E. Borneo).

?*Jagoria elacatura* MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 135-136; MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 18.

Jagoria modiglianii MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 130-131 (Nias; Borneo), fig. 126 (♂ wings, Borneo), fig. 127 (♂ app., Borneo); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 18, pl. 4, fig. 3, 3 a-b (♀ ins., coloured, Borneo; ♂ app., Borneo); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551 (Sarawak).

Jagoria modiglianii RIS, 1911, Ann. Soc. ent. Belg. 55 : 240-242 (♂ W. Borneo, ♂ ♀ Borneo, ♀ Perak, descr.); LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 94 (♀ N. Sarawak); LAIDLAW, 1920, Proc. Zool. Soc. London: 312-313 (♀ Sarawak); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 226 (♂ ♀ Siberut & Sipora); HINCKS, 1930, Sarawak Mus. Journ. 4 : 53 (♀ Sarawak); LIEFTINCK, 1940, Treubia, 17 : 377-378 (♂ ♀ W. & N. Borneo); LIEFTINCK, 1948, ibid. 19 : 286 (Nias, Mentawai, Sumatra & Borneo); LIEFTINCK, 1953, ibid. 22 : 255 (N. E. Sumatra).

Range. — Malaya; Singapore.

Nias; Siberut & Sipora (Mentawai Is.); Sumatra.
Borneo.

Habitat. — Chiefly an insect of the lowland forests, but in the Sarawak mountains occurring upwards to 1600 m.

Oligoaeschna mutata LIEFTINCK

Oligoaeschna mutata LIEFTINCK, 1940, Treubia, 17 : 381-383, 384-385 (key), fig. 18
(♂ app., E. Borneo). — ♂ ♀ E. Borneo.

Range. — Borneo (south and east).

Oligoaeschna platyura LIEFTINCK

Oligoaeschna platyura LIEFTINCK, 1940, Treubia, 17 : 378-380, 383-384 (key), fig.
16-17 (♂ h. wing-base & app.) — ♂ ♀ E. Borneo.

Range. — Borneo (east).

Oligoaeschna sumatrana LIEFTINCK

Oligoaeschna sumatrana LIEFTINCK, 1953, Treubia, 22 : 253-255, fig. 8 (♂ h. wing-
base & app.) — ♂ W. Sumatra.

Range. — Sumatra (west).

Habitat. — Known only from Mt. Kerintji (Peak of Indrapura) ; taken
at 1600 m.

Genus LINAESCHNA MARTIN

Linaeschna MARTIN, 1908, Cat. Coll. Selys, 18, Aeschn. 1 : 6 (key) ;
MARTIN, 1909, ibid. 19, id. 2 : 136.

(Genotype: *Linaeschna polli* MARTIN, ♂ Borneo)

Linaeschna polli MARTIN

Linaeschna polli MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 136-137, fig. 133
(♂ wings), fig. 134 (♂ app.), pl. 3, fig. 9 (♂ ins., coloured). — ♂ N. Borneo
(Dent Prov.).

Linaeschna polli MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 18,
pl. 4, fig. 4-4a (♂ app.).

Range. — Borneo (north).

Remarks. — Known only from the type in the Leiden Museum.
Evidently an extremely rare insect and probably crepuscular in
habit.

Subfamily BRACHYTRINAE

Genus CEPHALAESCHNA SELYS

Cephalaeschna SELYS, 1883, Bull. Acad. Belg. (3) 5 : 739.(Genotype: *Cephalaeschna orbifrons* SELYS, ♀ Bengal, India)***Cephalaeschna laidlawi* (FÖRSTER) ¹⁾***Cephalaeschna laidlawi* FÖRSTER, 1908, Ann. Soc. ent. Belg. 52 : 213-214. — ♂ ♀ Jof (Pérah, Malaya).*Cephalaeschna laidlawi* MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 109, fig. 102 (♂ app., type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 16; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 203 (♀ Malaya, notes).*Periaeschna(?) laidlawi* LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 10-11 (notes).

Range. — Malaya.

Habitat. — Immature female topotypes were probably taken at light.

Subfamily GYNACANTHINAE

Genus GYNACANTHA RAMBUR

Gynacantha RAMBUR, 1842, Hist. nat. Ins. Névropt.: 209.(Genotype: *Gynacantha nervosa* RAMBUR, ♂ hab. ign., ♀ Bolivia).***Gynacantha basiguttata* SELYS***Gynacantha basiguttata* SELYS, 1882, Anal. Soc. Esp. Hist. Nat. 11 : 18. — ♂ W. Borneo; ♀ Luzon (Philippine Is.).*Gynacantha basiguttata* KRÜGER, 1899, Stett. ent. Ztg. 59 : 279-282, 283-284 (N. E. Sumatra & Java), fig. p. 279 (♂ app.); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 192-193 (pars: not fig. 197!); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 26; RIS, 1911, Ann. Soc. ent. Belg. 55 : 246-247 (♂ ♀ Malaya, ♀ W. Borneo), fig. 13 (♂ app., Perak); RIS, 1915, Tijdschr. Ent. 58 : 14 (♀ Simalur); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 21-22 (♂ Lower Siam); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 4 (♂ N. E. Sumatra); LIEFTINCK, 1930, Treubia, 12 : 165 (♂ Java, synonym); LIEFTINCK, 1934, ibid. 14 : 444 (Java, notes); SCHMIDT, Arch. Hydrob. Suppl. 13 : 354 (♀ E. Java); LIEFTINCK, 1948, Treubia, 19 : 286, 304 (♂ ♀ Engano); LIEFTINCK, 1953, Idea, 9 : 56 (Panaitan).*Gynacantha javica* FRASER, 1926, Treubia, 8 : 479-480 (♀ Java).

Range. — Siam; Malaya.

Simalur; Engano; Sumatra; Billiton.

Panaitan; Java.

Borneo; Banguey.

Habitat. — Lowland and hill forest, up to 600 m. Flies at early day-break, at dusk and during the night. Breeds in shallow leaf-bottomed forest pools.

¹⁾ The generic position of this species is still uncertain. The types are at present in the Brussels Museum.

Gynacantha bayadera SELYS¹⁾

Gynacantha bayadera SELYS, 1891, Ann. Mus. civ. Genova, 30 : 483 (*pars!*). — Sikkim & Borneo.

Gynacantha bayadera KRÜGER, 1899, Stett. ent. Ztg. 59 : 278, 280-283, 318 (♂ ♀ Java, ♂ ♀ Borneo), fig. p. 280 (♂ app.); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 195-196 (*pars*: not fig. 200!); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 26 (not pl. 5, fig. 3, 3 a-b); RIS, 1911, Ann. Soc. ent. Belg. 55 : 245 (♂ ♀ key; ♂ ♀ Java); RIS, 1915, Nova Guinea 13, Zool. : 107 (key), 111-112 (♂ ♀ E. Java, descr.; Bangka, Borneo), fig. 35 (♂ app., Celebes); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 26-27 (♂ Lower Siam); RIS, 1927, Zool. Meded. 10 : 34 (♂ ♀ C. Sumatra); LIEFTINCK, 1930, Treubia, 12 : 164-165 (Sumatra, Java, synonym.); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 205 (Selangor; Singapore); LIEFTINCK, 1934, Treubia, 14 : 444-445 (Java, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 22-23 (Sumatra).

?*Gynacantha furcata* RAMBUR, 1842, Hist. nat. Ins. Névropt. : 210 (♀ Borneo; type probably lost); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 197-198 (*pars!* ♀ Borneo only); RIS, 1915, Nova Guinea 13, Zool. : 111-112 (note on type, not seen).

Gynacantha millardi FRASER, 1926, Treubia, 8 : 479 (♀ Java).

Range. — Siam; Malaya.

Sumatra; Bangka; Billiton.

Java; Kangean.

Borneo.

Habitat. — Lowland and hill forest, up to 1200 m.

Gynacantha demeter RIS

Gynacantha demeter RIS, 1911, Ann. Soc. ent. Belg. 55 : 245 (♂ ♀ key), 245-246, fig. 12 (♂ app.) — ♂ ♀ W. Borneo.

Gynacantha demeter LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 32; LIEFTINCK, 1953, Treubia, 22 : 260 (W. Borneo, note).

Range. — Borneo.

Habitat. — Lowland forests.

Gynacantha dohrni KRÜGER

Gynacantha dohrni KRÜGER, 1899, Stett. ent. Ztg. 59 : 277-278, 281, 283, 285-287, fig. p. 280 (♂ app.) — ♂ N. E. Sumatra; ♂ Java, ♂ ♀ Borneo.

Gynacantha dohrni MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 199-200, fig. 204 (♂ app., N. Borneo, leg. WATERSTRADT) (*pars!* ♂ N. Borneo only); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 26, pl. 5, fig. 5 (♂ ins., coloured), fig. 5 a-b (♂ app.); RIS, 1911, Ann. Soc. ent. Belg. 55 : 245 (♂ ♀ key, S. E. Borneo), fig. 11 (♂ app., S. E. Borneo); ? RIS, 1915, Tijdschr. Ent.

¹⁾ This species is probably conspecific with *G. furcata* RAMBUR, ♀ from Borneo, which name then should take precedence of *bayadera*.

58 ♀ 14 (♀ Simalur); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 22, pl. 1, fig. 5 (♀ genit., Borneo); ? LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 226 (♂ Sipora); LAIDLAW, 1931, Bull. Raffles Mus. 5 : 92 (♂ ♀ Mangalum I.); LIEFTINCK, 1934, Treubia, 14 : 445 (Java & Borneo, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 23 (♂ ♀ S. Sumatra, note ovip.) LIEFTINCK, 1948, Treubia, 19 : 286 (distrib.); LIEFTINCK, 1953, *ibid.* 22 : 258-260 (♂ ♀ aberr., S. E. Borneo), fig. 10 (♂ app.).

Gynacantha basiguttata MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 193, fig. 197 (♂ app., Bukau, N. Borneo).

Range. — Simalur; Sipora (Mentawai Is.); Sumatra; Billiton.
Jaya.
Borneo; Mangalum I.

Habitat. — Primitive forest, from sea-level up to 800 m.

Gynacantha limbalis KARSCH

Gynacantha limbalis KARSCH, 1892, Entom. Nachr. 18 : 252-253. — ♂ Java.

Gynacantha limbalis KRÜGER, 1899, Stett. ent. Ztg. 59 : 278, 281, 283; MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 196-197, fig. 201 (♂ app., type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 26; LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 26; HINCKS, 1930, Sarawak Mus. Journ. 4 : 53 (♂ Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 207 (♀ Perak); LIEFTINCK, 1934, Treubia, 14 : 445.

Range. — Malaya (Perak).
Sumatra (northeast).
Java (southwest-coast).
Borneo (Sarawak).

Habitat. — One visual record by the author of a ♀ (?) flying at sunset low over a shallow forest pool near the Wijnkoops bay (Palabuanratu) in southwest Java.

Gynacantha mac lachlani KRÜGER

Gynacantha mac lachlani KRÜGER, 1899, Stett. ent. Ztg. 59 : 278, 281, 283, 319 (♂ N. Borneo), fig. p. 280 (♂ app.) — ♂ N. Borneo.

Gynacantha mac lachlani MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 200-201 (*pars*), fig. 205 (♂ app., type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 26.

Range. — Sumatra (east); Billiton.
Borneo (north and west).

Habitat. — Lowland forest.

Gynacantha musa KARSCH

Gynacantha musa KARSCH, 1892, Entom. Nachr. 18 : 253-255. — ♂ ♀ Java.

Gynacantha musa KRÜGER, 1899, Stett. ent. Ztg. 59 : 278-280, 282, fig. p. 279 (♂ Java); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 189-190 (*pars*), fig. 193 (♂ app., Java); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 25, pl. 6, fig. 4-4a (♂ app., Java); LIEFTINCK, 1934, Treubia, 14 : 445-446 (Java, notes).

Range. — Java.

(Otherwise known only from Lombok and Flores.)

Habitat. — Primeval forest, from sea-level up to 800 m. Breeds in shady forest pools.

Gynacantha risi LAIDLAW

Gynacantha risi LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 205-206, fig. 7 (♂ app.) — ♂ Perak (Malaya).

Range. — Malaya.

Sumatra (north).

Java (west).

Habitat. — A mountain species, not found below 1000 m in Sumatra and Java. Breeds in leaf-bottomed forest pools, 1000-1600 m.

Gynacantha stenoptera LIEFTINCK

Gynacantha stenoptera LIEFTINCK, 1934, Stylops, 3 : 265-266, fig. 1 (♂ app.) — ♂ Java.

Range. — Java.

Habitat. — Precise locality unknown.

Gynacantha subinterrupta RAMBUR

Gynacantha subinterrupta RAMBUR, 1842, Hist. nat. Ins. Névropt.: 212-213. — ♂ Java.

Gynacantha subinterrupta KRÜGER, 1899, Stett. ent. Ztg. 59 : 277-283, 284-285 (♂ ♀ N. E. Sumatra), fig. p. 280 (♂ app.); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 193-194 (*pars*), fig. 198 (♂ app., type!); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 26; RIS, 1927, Zool. Meded. 10 : 33-34 (♂ Sumatra; Java); ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 205* (♂ ♀ Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 354 (♀ S. Sumatra); LIEFTINCK, 1934, Treubia, 14 : 446 (Java & Karimondjawa, bionomics*); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 23 (Sumatra); FRASER, 1936, Fauna Brit. India, Odon. 3 : 97 (key), 100-101 (*pars*, ♂ ♀ Java), fig. 31 a (♂ app., loc.?); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 178 (comp. notes, measurement, ♂ Sumatra).

Range. — Malaya.

Sumatra; Bangka.

Java; Karimondjawa; Bawean; Kangean.

Borneo.

(I have also seen a ♂ from Palawan, and 2 ♂ from Sumba.)

Habitat. — A common lowland species, occurring everywhere in Java, also in cultivated areas, and occasionally as high as 1300 m. Much scarcer elsewhere in Malaysia. Flies only at dusk and shortly before sunrise.

Genus HELIAESCHNA SELYS

Heliaeschna SELYS, 1882, C. R. Assoc. fr. Av. Sci. 10 : 667.

(Genotype: *Heliaeschna fuliginosa* SELYS, ♂ Cameroons)

Malayaeschna FÖRSTER, 1909, Jahrb. Nassau. Ver. Naturk., Wiesb. 62 : 219.

(Genotype: *Amphiaeschna simplicia* KARSCH, ♂ ♀ Borneo)

Heliaeschna bartelsi LIEFTINCK

Heliaeschna bartelsi LIEFTINCK, 1940, Treubia, 17 : 386-390. — ♂ ♀ W. Borneo (*terr. typ.*); ♂ S. Sumatra.

Heliaeschna simplicia MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 161-162 (♂ ♀ W. Borneo), fig. 162 (♂ app., W. Borneo); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 26, pl. 6, fig. 1 & 1 a-b (♂ ins., coloured & ♂ app., W. Borneo); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 17 (diagn., not seen).

Range. — Sumatra.

Borneo.

Habitat. — Primitive forest in low country.

Heliaeschna crassa KRÜGER¹⁾

Heliaeschna crassa KRÜGER, 1899, Stett. ent. Ztg. 59 : 325-327. — ♂ (not ♀!) N. Borneo.

Gynacantha idae BRAUER, 1878, Sitzb. Akad. Wiss. Wien, 77 : 203-205 (♂ Malaya).

Heliaeschna crassa MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 162-163 (♂ — not ♀! — N. Borneo), fig. 163 (♂ app., type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 26, pl. 6, fig. 6-6a (♂ app., type); FRASER, 1926, Treubia, 8 : 476-477 (♂ Sumatra); ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 204, (♀ Natuna Is., doubtful); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 22 (♂ ♀ Sumatra).

Heliaeschna idae MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 164-165 (*pars?*), fig. 166 (♂ app., W. Borneo); MARTIN, 1911, in WYTSMAN, Genera Insect. 115,

¹⁾ This species has repeatedly been confused with *idae* in the literature. The confusion was started by BRAUER, in 1878, who misidentified a ♂ of *crassa*, from Malacca, with *idae*, thus wrongly associating the two sexes of that species. The two species are very closely related.

Aeschn.: 27, pl. 6, fig. 9 (♂ ins., coloured); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 204 (notes, erron. synonym.; ♂ Malaya).

Range. — Malaya.
Sumatra; Billiton.
Natuna (?); Borneo.

Heliaeschna idae (BRAUER)

Gynacantha idae BRAUER, 1865, Abh. Zool.-bot. Ges., Wien, 14 : 908. — ♀ Borneo.

Gynacantha idae BRAUER, 1866, Novara Exped. Zool. 1, Neuropt.: 75-76, tab. 2, fig. 2 (♀ ins., Borneo); ? HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 57 (♀ Borneo, probably = *Indaeschna grubaueri*).

Amphiaeschna idae KARSCH, 1891, Entom. Nachr. 17 : 282 (♀ key, Borneo).

Heliaeschna idae KARSCH, 1892, Entom. Nachr. 18 : 251-252 (♀ key); KARSCH, 1893, ibid. 19 : 195 (♀ type); KRÜGER, 1899, Stett. ent. Ztg. 59 : 323-324 (♀ N. Borneo); MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 164-165 (♂ W. Borneo, *pars*; not fig. 166!); RIS, 1911, Ann. Soc. ent. Belg. 55 : 242-243 (excl. synonym.!), fig. 10 (♀ wings, W. Borneo); LAIDLAW, 1920, Proc. Zool. Soc. London: 313¹⁾; LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 16-17, pl. 1, fig. 3 (♀ genit. plate, Borneo); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 553 (Kedah Peak).

Range. — Malaya.
Sumatra; Billiton.
Borneo.

Habitat. — Lowland forests, but reported from about 1100 m on Kedah Peak in Malaya. In many localities this species keeps company with *crassa* KRÜGER. Crepuscular, and often assembling in flocks around tree-tops in pursuit of mosquitoes and may-flies.

Heliaeschna simplicia (KARSCH)

Amphiaeschna simplicia KARSCH, 1891, Entom. Nachr. 17 : 282 (♂♀ key). — ♂♀ N. Borneo.

Amphiaeschna simplicia KARSCH, 1891, Entom. Nachr. 17 : 308-309 (♂♀ N. Borneo).

Heliaeschna simplicia KARSCH, 1892, Entom. Nachr. 18 : 251 (♀ key); KRÜGER, 1899, Stett. ent. Ztg. 59 : 324-325 (♂♀ N. Borneo; ♀ Brunei).

Heliaeschna crassa KRÜGER, 1899, Stett. ent. Ztg. 59 : 325 (*pars*! ♀ N. Borneo only).

*Heliaeschna van der weelei*²⁾ MARTIN, 1907, Notes Leyden Mus. 28 : 222-223 (♂ "Liberia, BÜTTIKOFER", *err. pro* Sumatra!).

Malayaeschna simplicia FÖRSTER, 1909, Jahrb. Nassau. Ver. Naturk., Wiesb., 62 : 219 (no descr.).

¹⁾ I think that all examples of *H. idae* and *crassa* at present still available in the Sarawak Museum at Kuching, are correctly identified by Dr. LAIDLAW.

²⁾ I have compared the type ♂ of *simplicia* in the Berlin Museum with authentic specimens of *van der weelei* and after close scrutiny I believe that the two species are identical.

Heliaeschna weelei MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 160-161, fig. 161 (♂ app., type "Liberia"); MARTIN, 1911, in WYTSMAN, *Genera Insect.* 115, Aeschn.: 26; RIS, 1927, *Zool. Meded.* 10 : 31-33 (♂♀ Indragiri, E. Sumatra; ♀ C. Sumatra), fig. 22 & 23 (♂ app. & ♀ genit., E. Sumatra); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 236 (♂ N. Borneo); KIMMINS, 1936, *ibid.* 18 : 66 (♂ Borneo).

Range. — Sumatra.
Borneo.

Heliaeschna uninervulata MARTIN

Heliaeschna uninervulata MARTIN, 1909, Cat. Coll. Selys, 20, Aeschn. 3 : 163-164, fig. 164 (♀ wings, W. Borneo), fig. 165 (♂ app., Borneo). — ♂♀ Borneo; ♂ Engano.

Heliaeschna uninervulata MARTIN, 1911, in WYTSMAN, *Genera Insect.* 115, Aeschn.: 27, pl. 6, fig. 9 a-b (♂ app., Borneo); LIEFTINCK, 1934, *Treubia*, 14 : 444 (Sumatra, Java, Borneo; notes); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 22 (♂ N. E. Sumatra); LIEFTINCK, 1948, *Treubia*, 19 : 286, 304 (♂ Engano); LIEFTINCK, 1953, *ibid.* 22 : 255-258 (Sumatra, Engano, Java, Borneo), fig. 9 a-h (♂ app., ♀ genit. & app., typ. & aberr., Borneo).

Range. — Engano; Sumatra.
Java (central north and east).
Borneo.

Habitat. — Occurs from near sea-level up to about 600 m alt.

Genus TETRACANTHAGYNA SELYS

Tetracanthagyna SELYS, 1883, *Bull. Acad. Belg.* (3) 5 : 744-745.
(Genotype: *Gynacantha plagiata* WATERHOUSE, ♀ Borneo)

Tetracanthagyna brunnea McLACHLAN

Tetracanthagyna brunnea McLACHLAN, 1898, *Trans. Ent. Soc. London* : 442-443. — ♀ N. Borneo.

Tetracanthagyna brunnea KRÜGER, 1899, *Stett. ent. Ztg.* 59 : 322 (♀ N. Borneo); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 146-147, fig. 141 (♀ wings, Borneo), pl. 5, fig. 20 (♀ ins., coloured, Borneo); MARTIN, 1911, in WYTSMAN, *Genera Insect.* 115, Aeschn.: 22; LAIDLAW, 1920, *Proc. Zool. Soc. London* : 315 (♀ Sarawak); LAIDLAW, 1923, *Proc. U.S. Nat. Mus.* 62 : 17-18 (♀ Kelantan), pl. 1, fig. 4 (♀ genit., Jalor, Lower Siam); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 205 (♀ Selangor).

Tetracanthagyna plagiata LAIDLAW, 1902, *Proc. Zool. Soc. London*, 1 : 79 (♀ Kuala Aring, Kelantan).

Range. — Siam; Malaya.
Borneo.

Remarks. — The ♂ of this species remains still unknown.

Tetracanthagyna degorsi MARTIN

Tetracanthagyna degorsi MARTIN, 1895, Bull. Soc. ent. France : cccxciii. — ♂ (imperf.), ♀ Kinabalu (N. Borneo).

Tetracanthagyna spec. MCLACHLAN, 1898, Trans. Ent. Soc. London : 443-444 (♂ Nias, descr.).

Tetracanthagyna degorsi MCLACHLAN, 1898, Trans. Ent. Soc. London : 443 (key); KRÜGER, 1899, Stett. ent. Ztg. 59 : 288 (♂ Nias, note); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 147 (♂ ♀ Borneo), 148 (key); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 22; LIEFTINCK, 1948, Treubia, 19 : 286 (Nias; Borneo; ?Sumatra; ?Java); LIEFTINCK, 1950, ibid. 20 : 664-665 (phenology).

Tetracanthagyna brunnea LIEFTINCK, 1934, Treubia, 14 : 443-444 (♀ N. Java).

Range. — Nias; Sumatra (south).

Java (west).

Borneo.

Habitat. — Lowland and hill forest, up to 600 m. Breeds in small streams and brooks, the larva living among the accumulated trash and decaying wood on the lenitic shore of the stream. Adults are on the wing from shortly before sunset till long after dusk.

Remarks. — Specimens from Sumatra and Java differ slightly from typical *degorsi* and a subspecies may eventually prove recognizable. Like *plagiata*, this species has dimorphic females.

Tetracanthagyna plagiata (WATERHOUSE)

• *Gynacantha plagiata* WATERHOUSE, 1877, Proc. Ent. Soc. London : 10. — ♀ Borneo.

Gynacantha plagiata WATERHOUSE, 1878, Trans. Ent. Soc. London : 119-120, tab. 4 (♀ insect, Borneo); KARSCH, 1891, Entom. Nachr. 17 : 244, 245 (♂ N. E. Sumatra); KARSCH, 1891, ibid. : 281.

Tetracanthagyna plagiata SELYS, 1883, Bull. Acad. Belg. (3) 5 : 745; SELYS, 1889, Ann. Mus. civ. Genova, 27 : 472 (♀ Lahat, S. Sumatra); MCLACHLAN, 1898, Trans. Ent. Soc. London : 439, 442 (♀ key); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 145-146 ("Borneo, Sumatra, Malacca, Singapore"), 147 (key), fig. 144-145 (♂ — not ♀! — wings, ♂ app., Dent prov., N. Borneo); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 22; LAIDLAW, 1920, Proc. Zool. Soc. London : 314-315 (♀ Sarawak); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 18; LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 204-205 (♂ ♀ Pahang, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 22 (♀ N. E. Sumatra).

• *Tetracanthagyna vittata* MCLACHLAN, 1898, Trans. Ent. Soc. London : 440-442 (♂ ♀ N. Borneo), 442 (♂ ♀ key); KRÜGER, 1899, Stett. ent. Ztg. 59 : 321-322 (♂ ♀ N. Borneo); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 144-145 (♂ ♀ types), fig. 143 (♂ app., modified, type); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 22; RIS, 1911, Ann. Soc. ent. Belg. 55 : 243-244 (♂ W. Borneo, notes); LAIDLAW, 1920, Proc. Zool. Soc. London : 315 (♂ ♀ Sarawak, notes).

Range. — Malaya & Singapore.

Sumatra; Bangka; Billiton.

Borneo.

Habitat. — Streams flowing through swampy forest in the alluvial plains. Habits crepuscular and occasionally attracted to light.

Tetracanthagyna waterhousei MCLACHLAN

Tetracanthagyna waterhousei MCLACHLAN, 1898, Trans. Ent. Soc. London : 443 (♀ key) — ♀ Borneo.

Tetracanthagyna waterhousei KRÜGER, 1899, Stett. ent. Ztg. 59 : 322 (note!); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 143-144 (Borneo, Tonkin), 148 (key), fig. 142 (♂ app., loc.?); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 22, pl. 4, fig. 8-8a (♂ app., loc.).

Tetracanthagyna waterhousei sumatrana FÖRSTER, 1914, Arch. Naturgesch. 80 : 83 (♀ W. Sumatra).

Range. — Sumatra¹⁾.

Borneo.

Habitat. — See F. C. FRASER, 1933, J. Bombay Nat. Hist. Soc. 36 : 461-463 (ethology).

Subfamily AESHNINAE

Genus AMPHIAESCHNA SELYS

Amphiaeschna SELYS, 1871, Trans. Ent. Soc. London : 413.

(Genotype: *Aeschna ampla* RAMBUR, ♂♀ Amboina, recte Java)

Amphiaeschna ampla ampla (RAMBUR)

Aeschna ampla RAMBUR, 1842, Hist. nat. Ins. Névropt.: 195-196. — ♂♀ Amboina (err. pro : Java).

Aeschna ampla HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 56-57 (♂♀ Java).

Amphiaeschna ampla KARSCH, 1891, Entom. Nachr. 17 : 282 (♀ Java); KARSCH, 1892, ibid. 18 : 250-251 (♀ Java, notes); MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 113-114 (*pars*: Java only), fig. 106-108 (♂ wings, ♂ app.; ♀ wings, as *perampla*, Java); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 15 (*pars*! Java only), pl. 3, fig. 8 (♂ ins., coloured), 8 a-b (♂ app.); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 15-16 (*pars*: Java only; not seen); FRASER, 1926, Treubia, 8 : 475-476 (♂♀ Java), fig. 2 (not 3, transposed! ♀ apex abd., Java); LIEFTINCK, 1934, ibid. 14 : 442-443 (Java, notes).

Range. — Java.

Habitat. — A species of densely forested submontane areas, with decidedly crepuscular habits. Occurs from near sea-level up to 1200 m. Breeds in mud- and leaf-bottomed puddles or rock pools in the bed of swift streams.

¹⁾ I have never seen specimens from Sumatra.

Amphiaeschna ampla basitincta LIEFTINCK

Amphiaeschna ampla basitincta LIEFTINCK, 1940, Treubia, 17 : 385-386. — ♂ ♀ S. W. Sumatra.

Range. — Sumatra.

Habitat. — Known only from Benkulen, 250-600 m.

Genus INDAESCHNA FRASER

Indaeschna FRASER, 1926, Treubia, 8 : 474-475.

(Genotype: *Amphiaeschna grubaueri* FÖRSTER, ♂ Malaya)

Indaeschna grubaueri (FÖRSTER)

Amphiaeschna grubaueri FÖRSTER, 1904, Insekten-Börse, 21 : 354-356. — ♂ Jor (Perak, Malaya).

Amphiaeschna ampla LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 78-79 (♂ Malaya).

Amphiaeschna perampla MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 115 (♂ "Malaisie", ♀ Borneo; ♀ Java), fig. 109 (♂ app., type "Malaisie"; not fig. 108!), pl. 5, fig. 17 (♂ type, coloured); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 15 (*pars*: Java & Borneo only).

Amphiaeschna grubaueri MARTIN, 1909, Cat. Coll. Selys, 19, Aeschn. 2 : 115-116, fig. 110 (♂ app., type Malaya); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 15; LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 94 (♀ N. Sarawak); LAIDLAW, 1920, Proc. Zool. Soc. London: 314 (♀ Borneo); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 14-15 (♂ Lower Siam, ♂ Malaya, ♀ N. W. Borneo; notes); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 353 (synon.).

Indaeschna grubaueri FRASER, 1926, Treubia, 8 : 475 (♀ N. E. Sumatra, not Java, descr.; *nec* allotype), fig. 3 (not 2, transposed!, ♀ apex abd., Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 203-204 (♂ Siam, ♂ ♀ Malaya), 236 (♂ N. Borneo); LIEFTINCK, 1934, Treubia, 14 : 443 (♀ Java; Sumatra & Borneo); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551 (Sarawak & Pahang); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 22 (♀ N. E. & S. Sumatra); LIEFTINCK, 1939, Ent. Med. Ned.-Indië, 5 : 21-22 (imago & larva, W. Java).

Range. — Siam; Malaya.

Sumatra.

Java (west).

Borneo.

Habitat. — Virgin forest, chiefly in low country, but collected as high as 1400 m in Pahang. Diurnal, but also attracted to light. Breeds in shallow leaf-bottomed mud-pools and marshes in shady surroundings. Larva smooth, sandy-yellow or clay-coloured, lying in ambush on the bottom of a pool, concealed under a decaying leaf.

Genus ANACIAESCHNA SELYS

Anaciaeschna SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 317.(Genotype: *Aeschna jaspidea* BURMEISTER, ♀ Java)*Anaciaeschna jaspidea* (BURMEISTER)*Aeschna jaspidea* BURMEISTER, 1839, Handb. Ent. 2 : 840. — ♀ Java.*Anax jaspideus* HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 32-33 (♀ Java).*Aeschna tahitensis* HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 48-49 (♂ Sumatra).*Anaciaeschna jaspidea* CALVERT, 1898, Trans. Amer. Ent. Soc. 25 : 55 (type, notes);

KREJGER, 1899, Stett. ent. Ztg. 59 : 274-275 (♂ N. E. Sumatra); MARTIN, 1908,

Cat. Coll. Selys, 18, Aeschn. 1 : 30-31 (Java, Sumatra, Borneo), fig. 25 (♂

app.); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn.: 10; RIS, 1915,

Tijdschr. Ent. 58 : 15 (♂ ♀ Simalur); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 4

(♀ N. E. Sumatra); LIEFTINCK, 1934, Treubia, 14 : 447 (Java, bionomics &

notes); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 354 (♀ Sumatra); LIEFTINCK,

1948, Treubia, 19 : 286 (Simalur, Sumatra, Java, Borneo); SCHMIDT, 1950,

Entom. Zeitschr. 60 : 2-5 (notes); LIEFTINCK, 1953, Idea, 9 : 56 (Panaitan);

LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 179-180 (♀ Bali).

Range. — Simalur; Sumatra.

Panaitan; Java; Kangean; Bali.

Borneo.

Habitat. — Weedy ponds, marshes, shallow rushy lakes, abandoned rice-fields, &c., from the coast upwards to 1400 m. A crepuscular species, often occurring gregariously in large numbers. Salt tolerant, with migratory tendencies.

Anaciaeschna montivagans LIEFTINCK*Anaciaeschna montivagans* LIEFTINCK, 1932, Stylops, 1 : 251-253, fig. 3 (♂ app.)

— ♂ ♀ W. & central Java.

Anaciaeschna montivagans LIEFTINCK, 1934, Treubia, 14 : 447-448 (Java, bionomics); SCHMIDT, 1950, Entom. Zeitschr. 60 : 2-5 (notes).*Anaciaeschna martini* FRASER, 1943, Ent. Mo. Mag. 79 : 87-88 (*pars*: erroneous synonymy).

Range. — Sumatra (central west).

Java.

Habitat. — Montane, 1200-2500 m. Open marshes, lakes and swamps.

Breeds in peaty bog-holes, pools and weedy runnels. Habits crepuscular or nocturnal, but oviposition takes place in the day-time, transformation being repeatedly observed in the early morning hours.

Genus ANAX LEACH

Anax LEACH, 1815, in BREWSTER's Edinb. Encycl. 9 : 137.

(Genotype: *Anax imperator* LEACH, ♂ Europa)

Anax guttatus (BURMEISTER)

Aeschna guttata BURMEISTER, 1839, Handb. Ent. 2 : 840. — ♂ ♀ Java.

Anax magnus RAMBUR, 1842, Hist. nat. Ins. Névropt. : 188 (♂ Java).

Anax magnus + *guttata* BRAUER, 1866, Novara Exped. Zool. 1, Neuropt. : 62 (key, Java & Ambon).

Anax gibbosulus HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 41-42 (♂ ♀ Java, note).

Anax guttatus HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 46 (♂ Java); KARSCH, 1892, Entom. Nachr. 18 : 249-250 (♀ Java); KRÜGER, 1899, Stett. ent. Ztg. 59 : 272-274 (*pars*); CALVERT, 1898, Trans. Amer. Ent. Soc. 25 : 54-55 (type, notes); NEEDHAM, 1904, Proc. U.S. Nat. Mus. 27 : 695, pl. 40, fig. 2 (supposed larva, Java); MARTIN, 1908, Cat. Coll. Selys, 18, Aeschn. 1 : 23 (*pars!*), fig. 17 (♂ app., loc. ?); MARTIN, 1911, in WYTSMAN, Genera Insect. 115, Aeschn. : 9 (*pars*); LAIDLAW, 1923, Proc. U.S. Nat. Mus. 62 : 12 (Malaya & Borneo); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 4 (♂ ♀ N. E. Sumatra); LAIDLAW, 1931, Bull. Raffles Mus. 5 : 92 (♂ ♀ Mangalum I., N. Borneo); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 553 (Selangor); LIEFTINCK, 1934, Treubia, 14 : 449-450 (Java, Karimondjawa, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 23 (Sumatra); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 151-152 (♂ Bali); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 99 (Penang); LIEFTINCK, 1942, Treubia, 18 : 577-578 & 584 (♂ ♀ keys, Java), 587-589 (references, discussion), 590 (measur. ♂ ♀ Java), 591-592 (notes), pl. 40, fig. 142, 145, 150, pl. 41, fig. 151 (♂ ♀ app., ♂ head & abd., W. Java); LIEFTINCK, 1948, *ibid.* 19 : 286, 304 (Engano, Sumatra, Java, Borneo); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 489 (Verlaten I., Krakatau group).

Range. — Siam; Penang; Malaya.

Engano; Sumatra; Bangka; Billiton; Verlaten I. (Krakatau).

Christmas I. (?); Java; coral islets in Djakarta Bay; Karimondjawa; Kangean; Bali.

Borneo; Mangalum I.

Habitat. — Widely distributed, from sea-level up to 1700 m. Breeds in still water. A salt tolerant and migratory species.

• *Anax panybeus* HAGEN

Anax panybeus HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 42-43. — ♂ N. Celebes.

• *Anax gibbosulus* KRÜGER, 1899, Stett. ent. Ztg. 59 : 271-274 (*pars*: ♂ N. E. Sumatra).

Anax fumosus RIS, 1927, Zool. Meded. 10 : 34-35 (♂ ♀ C. Sumatra; ♂ W. Java).

Anax guttatus LIEFTINCK, 1930, Treubia, 7, Suppl. : 328-329 (larva W. Java),

fig. 8 (larva labium); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 354 (♀ C. Java).

Anax gibbosulus subspec. LIEFTINCK, 1934, Treubia, 14 : 448-449 (Java, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93' : 23 (♂ Sumatra); LIEFTINCK, 1942, Treubia, 18 : 603 (Sumatra, Java, Bali & Borneo, notes).

Anax panybeus KENNEDY, 1934, Ann. Ent. Soc. Amer. 27 : 346-349 (notes), 352, fig. 9-10 (type: re-descr., ♂ app.); LIEFTINCK, 1942, Treubia, 18 : 597-599, pl. 39, fig. 136 (descr. notes, ♂ app., Celebes).

Anax panybeus subspec. LIEFTINCK, 1953, Idea, 9 : 56 (Panaitan); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 125, 128, 180-181 (♀ Bali, notes).

Range. — Sumatra.

Panaitan; Java; Bali.

Borneo.

Habitat. — As for *guttatus*, but a less common species and with more pronounced crepuscular habits. Found upwards as high as 2000 m.

Anax papuensis (BURMEISTER)

Aeschna papuensis BURMEISTER, 1839, Handb. Ent. 2 : 841. — ♂ Neu-Holland (Australia).

Anax papuensis KARSCH, 1892, Entom. Nachr. 18 : 250 (♀ Java, leg. FRUHSTORFER, descr.); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 131, 181-182 (notes, distrib.).

Range. — Java.

Remarks. — Within our faunal limits the ♀ from Java seems to be the only (and not absolutely authenticated) specimen recorded. Elsewhere in the Oriental Region this Australian species is known only from the Cocos-Keeling islands and Sumba.

Family CORDULEGASTERIDAE

Subfamily CHLOROGOMPHINAE

Genus CHLOROGOMPHUS SELYS

Chlorogomphus SELYS, 1854, Bull. Acad. Belg. 21 (2) : 98-99.

(Genotype: *Chlorogomphus magnificus* SELYS, ♂ Java, ♀ Sumatra)

Chlorogomphus dyak (LAIDLAW)

Orogomphus dyak LAIDLAW, 1911, J. Str. Br. R. Asiatic Soc. 57 : 191-192. — ♂ ♀ Sarawak (N. W. Borneo).

Orogomphus dyak LAIDLAW, 1914, Proc. Zool. Soc. London : 59-60, pl. 1, fig. 4-7 (♂ ♀ wings, ♂ penis & app., Sarawak); FRASER, 1929, Mem. Indian Mus. 9 : 143 (key), 162-164 (♂ ♀ N. W. Borneo), fig. 35 (♂ app., Borneo); HINCKS, 1930,

Sarawak Mus. Journ. 4 : 53 (♀ Sarawak, notes); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 202-203 (♂ Johore, no descr.); LAIDLAW, 1934, *ibid.* 17 : 551 (Mt. Kinabalu).

Range. — Malaya (Johore).

Borneo (west and northwest).

Habitat. — Little or nothing is known of the habits of this species.

On Mt. Kinabalu it was reportedly collected at about 1100 m, but it probably breeds more frequently in forest streams at lower elevations.

Chlorogomphus species¹⁾

Orogomphus splendidus? LAIDLAW, 1911, J. Str. Br. R. Asiatic Soc. 57 : 192-193. — ♀ Sarawak.

Orogomphus splendidus? LAIDLAW, 1914, Proc. Zool. Soc. London 60-61, pl. 1, fig. 8 (♀ wings, Sarawak); FRASER, 1929, Mem. Indian Mus. 9 : 143 (key), 156-158 (*pars*, ♀ Borneo); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 235 (Borneo, note).

Range. — Borneo (northwest).

Chlorogomphus kimminsi FRASER

Chlorogomphus kimminsi FRASER, 1940, Proc. R. Ent. Soc. London (B) 9 : 55-56, fig. 1 B (thor.) — ♂ ♀ Nias.

Range. — Nias.

Chlorogomphus magnificus SELYS

Chlorogomphus magnificus SELYS, 1854, Bull. Acad. Belg. 21 (2) : 99. — ♂ Java, ♀ Sumatra.

Chlorogomphus magnificus SELYS & HAGEN, 1858, Mém. Soc. Sci. Liège, 11 : 573-575 (♂ Java, ♀ Sumatra), pl. 16, fig. 3 (♂ ♀ struct.), pl. 23, fig. 9-10 (♀ wing-bases); SELYS, 1873, Bull. Acad. Belg. (2) 35 : 529 (list); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 469 (♀ Sumatra); KRÜGER, 1899, Stett. ent. Ztg. 59 : 329-330 (♀ Java); NEEDHAM, 1903, Proc. U.S. Nat. Mus. 26 : 733, fig. 24 (♀ wings); SCHMIDT, 1915, Zool. Jahrb. 39 : 125 ff., tfigs., pl. 9, fig. 5, pl. 10, fig. 21 (♂ genit., Java); FRASER, 1926, Treubia, 8 : 484 (synon.); FRASER, 1929, Mem. Indian Mus. 9 : 142 (key), 143-146 (♂ ♀ Java, ♀ S. W. Sumatra), fig. 25 A-B (♂ type, ♀ wings); SCHMIDT, 1933, Zool. Anz. 103 : 266, fig. 4 (♂ genit.); LIEFTINCK, 1934, Treubia, 14 : 435-436 (Sumatra, Java, notes); FRASER, 1936, Fauna Brit. India, Odon. 3 : 5.

Chlorogomphus hyalinus SELYS, 1869, Bull. Acad. Belg. (2) 28 : 202 (♂, *nom. nov.*); SELYS, 1873, *ibid.* (2) 35 : 529 (list); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 469 (♂ Java, note).

¹⁾ The type of *O. splendidus* is a ♀ *Chlorogomphus* from Luzon. Bornean *splendidus*, according to LAIDLAW and FRASER, is undoubtedly specifically distinct from *dyak* and probably represents a new species. As the ♂ is still unknown it would seem better to await the discovery of that sex before giving it a new name.

Range. — Sumatra.

Java.

Habitat. — Submontane brooks and rivers in dense primitive forest, from 300 to about 1100 m. Oviposits in clear running water of shady forest brooks, in places where the current is swift and the shallow water flows over a gravelly bottom. Final larval stages migrate from tributaries to the rocky bed of larger and more open streams, living buried in coarse sand at the edge of the stream or on the foot of cascades. Emergence takes place here.

Family CORDULIIDAE

Subfamily IDIONYCHINAE

Genus IDIONYX HAGEN

Idionyx HAGEN, 1867, Abh. Zool.-bot. Ges. Wien, 17 : 62.

(Genotype: *Idionyx yolanda* SELYS, ♀ Singapore)

Idionyx yolanda SELYS

Idionyx yolanda SELYS, 1871, Bull. Acad. Belg. (2) 31 : 520-521. — ♀ Singapore (Malaya).

Idionyx yolanda BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 742 ("Malaisien"); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 80 (*pars*, Singapore only); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 9 (*pars*; pl. 3, fig. 24 : ♀ type, coloured); FRASER, 1926, Rec. Ind. Mus. 28 : 197, 200, 201 (not seen); ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 218 (note); LIEFTINCK, 1939, Treubia, 17 : 190-204 (♀ type *yolanda*; ♂♀ types *dohrni*; ♂ Billiton; ♂♀ Borneo), fig. 1 (♂ genit. & app., E. Borneo), fig. 2 (♀ apex abd., type *dohrni*, N. E. Sumatra).

Idionyx dohrni KRÜGER, 1899, Stett. ent. Ztg. 60 : 326-330 (♂♀ N. E. Sumatra); LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 78, pl. 5, fig. 4 (♀ ins., Kuala Aring, Malaya); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 81-82 (Sumatra, Malaya); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 9; FRASER, 1926, Rec. Ind. Mus. 28 : 197, 198, pl. 9, fig. 5 & pl. 10, fig. 3 (♂ app. & genit., loc.?) ; ? SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 377 (♂ S. Sumatra, doubtful); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 18 (Sumatra, notes); FRASER, 1936, J. Bombay N. H. Soc. 38 : 701 (♀ Perak, not allotypic!).

Idionyx dohrni borneensis LAIDLAW, 1913, Proc. Zool. Soc. London : 67-68 (♂ Sarawak), pl. 4, fig. 4 (♀ apex abd., Malaya, sub *dohrni*).

Range. — Malaya & Singapore.

Sumatra; Billiton.

Borneo.

Habitat. — Lowland and hill forest. Breeds in small streams flowing through marshes.

Idionyx laidlawi FRASER

Idionyx laidlawi FRASER, 1956, J. Bombay Nat. Hist. Soc. 38 : 701. — ♀ Pahang (Malaya).

Range. — Malaya.

Habitat. — Known from a single female, taken at Fraser's Hill, 1400 m.

Idionyx montana KARSCH

Idionyx montana KARSCH, 1891, Entom. Nachr. 17 : 30-31. — ♂ E. Java.

Idionyx montana KRÜGER, 1899, Stett. ent. Ztg. 60 : 327-328 (♂ Java); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul. : 81, fig. 94 (♂ wings, S. Java), fig. 95 (♂ app., S. Java); RIS, 1912, Supplem. Entom. 1 : 80 (key, ♂ Java); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul. : 9; LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 220 (♂ Siberut, ♀ Sipora); FRASER, 1926, Rec. Ind. Mus. 28 : 197, pl. 9, fig. 3 & pl. 10, fig. 4 (♂ app. & genit., loc.); RIS, 1927, Zool. Meded. 10 : 35-38 (♂ ♀ C. Sumatra); ? LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 218-219 (♂ ♀ Malaya, doubtful); LIEFTINCK, 1934, Treubia, 14 : 432-433 (Java, Sumatra, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 18 (♂ ♀ Sumatra); LIEFTINCK, 1939, Treubia, 17 : 203-204 (♂ ♀ Java, ♂ ♀ Sumatra; Mentawai; ? Malaya); LIEFTINCK, 1948, ibid. 19 : 286 (distrib.).

Range. — Malaya (?)

Siberut & Sipora (Mentawai Is.); Sumatra (not north?).
Java.

- Habitat. — Occurs in similar surroundings to *yolanda*, up to about 900 m. Adults sometimes congregate in flocks, swarming in forest clearings or in sunny spots over mountain brooks. Breeds in shallow water-courses flowing through marshes, the larva hiding-up among algae and other aquatic vegetation.

Subfamily EPOPTHALMIINAE

Genus EPOPTHALMIA BURMEISTER

Epopthalmia BURMEISTER, 1839, Handb. Ent. 2 : 844.
(Genotype: *Epopthalmia vittata* BURMEISTER, ♂ Madras)

[*Epopthalmia vittata vittata* BURMEISTER

- Epopthalmia vittata vittata* BURMEISTER, 1839, Handb. Ent. 2 : 845. — ♂ Madras (India).

Range. — Extra-limital.]

***Epophthalmia vittata sundana* LIEFTINCK**

Epophthalmia vittata sundana LIEFTINCK, 1931, *Treubia*, 13 : 30, 37-38, 44-45, 61-64, 73, 75-79 (revision; keys, descr., lit., distrib., early stages), fig. 1, 8, 16, 24-27 (struct, ♂ ♀ larva & imago), pl. 1, fig. 3 (♂ ins., coloured, W. Java). — ♂ ♀ W. Java.

Epophthalmia vittigera SELYS, 1871, *Bull. Acad. Belg.* (2) 31 : 532-533 (*pars*, immature exx., Java).

Epophthalmia cyanocephala MARTIN, 1907, *Cat. Coll. Selys*, 17, *Cordul.*: 63, fig. 80 (♂ app., Java), pl. 2, fig. 13 (♂ ins., coloured, ? Java).

Epophthalmia vittata sundana LIEFTINCK, 1934, *Treubia*, 14 : 435 (Java, notes).

Range. — Sumatra (east).

Java (west and central).

Habitat. — Ponds and small shady lakes in woodland areas. Very local and not yet found above 300 m alt.

***Epophthalmia vittigera vittigera* (RAMBUR)**

Macromia vittigera RAMBUR, 1842, *Hist. nat. Ins. Névropt.*: 140. — ♀ hab. ign.

Epophthalmia vittigera SELYS, 1871, *Bull. Acad. Belg.* (2) 31 : 532-533 (*pars*, Java); MARTIN, 1907, *Cat. Coll. Selys*, 17, *Cordul.*: 62-63 (*pars*: Java & Borneo); MARTIN, 1914, in WYTSMAN, *Genera Insect.* 155, *Cordul.*: 26 (*pars*: Java & Borneo), pl. 2, fig. 15 (♂ ins., coloured).

Epophthalmia australis RIS, 1911, *Ann. Soc. ent. Belg.* 55 : 248-251 (♂ Perak; ♂ ♀ W. Borneo), fig. 14 (♂ wings, Perak), 15a-b & 16a-b (♂ app. & ♀ genit., W. Borneo).

Epophthalmia vittigera LIEFTINCK, 1931, *Treubia*, 13 : 30, 39-41, 43, 65-68, 73, 79-80 (revision: keys, descr., lit., distrib., larva), fig. 1, 10-11, 13, 14, 23, 28-29 (struct., ♂ ♀ larva & imago; Malaya, Sumatra, Java, Borneo); LIEFTINCK, 1934, *Treubia*, 14 : 435 (Java, notes); LIEFTINCK, 1953, *Verh. Naturf. Ges. Basel*, 64 : 128, 196-197 (♂, Bali).

Range. — Malaya & Singapore.

Sumatra; Bangka; Billiton.

Java; Bali.

Borneo.

Habitat. — Found in similar situations to *vittata sundana*, but is evidently a more adaptive species, preferring the larger lakes and marshes. Altitudinal range wider, occurring from near sea-level up to about 1400 m.

Genus **MACROMIA** RAMBUR

Macromia RAMBUR, 1842, Hist. nat. Ins. Névropt.: 137.

(Genotype: *Macromia cingulata* RAMBUR, ♀ America sept. = India)

***Macromia arachnomima* LIEFTINCK**

Macromia arachnomima LIEFTINCK, 1953, Treubia, 22 : 395-400 (♂ imago), 400-406 (larva, descr. & ethology), fig. 4-5 (♂ genit., abd. & app.), 6-7 (larva & larval struct.) — ♂ S. Borneo.

Range. — Borneo (south).

Habitat. — Bred from larvae found among root mats in a sluggish lowland brook.

***Macromia callisto* LAIDLAW**

Macromia callisto LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 221, 225-226 (♂, not ♀), fig. 6 (♂ genit.) — ♂ Kelantan (Malaya).

Macromia gerstaeckeri LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 76-78 (♂ — not ♀ — Kelantan).

Macromia callisto LIEFTINCK, 1929, Tijdschr. Ent. 72 : 67 (key, not seen), 104; LIEFTINCK, 1950, Treubia, 20 : 689 (♂ key), 693 (type discussed; ♀ unknown).

Range. — Malaya.

Habitat. — Known only from the type locality.

***Macromia cincta* RAMBUR**

Macromia cincta RAMBUR, 1842, Hist. nat. Ins. Névropt.: 141. — ♂ ♀ hab. ign.

Macromia cincta SELYS, 1871, Bull. Acad. Belg. (2) 31 : 556-557 (♂ ♀ Java); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 468 (Bangka, Java); KARSCH, 1891, Entom. Nachr. 17 : 245 (♂ ♀ N.E. Sumatra); KRÜGER, 1899, Stett. ent. Ztg. 60 : 331-332 (comp. notes); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 68 (Penang, Java, Borneo); LAIDLAW, 1913, Proc. Zool. Soc. London : 69 (♂ Sarawak); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 25; LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 220, 223-225 (♂ Sarawak), fig. 4 (♂ genit.); LIEFTINCK, 1929, Tijdschr. Ent. 72 : 65 (key), 90-97 (♂ Bangka, ♂ ♀ Sumatra, types Java, ♂ ♀ Borneo), fig. 14-17 (♂ genit., Bangka & Borneo, ♂ & ♀ app. & genit., Borneo); LIEFTINCK, 1934, Treubia, 14 : 433 (Java); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 67 (♂ Sarawak); LIEFTINCK, 1941, Rev. Française d'Ent. 8 : 96-98 (incl. key), fig. 1 b (base hind wing); LIEFTINCK, 1950, Treubia, 20 : 677 (♂ ♀ key, ? Malaya; Sumatra; Bangka; Billiton; Java; Borneo); LIEFTINCK, 1953, ibid. 22 : 402 (note on larva, S. Borneo).

Macromia borneensis KRÜGER, 1899, Stett. ent. Ztg. 60 : 330-333 (♀ Brunei, N. W. Borneo); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 68-69 (pars, ♀ Borneo); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 25.

Range. — Malaya (Perak).
Sumatra; Bangka; Billiton.
Java.
Borneo.

Habitat. — Lowland forest. Breeds in slowly running waters and prefers swampy forest, also in semi-cultivated areas. Widely distributed and moderately common where found. Extremely rare in Java. Larva benthic, among decaying vegetable matter.

Macromia corycia LAIDLAW

Macromia corycia LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 220, 225, fig. 5 (♂ genit.) — ♂ Sarawak (N. W. Borneo).

Macromia corycia LIEFTINCK, 1929, Tijdschr. Ent. 72 : 66 (key, not seen), 99; KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 67 (♂ Sarawak); LIEFTINCK, 1950, Treubia, 20 : 685-686 (♂ key), 692 (♂ Sarawak), fig. 2, 9, 24 & 29 (♂ head, abd., genit. & app., Sarawak).

♂ *Macromia gerstaeckeri* MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 70 (♂ Borneo, pars?).

Range. — Borneo.

Habitat. — Caught on Mt. Dulit in primary forest, at about 800 m.

Macromia cydippe LAIDLAW

Macromia cydippe LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 219-220, 222-223, fig. 2-3 (♂ genit. & app.) — ♂ Sarawak (N. W. Borneo).

Macromia westwoodi(i) SELYS, 1878, Bull. Acad. Belg. (2) 45 : 201-202 (♂ Bangka); SELYS, 1889, Ann. Mus. civ. Genova, 27 : 468 (Bangka); KARSCH, 1891, Entom. Nachr. 17 : 245 (♂ N. E. Sumatra); KRÜGER, 1899, Stett. ent. Ztg. 60 : 325-326 (♂ N. E. Sumatra).

Macromia cydippe LIEFTINCK, 1929, Tijdschr. Ent. 72 : 63 (key), 73-76 (♂ Bangka, ♂ N. Borneo), fig. 4-6 (♂ genit. & app., Bangka, ♂ id., N. Borneo); LIEFTINCK, 1935, Treubia, 15 : 192-193 (♂ W. Java); LIEFTINCK, 1950, *ibid.* 20 : 664-665 (phenology), 669-670 (larva, ecology), 680 (♂ ♀ imago, key), 689 (larva, key), 704-708 (♂ ♀ & larva, Malaya, Sumatra, Bangka, Billiton, Java, Borneo), fig. A, 48-53 (larval struct. & larva, Perak & Java); LIEFTINCK, 1953, *ibid.* 22 : 402 (note on larva, S. Borneo).

Range. — Malaya.
Sumatra; Bangka; Billiton.
Java (west).
Borneo.

Habitat. — Frequents shady, slow flowing, but clean-bottomed streams in low country. Larva among rotten leaves and debris accumulated between boulders in mid-stream.

Macromia erato LIEFTINCK

Macromia erato LIEFTINCK, 1950, Treubia, 20 : 664-665 (phenology), 673-676 (larva, ecology), 686-689 (♂ ♀ imago, key), 690 (larva, key), 693-699 (♂ ♀ & larva, W. Java), fig. 4, 5, 14, 15, 23, 31, 38, 45-47 (struct., imago & larva) — ♂ ♀ W. Java.

Range. — Java (west).

Habitat. — Shallow lowland streams and brooks with a sandy bottom, preferably in densely forested areas. Larva in shallow water, living buried in clean sand of shore deposits and sand-spits.

Macromia euterpe LAIDLAW

Macromia euterpe LAIDLAW, 1915, Proc. Zool. Soc. London : 2f-29, fig. 1-2 (♂ ♀ wings, ♂ app.) — ♂ ♀ Mt. Kinabalu (N. Borneo).

Macromia euterpe LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 220 (key), 223 (♂ paratype, Kinabalu); LIEFTINCK, 1929, Tijdschr. Ent. 72 : 63 (♂ ♀ key), 76-77, fig. 7-8 (♂ app. & genit., paratype Mt. Kinabalu); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551 (Mt. Kinabalu); KIMMINS, 1936, ibid. 18 : 66 (♂ Sarawak); LIEFTINCK, 1950, Treubia, 20 : 680 (♂ ♀ key).

Range. — Borneo (north).

Habitat. — Known only from Mt. Kinabalu and the Tinjar basin in Sarawak, at altitudes between 700 and 1100 m.

Macromia gerstaeckeri KRÜGER

Macromia gerstaeckeri KRÜGER, 1899, Stett. ent. Ztg. 60 : 335-338. — ♂ ♀ Penganlengan (W. Java).

Macromia gerstaeckeri MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 70 (pars, probably only Java); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 25; LIEFTINCK, 1929, Tijdschr. Ent. 72 : 68 (key), 106-107 (♀ Java); LIEFTINCK, 1934, Treubia, 14 : 433 (Java); LIEFTINCK, 1950, ibid.: 664-665 (phenology), 673-676 (larva, ecology), 683-684 (♂ ♀ imago, key), 690 (larva, key), 699-702 (♂ ♀ & larva, Malaya, Sumatra, Java), fig. C, 6, 7, 11-13, 25, 28, 39-44 (struct., imago & larva).

Range. — Malaya.

Sumatra (south).

Java (west).

Habitat. — Occurs in similar surroundings to *erato*, but may be found also in the hills.

Macromia mnemosyne LIEFTINCK

Macromia mnemosyne LIEFTINCK, 1935, *Treubia*, 15: 190-191, fig. 7 (♂ app. & genit.)

— ♂ W. Borneo.

Macromia mnemosyne LIEFTINCK, 1950, *Treubia*, 20 : 681 (key).

Range. — Borneo (west).

Habitat. — Lowland forest.

[Macromia moorei moorei SELYS

Macromia moorei SELYS, 1874, *Bull. Acad. Belg.* (2) 37 : 28. — ♂ Himalaya.

Range. — Extra-limital.]

Macromia moorei fumata KRÜGER

Macromia fumata KRÜGER, 1899, *Stett. ent. Ztg.* 60 : 333-335. — ♂ ♀ Java.

Macromia fumata MARTIN, 1907, *Cat. Coll. Selys*, 17, *Cordul.*: 69 (not seen).

Macromia moorei malayana LAIDLAW, 1928, *Proc. Zool. Soc. London* : 133-134 (♂ Pahang, Malaya).

Macromia moorei fumata LIEFTINCK, 1929, *Tijdschr. Ent.* 72 : 64 (key), 80-84, 108 (♂ ♀ Java), fig. 10 (♂ app. & genit., W. Java); LIEFTINCK, 1934, *Treubia*, 14 : 433-434 (Java, bionomics); LIEFTINCK, 1950, *ibid.* 20 : 671-673 (larva, ecology), 678 (♂ ♀ imago, key), 690 (larva, key), 711-714 (♂ ♀ & larva, Malaya, Sumatra, Java), fig. D, 32, 33, 36, 54, 56-58 (struct., imago & larva).

Range. — Malaya.

Sumatra (west).

Java (west).

(Occurs also in Celebes.)

Habitat. — Mountain and hill forest streams, 600 to 1700 m, but in the Malay States also found at lower altitudes. Larva among debris on the bottom of cold deep pools in the bed of rocky mountain streams.

Macromia polyhymnia LIEFTINCK

Macromia polyhymnia LIEFTINCK, 1929, *Tijdschr. Ent.* 72 : 66 (key), 97-99, fig. 18 (♂ app. & genit.) — ♂ Sumatra.

Macromia polyhymnia LIEFTINCK, 1950, *Treubia*, 20 : 683 (key).

Range. — Sumatra (central west).

Habitat. — Known only from the type locality near Bukit Tinggi (Fort de Kock), 720 m.

Macromia septima MARTIN

Macromia septima MARTIN, 1904, Mission Pavie, 3, Zool.: 211. — ♀ Java.

Macromia septima MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 70 (*pars*, Java only); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 25; LIEFTINCK, 1929, Tijdschr. Ent. 72 : 67 (key), 100-103 (♂ ♀ Java), fig. 19-20 (♂ app. & genit., W. Java); LIEFTINCK, 1934, Treubia, 14 : 434 (Java); LIEFTINCK, 1950, *ibid.*: 20 : 664-665 (phenology), 684 (♂ ♀ key), 691-692 (♂ Tonkin, ♂ ♀ W. Java), fig. 1, 16, 17, 20, 21, 26, 27 (♂ ♀ struct.).

Range. — Java (west).

(Known also from Tonkin.)

Habitat. — Lowland and hill forest, up to about 800 m. Prefers swift running streams but occurs also at lower levels, occasionally keeping company with *erato*, *gerstaeckeri* and *cydippe*. Larva unknown.

Macromia westwoodii SELYS

Macromia westwoodii SELYS, 1874, Bull. Acad. Belg. (2) 37 : 27. — ♀ Penang I. (Malaya).

Macromia westwoodii LAIDLAW, 1922, J. Str. Br. R. Asiatic Soc. 85 : 219 (key), 222 (♂ Perak), fig. 1 (♂ genit.); MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 72 (*pars*); MARTIN, 1914, in WYTSMAN, Genera Insect. 155, Cordul.: 25; LIEFTINCK, 1929, Tijdschr. Ent. 72 : 62 (key), 69-72, 108 (♂ ♀ Java), fig. 1-3 (♂ app. & genit., C. Java); LIEFTINCK, 1934, Treubia, 14 : 434-435 (Java; Malaya; Bangka, error; Borneo); LIEFTINCK, 1935, *ibid.* 15 : 191-192 (♀ S. Sumatra; ♂ ♀ W. Borneo); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 102 (♂ Penang); LIEFTINCK, 1950, Treubia, 20 : 670-671 (larva, ecology), 679-680 (♂ ♀ imago, key), 689-690 (larva, key), 708-711 (♂ ♀ & larva, Sumatra & Java), fig. B, 55, 59-61 (larval structures).

Range. — Penang; Malaya.

Sumatra (south).

Java.

Borneo (west).

Habitat. — Forests of the lower mountain zone, 400-900 m. Breeds probably in pools and marshes beside small streams, on the bottom of which the larva lives.

Genus MACROMIDIA MARTIN

Macromidia MARTIN, 1907, Cat. Coll. Selys 17, Cordul.: 58, 79.

(Genotype: *Macromidia rapida* MARTIN, ♂ ♀ Tonkin)

Macromidia atrovirens LIEFTINCK

• *Macromidia atrovirens* LIEFTINCK, 1935, Treubia, 15 : 194-196. — ♀ S. W. Sumatra.
Macromidia atrovirens LIEFTINCK, 1948, Treubia, 19 : 278.

Range. — Sumatra.

Habitat. — Known only from the type locality, near Bukit Itam (600-700 m) in Benkulen.

Macromidia erratica LIEFTINCK

Macromidia erratica LIEFTINCK, 1948, Treubia, 19: 274-278, fig. 18-19 (♂ genit. & app., ♀ genit.) — ♂ ♀ S. Sumatra (*terr. typ.*), ♂ S. Java.

Range. — Sumatra (south).

Java (southcoast).

Habitat. — Over small, clean-bottomed brook in dense primitive forest, about 500 m above sea-level (Sumatra); once caught in a spider's web at the foot of a waterfall (Java).

Macromidia fulva LAIDLAW

Macromidia fulva LAIDLAW, 1915, Proc. Zool. Soc. London : 29-30, fig. 3 (♂ wing) — ♂ Mt. Kinabalu (N. Borneo).

Macromidia fulva LAIDLAW, 1920, Proc. Zool. Soc. London : 319 (♀ Sarawak); LIEFTINCK, 1935, Treubia, 15 : 193-194, 196 (♂ ♀ W. Borneo), fig. 8 (♂ genit. & app.).

Range. — Borneo.

Habitat. — Lowland forests all over the island, but the type perhaps came from a higher altitude.

Macromidia genialis LAIDLAW

Macromidia genialis LAIDLAW, 1923, J. Mal. Br. R. Asiatic Soc. 1 : 232, pl. 5, fig. 1-3 (♂ wings, genit. & app.) — ♂ Pahang (Malaya).

Macromidia genialis LIEFTINCK, 1935, Treubia, 15 : 196; LIEFTINCK, 1948, ibid. 19 : 278.

Range. — Malaya.

Habitat. — Known only from the type locality, on Gunung Tahan, about 300 m alt.

Subfamiliy CORDULIINAE

Genus PROCORDULIA MARTIN

Procordulia MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 11, 16.

(Genotype: *Cordulia affinis* SELYS, ♂ S. W. Australia)¹⁾

Procordulia artemis LIEFTINCK,

Procordulia artemis LIEFTINCK, 1930, Treubia, 12 : 159-162, 164 (key), fig. 23-25 (♂ genit. & app., ♀ apex abd.) — ♂ ♀ W. Java.

Procordulia artemis LIEFTINCK, 1933, Intern. Revue Hydrob. & Hydrogr. 28 : 401-429 (♂ ♀ & larva, W. & central Java, biol. & ecol., life-hist.), fig. 1-12 (egg,

¹⁾ Fixed by RIS, 1910, Fauna Südwest-Austral. (Jena), 2 : 437, which invalidates COWLEY's type-designation of *Cordulia jacksoniensis* RAMB. (Entomologist, 1934, 67 : 252).

larval stages & struct.); LIEFTINCK, 1934, Treubia, 14 : 431-432 (Java, S. Sumatra, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 17-18 (S. Sumatra).

Range. — Sumatra (extreme south).

Java (west and central).

Habitat. — Confined to lakes and marshes in mountainous regions, from 1250 m up to 2200 m. Breeds in still waters: shallow forest pools, crater-marshes and mountain lakes, preferably in boggy situations. Oviposits in peaty bog-holes. Usually occurs in large colonies.

Procordulia sambawana (FÖRSTER) \approx *P. karnyi*

Somatochlora sambawana FÖRSTER, 1899, Ann. Soc. ent. Belg. 43 : 64-65. — ♂ Sumbawa (Lesser Sunda Is.).

Procordulia sambawana MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 17 ("Java, Sumbawa, Florès, Lomboek, Célèbes, etc."); MARTIN, 1914, in WYTSMA, Genera Insect. 155, Cordul.: 22 ("Célèbes, Sonde"); LIEFTINCK, 1930, Treubia, 12 : 162-164 (synon., distrib.); VAN STEENIS, 1932, De Trop. Natuur, 21 : 191-192, fig. (♂ ins., W. Java)¹); LIEFTINCK, 1933, Intern. Revue Hydrob. & Hydrogr. 28 : 429-433 (♂ ♀ & larva, Java, biol. & ecol., distrib.), fig. 10, 13-14 (larval struct.); LIEFTINCK, 1934, Treubia, 14 : 432 (Java, bionomics).

Procordulia karnyi FRASER, 1926, Treubia, 8 : 472-473 (♂ ♀ E. Java; not Sumatra)²).

Procordulia sambawana LIEFTINCK, 1936, Revue Suisse Zool. 43 : 149 (Java, notes); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 130, 191-193 (Sumatra, Java, Borneo, notes), fig. 58-60 (♂ ♀ genit. & app., Java).

Range. — Java.

Sumatra (southwest).

Borneo (north and northwest)³).

Habitat. — Chiefly occurring at high altitudes, from 1400 m to 3000 m or even higher, but occasionally down to 850 m. Flies over tumbling brooks and torrential streams and breeds only in running water. Often wanders far from its breeding places, flying in forest glades, but it has more solitary habits than *artemis*, with which it sometimes occurs together.

1) A case of involuntary dispersal of seeds by insects. Drawing of ♂ *sambawana* with sticky seeds of a mountain plant, *Myriactis javanica* DC., adhered to its wing-membrane.

2) The ♂ in the Mus. Zool. Bogor. from Wai Lima (Lampongs, S. Sumatra), labelled "Type" is a specimen of *Zygonyx ida* SELYS.

3) I have examined two males from Borneo, which have both lost their anal appendages.

Genus **HEMICORDULIA** SELYS

Hemicordulia SELYS, 1870, C. R. Soc. ent. Belg. 14 : v.
(Genotype: *Cordulia australiae* RAMBUR, ♂ ♀ Australia)

***Hemicordulia australiae* (RAMBUR)**

Cordulia australiae RAMBUR, 1842, Hist. nat. Ins. Névropt.: 146. — ♂ ♀ Nouv.-Hollande (Australia).

Hemicordulia magica LIEFTINCK, 1937, Treubia, 16 : 107-109, fig. 26 (♂ app., Bali); ? *H. spec.*, SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 377-378 (♀ Bali).

Hemicordulia australiae LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 183-185 (♂ Bali; notes, bionomics, distrib.).

Range. — Bali.

(Further range: Flores, Australia, New Zealand, Kermadec and Norfolk Islands.)

Habitat. — Breeds in marshes and lakes. Within the limits of the Oriental region known only from Bali and Flores. The three known examples were all of them collected at considerable elevations above the sea [♂ Bali: Mt. Abang, 1900 m; ♀ Bali (identity uncertain): Danu Bratan, 1230 m; ♀ Flores: Rana Mése, 1300 m].

***Hemicordulia gracillima* FRASER¹⁾**

Hemicordulia gracillima FRASER, 1944, Proc. R. Ent. Soc. London (B) 13 : 87-88.
— ♀ Kuala Lumpur (Malaya).

Range. — Malaya.

***Hemicordulia tenera* LIEFTINCK**

Hemicordulia tenera LIEFTINCK, 1930, Treubia, 12 : 157-159, fig. 22 (♂ app.) — ♂ Central Java.

Hemicordulia assimilis MARTIN, 1907, Cat. Coll. Selys, 17, Cordul.: 11-12 (*pars*, ♀ coll. SELYS: W. Borneo); LAIDLAW, 1913, Proc. Zool. Soc. London : 64-65 (♂ Borneo, note²⁾); LAIDLAW, 1920, *ibid.*: 317.

Hemicordulia asiatica LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 217 (♂ Pahang), 238 (Borneo, syn. note); LAIDLAW, 1934, *ibid.* 17 : 552, 553 (Perak & Pahang).

Hemicordulia tenera LIEFTINCK, 1934, Treubia, 14 : 431 (♂ W. & central Java; Borneo; notes).

Range. — Malaya.

Sumatra (northeast and east).

Java (west and central).

Borneo.

¹⁾ Since I have recently examined a ♂ *Hemicordulia* from Taseh Bera (Pahang) which is inseparable from *Javan tenera*, I consider that *gracillima* is only doubtfully distinct from that species. The ♂ is unknown.

²⁾ All Bornean specimens in the Sarawak Museum identified with *assimilis* belong to *tenera*.

Habitat. — Probably widely distributed throughout Malaysia. Breeds in marshes and small lakes, preferably in submontane areas. In the Malay States found between 1150 m and 1500 m, but occurs from near sea-level to 850 m in Sumatra and Java, and there are several records from the lowlands of Borneo.

Genus **METAPHYA** LAIDLAW¹⁾

Metaphya LAIDLAW, 1912, Sarawak Mus. Journ. 1 : 65-66.
(Genotype: *Metaphya micans* LAIDLAW, ♂ Borneo)

Metaphya micans LAIDLAW

Metaphya micans LAIDLAW, 1912, Sarawak Mus. Journ. 1 : 66-67, pl. 1 (♂ insect)
— ♂ Sarawak (N. W. Borneo).

Metaphya micans LAIDLAW, 1913, Proc. Zool. Soc. London : 65-67 (♀ Sarawak),
pl. 4, fig. 1-3 (♀ apex abd., ♂ genit. & app.); RIS, 1913, Nov. Guinea, 9 Zool. :
497; LIEFTINCK, 1938, *ibid.*, new ser., 2 : 124-126.

Range. — Borneo (northwest).

Habitat. — Nothing is known of the habits of this elusive insect, which is evidently very scarce or local.

Family **LIBELLULIDAE**

Subfamily **TETRATHEMISTINAE**

Genus **TETRATHEMIS** BRAUER

Tetrathemis BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 182-183.
(Genotype: *Tetrathemis irregularis* BRAUER, ♀ Mindanao)

Tetrathemis flavescens KIRBY

Tetrathemis flavescens KIRBY, 1889, Trans. Zool. Soc. London, 12 : 343, tab. 52, fig.
4. — ♂ Sarawak (N. W. Borneo).

Tetrathemis flavescens KRÜGER, 1902, Stett. ent. Ztg. 63 : 191 (♂ N. E. Sumatra);
RIS, 1909, Cat. Coll. Selys, Lib. 9 : 45, 52 (type re-descr. N. E. Sumatra; N. W.
Borneo).

Range. — Sumatra; Billiton.
Borneo.

Habitat. — Lowland forest.

¹⁾ This interesting genus was overlooked by TILLYARD and FRASER in the "Reclassification" (Australian Zoologist, 1940, 9 : 390). I consider that I have ascertained beyond doubt that *Anacordulia* TILLYARD (Rec. Austral. Mus. 1926, 15 : 161-162, figs.) is congeneric with *Metaphya*. Since three species have been described from New Guinea, one slightly aberrant member being known from New Caledonia, the genus is evidently a widely distributed one. *Anacordulia* was placed in the Corduliinae by TILLYARD and FRASER, but it stands far from the rest of the genera in the subfamily. *Metaphya*, therefore, is here only provisionally included in it.

***Tetrathemis irregularis hyalina* KIRBY**

Tetrathemis hyalina KIRBY, 1889, Trans. Zool. Soc. London, 12 : 342, tab. 56, fig. 8.

— ♂ Borneo.

Tetrathemis sumatrana KRÜGER, 1902, Stett. ent. Ztg. 63 : 191-193 (♀ N. E. Sumatra).

Tetrathemis irregularis hyalina RIS, 1909, Cat. Coll. Selys, Lib. 9 : 46-47 (Malaya, Sumatra, Java, Borneo, Banguay); LAIDLAW, 1920, Proc. Zool. Soc. London : 319 (N. Borneo); LIEFTINCK, 1934, Treubia, 14 : 404 (W. & M. Java, bionomics); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 378 (♂ ♀ E. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12 (S. Sumatra); LIEFTINCK, 1939, Treubia, 17 : 51 (S. W. Java); LIEFTINCK, 1942, ibid. 18 : 448-450, pl. 23, fig. 1, 3 & 4 (♂ app., Java & Borneo); LIEFTINCK, 1953, Idea, 9 : 54 (Panaitan); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 197 (♂ Bali).

Range. — Malaya.

Sumatra.

Panaitan; Java; Bali.

Borneo; Banguay.

Habitat. — Breeds in shady forest-marshes and pools, often very near the sea coast, but is found up to about 500 m in the hills.

***Tetrathemis platyptera* SELYS**

Tetrathemis platyptera SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 316. — ♀ Bengal (India).

Tetrathemis flava KRÜGER, 1902, Stett. ent. Ztg. 63 : 189-190, 193 (♂ ♀ Java).

Tetrathemis pulchra LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 71-72 (♂ ♀ Malaya), pl. V, fig. 3 (♂ insect).

Tetrathemis platyptera RIS, 1909, Cat. Coll. Selys, Lib. 9 : 45, 50-51 (Malaya, Sumatra, Java), fig. 11-13 (♂ wings, genit. & app., Java); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 220, 223 (♀ Siberut); FRASER, 1936, Fauna Brit. India, Odon. 3 : 251 (Siam); LIEFTINCK, 1939, Ent. Med. Ned.-Indië, 5 : 52-53 (♀ W. Java).

Range. — Siam; Malaya.

Sumatra.

Java (west).

Habitat. — Trickles flowing through pools or marshes in dense primitive forest. Larvae were dredged from silty algal growth on the bottom of a rivulet. A scarce species, re-discovered in west Java at an altitude of 650 m.

Genus **RISIOPHLEBIA** COWLEY

- Risiophlebia* COWLEY, 1934, Entomologist, 67 : 204-205.
Oda RIS, 1909, Cat. Coll. Selys, Lib. 9 : 18, 61-62 (*nom. praeocc.*).
 (Genotype: *Nannophlebia dohrni* KRÜGER, ♂ Sumatra).

Risiophlebia dohrni (KRÜGER)

- Nannophlebia dohrni* KRÜGER, 1902, Stett. ent. Ztg. 63 : 186-187. — ♂ ♀ N. E. Sumatra.
Oda dohrni RIS, 1909, Cat. Coll. Selys, Lib. 9 : 62-63 (Sumatra & Borneo), fig. 25, 27-28 (♂ wings, genit. & app., Borneo); LAIDLAW, 1920, Proc. Zool. Soc. London : 320 (♂ ♀ Sarawak).
Risiophlebia dohrni LIEFTINCK, 1935, Misc. Zool. Sum. 92,93 : '12 (♀ E. Sumatra).
 Range. — Sumatra; Bangka; Billiton.
 Borneo.
 Habitat. — Lowland forest.

Genus **HYLAEOTHEMIS** RIS

- Hylaeothemis* RIS, 1909, Cat. Coll. Selys, Lib. 9 : 19, 63-64.
 (Genotype: *Tetrathemis fruhstorferi* KARSCH, ♂ Ceylon, or
Hylaeothemis clementia RIS, ♂ Borneo)¹).

Hylaeothemis clementia RIS

- Hylaeothemis clementia* RIS, 1909, Cat. Coll. Selys, Lib. 9 : 64-65, fig. 29-30 (♂ wings, genit.) — ♂ W. Borneo.
Hylaeothemis clementia LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93, 95, fig. 3 (♀ genit., Brunei); LAIDLAW, 1920, Proc. Zool. Soc. London : 320; FRASER, 1946, Proc. R. Ent. Soc. London (B) 15 : 99.
 Range. — Borneo.
 Habitat. — Found all over the island in the alluvial forests, but evidently a rare species.

Genus **PHYLLOTHEMIS** FRASER²

- Phyllothemis* FRASER, 1935, J. Bombay Nat. Hist. Soc. 37 : 890-891.
 (Genotype: *Phyllothemis eltoni* FRASER, ♂ Lower Burma)

Phyllothemis raymondi LIEFTINCK

- Phyllothemis raymondi* LIEFTINCK, 1950, Treubia, 20 : 643-645, fig. 7-9 (♂ thor., wings, genit. & app.) — ♂ N. E. Sumatra.
 Range. — Sumatra (northeast).
 Habitat. — Known only from Serbalawan, 200 m, in Deli.

¹) In 1909 RIS fixed *fruhstorferi* as the genotype (*loc. cit.*: 19), but in his catalogue he gave *clementia* instead (Cat. Coll. Selys, Lib. 16² : 1247).

Subfamily LIBELLULINAE

Genus ORCHITHEMIS BRAUER

Orchithemis BRAUER, 1878, Sitzb. Akad. Wiss. Wien, 77 : 196-198.

(Genotype: *Orchithemis pulcherrima* BRAUER, ♂♀ Malaya)

Orchithemis pruinans (SELYS)

Calothemis pruinans SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 308. — ♂ Bangka.

Orchithemis pruinans RIS, 1909, Cat. Coll. Selys, Lib. 9 : 85, 87-88 (Bangka & Borneo), fig. 56-57 (♂ wings, genit., Bangka).

Range. — Bangka; Billiton.
Borneo.

Habitat. — Forest swamps and tiny rivulets in shady surroundings, occasionally found in company of the next two species.

Orchithemis pulcherrima BRAUER

Orchithemis pulcherrima BRAUER, 1878, Sitzb. Akad. Wiss. Wien, 77 : 198-199. — ♂♀ Malaya.

Orchithemis pulcherrima RIS, 1909, Cat. Coll. Selys, Lib. 9 : 85-86 (Malaya, Sumatra, Bangka, Java, Borneo), fig. 54-55 (♂ wings & genit., Borneo); SCHMIDT, 1915, Zool. Jahrb. 39, pl. 10, fig. 36 (penis); RIS, 1915, Tijdschr. Ent. 58 : 15 (♀ Simalur); LAIDLAW, 1920, Proc. Zool. Soc. London : 320 (Borneo); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 223 (Siberut); RIS, 1927, Zool. Meded. 10 : 36-37 (C. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 219-220 (Malaya); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (S. Natuna); LIEFTINCK, 1934, Treubia, 14 : 405 (W. Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 12-13 (N. E. & E. Sumatra).

Range. — Malaya.
Simalur; Siberut (Mentawai Is.); Sumatra; Lingga Arch.;
Bangka; Billiton.
Java (west).
S. Natuna; Karimata; Borneo.

Habitat. — Breeds in forest marshes of the plains and hills, and is usually very abundant where found. In Java confined to a few localities in virgin lowland forest, and probably nearing its extinction.

Orchithemis xanthosoma LAIDLAW

Orchithemis xanthosoma LAIDLAW, 1911, Sarawak Mus. Journ. 1 : 191-192. — ♂ Sarawak (N. W. Borneo).

Orchithemis xanthosoma RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1056-1057, fig. 615 (♂ wings, Sarawak); LAIDLAW, 1920, Proc. Zool. Soc. London : 320 (♂ ♀ Sarawak).

Range. — Borneo (northwest and south).

Habitat. — Occurs in similar surroundings to the other species, but is a much scarcer insect.

Genus PORNOTHEMIS KRÜGER

Pornothemis KRÜGER, 1902, Stett. ent. Ztg. 63 : 159-163.

(Genotype: *Pornothemis serrata* KRÜGER, ♂ ♀ Sumatra)

Pornothemis serrata KRÜGER

Pornothemis serrata KRÜGER, 1902, Stett. ent. Ztg. 63 : 163-164. — ♂ ♀ N.E. Sumatra.

Pornothemis serrata RIS, 1909, Cat. Coll. Selys, Lib. 9 : 92-93 (Malaya, Sumatra, Borneo), fig. 64 (♂ wings, Borneo); RIS, 1915, Tijdschr. Ent. 58 : 15 (♀ Simalur); LAIDLAW, 1920, Proc. Zool. Soc. London : 320 (Sarawak); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 223 (Siberut, Sipora, Pagai); RIS, 1927, Zool. Meded. 10 : 37 (♀ C. Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (♂ Singapore), 238 (♂ N. Borneo); KIMMINS, 1936, ibid. 18 : 67-68, fig. 1 A-B (♂ genit., Borneo); LIEFTINCK, 1948, Treubia, 19 : 272-274 (S. Sumatra, Billiton, S. W. Java, W. & E. Borneo), fig. 17 A-B (♂ genit. & app., Billiton).

Range. — Malaya & Singapore.

Simalur; Siberut, Sipora & Pagai (Mentawai Is.); Sumatra; Billiton.

Java (west).

Borneo.

Habitat. — Breeds in clear rivulets and tiny brooks flowing through marshes in dense primeval forest, from the sea coast up to 650 m. Adults rest flat on broad leaves of surrounding herbage.

Pornothemis starrei LIEFTINCK

Pornothemis starrei LIEFTINCK, 1948, Treubia, 19 : 270-272, fig. 17 C-E (♂ genit. & app.) — ♂ E. Sumatra.

Range. — Sumatra (east).

Borneo (south).

Habitat. — A riverine species. First caught on board steamer on the river Musi, near Palembang, and common over part of the lower reaches of the Sungei Mentaja (Sampit), about 50 kilometres inland, in southern Borneo. Rests on projecting twigs and foliage on the river bank.

Genus **LYRIOTHEMIS BRAUER***Lyriothemis* BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 180-181.(Genotype: *Lyriothemis cleis* BRAUER, ♂ Mindanao)**Lyriothemis biappendiculata (SELYS)***Calothemis biappendiculata* SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 307. — ♂ Labuan (N. W. Borneo).*Lyriothemis biappendiculata* RIS, 1909, Cat. Coll. Selys, Lib. 9 : 102, 106-107 (Malaya, Sumatra, Borneo), fig. 71, 76, 77 (♀ wings, Malaya; ♂ wings & genit., Sumatra); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 223 (Siberut); RIS, 1927, Zool. Meded. 10 : 37 (C. Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (♂ Malaya); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 13 (E. & S. Sumatra), 238 (N. Borneo).

Range. — Malaya.

Siberut (Mentawai Is.); Sumatra; Bangka.

Borneo.

Habitat. — Swampy forest in low-lying country, from sea-level up to 600 m. Breeding places and larva unknown.

Lyriothemis cleis BRAUER*Lyriothemis cleis* BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 181-182. — ♂ Mindanao (Philippine Is.)*Calothemis priapea* SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 310-311 (♂ ♀ Malaya). *Lyriothemis cleis* RIS, 1909, Cat. Coll. Selys, Lib. 9 : 102, 108-111 (Malaya, Sumatra, Java, Borneo, Banguay), fig. 78-80 (♂ wings, Malaya; ♂ ♀ genit., Celebes); LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93 (N. Sarawak); LAIDLAW, 1920, Proc. Zool. Soc. London : 320 (♂ ♀ N. Borneo); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 223 (Siberut); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (♂ ♀ Malaya), 238 (Borneo); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 378 (♀ E. Java); LIEFTINCK, 1934, Treubia, 14 : 405 (W., centr. & E. Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 13 (S. Sumatra).

Range. — Siam (?); Malaya.

Siberut (Mentawai Is.); Sumatra; Bangka.

Java.

Borneo; Banguay.

Habitat. — Lowland and hill forest, from sea-level up to 1000 m. Widely but sparingly distributed and entirely confined to areas not disturbed by human agency. Life-history unknown.

Lyriothemis magnificata (SELYS)*Calothemis magnificata* SELYS, 1878, Mitt. Zool. Mus. Dresden, 3 : 311. — ♂ Malaya.*Lyriothemis magnificata* RIS, 1909, Cat. Coll. Selys, Lib. 9 : 103, 115-117 (Malaya, Sumatra, Java), fig. 83-84 (♀ wings, Sumatra; ♂ genit., Malaya); LAIDLAW,

1931, J. Fed. Mal. States Mus. 16 : 220 (♂ Penins. Siam), 238 (N. Borneo);
LIEFTINCK, 1934, Treubia, 14 : 405 (M. & E. Java, notes); LIEFTINCK, 1941,
Ent. Med. Ned.-Indië, 7 : 45 (E. Java, notes on larval habitation).

Range. — Siam; Malaya:
Sumatra; Bangka; Billiton.
Java.
Borneo.

Habitat. — Undisturbed forests with a rich vegetation of bamboo,
preferably in moist submontane areas. Occurs from the coast up-
wards to 800 m. Breeds in crevices of fallen tree-trunks, miniature
leaf-bottomed pools, tree-holes, and in bamboo stumps. Larva
concealed among decaying vegetable matter.

Lyriothemis salva RIS

Lyriothemis salva RIS, 1927, Zool. Meded. 10 : 37-38, fig. 24 (♂ genit.) — ♂ C.
Sumatra.

Lyriothemis salva LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 13 (♂ Mt. Tanggamus,
S. Sumatra).

Range. — Sumatra.

Habitat. — Confined to mountainous areas, from 1000 m to 1900 m.
Breeds probably in forest pools and, presumably, also in old
pitchers of *Nepenthes*.

Genus NESOXENIA KIRBY

Nesoxenia KIRBY, 1889, Trans. Zool. Soc. London, 12 : 260, 291.

(Genotype: *Nesoxenia cingulata* KIRBY, ♂ ♀ Solomon Is.)

Nesoxenia lineata (SELYS)¹⁾

Agrionoptera lineata SELYS, 1879, Ann. Mus. civ. Genova, 14 : 302. — ♂ Malaya.

Nesoxenia lineata RIS, 1910, Cat. Coll. Selys, Lib. 10 : 121, 126-128 (pars: Malaya,
Sumatra, Borneo), fig. 93-94 (♂ wings & ♀ genit., Borneo); LAIDLAW, 1920,
Proc. Zool. Soc. London : 320 (♂ Sarawak); LAIDLAW, 1926, J. Mal. Br. R. Asia-
tic Soc. 4 : 223 (Siberut, Sipora); LIEFTINCK, 1939, Treubia, 17 : 51 (♂ ♀ S.
W. Java).

Range. — Malaya.

Siberut & Sipora (Mentawai Is.); Sumatra; Bangka;
Billiton.

Java (southwest).

Borneo.

Habitat. — Marshes in virgin lowland forest. Rare.

¹⁾ The species has also been reported from Celebes, but insects from this island
in our collection belong to a well-definable subspecies.

Genus **AGRIONOPTERA** BRAUER*Agrionoptera* BRAUER, 1864, Abh. Zool.-bot. Ges. Wien, 14 : 159, 163.(Genotype: *Libellula insignis* RAMBUR, ♂ Java)***Agrionoptera insignis chalcociton* RIS***Agrionoptera insignis chalcociton* RIS, 1915, Tijdschr. Ent. 58 : 15-16. — ♂ ♀ Simalur.*Agrionoptera insignis chalcociton* RIS, 1919, Cat. Coll. Selys, Lib. 162 : 1068 (Simalur); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 223-224 (♂ ♀ Siberut & Sipora).

Range. — Simalur; Siberut & Sipora (Mentawai Is.).

Agrionoptera insignis insignis* (RAMBUR)Libellula insignis* RAMBUR, 1842, Hist. nat. Ins. Névropt.: 123-124. — ♂ Java.*Agrionoptera insignis insignis* RIS, 1910, Cat. Coll. Selys, Lib. 10 : 134, 136-138 (pars: Malaya, Sumatra, Java, Borneo), fig. 99 (♂ genit., Java); RIS, 1912, Tijdschr. Ent. 55 : 164 (♂ Krakatau); RIS, 1927, Zool. Meded. 10 : 39 (♂ ♀ C. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (Sarawak); LAIDLAW, 1931, Bull. Raffles Mus. 5 : 91 (Mangalum I.); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (E. Malaya), 239 (N. Borneo); LIEFTINCK, 1934, Treubia, 14 : 406 (Krakatau, Java & Karimondjawa); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93^e: 13 (S. Sumatra); LIEFTINCK, 1948, Treubia, 19 : 294, fig. 7 (♂ thorax, W. Java); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 486 (Krakatau & Verlaten I.); LIEFTINCK, 1953, Idea, 9 : 54 (Panaitan); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 198 (♂ Bali).*Agrionoptera insignis* LAIDLAW, 1920, Proc. Zool. Soc. London : 321 (♂ N. Borneo, descr.); LIEFTINCK, 1939, Treubia, 17 : 51 (S. W. Java, note).

Range. — Malaya.

Sumatra; Durian (Riouw Arch.); Billiton; Sebesi; Krakatau & Verlaten I.

Panaitan; Java; Karimondjawa; Kangean; Bali.

Borneo; Mangalum I.

Habitat. — A littoral species, very abundant in the mangrove scrub and coastal swamps; rarely found inland. Highest recorded altitude 700 m (Mt. Tanggamus, south Sumatra). Prefers shady forest pools and marshes in which it breeds. A salt tolerant species.

Agrionoptera insignis nereis* LIEFTINCKAgrionoptera insignis nereis* LIEFTINCK, 1948, Treubia 19 : 285, 292-294, fig. 7 (♂ thorax). — ♂ ♀ Engano.

Range. — Engano.

Agrionoptera sexlineata SELYS

Agrionoptera sexlineata SELYS, 1879, Ann. Mus. civ. Genova, 14 : 304. — ♂ Singapore (Malaya).

Agrionoptera sexlineata RIS, 1910, Cat. Coll. Selys, Lib. 10 : 134, 144-145 (Malaya, Borneo), fig. 102-103 (♂ wings & genit., Borneo); RIS, 1919, ibid., 16² : 1076 (Sumatra, Borneo); LAIDLAW, 1920, Proc. Zool. Soc. London : 321 (♂ ♀ N. W. Borneo); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (♂ ♀ Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (♂ ♀ Singapore).

Range. — Malaya, Singapore and surrounding small coastal islets. Sumatra; Lingga Arch.; Billiton. Borneo.

Habitat. — Apparently a very local and usually scarce species. Common around Singapore and in some places in the alluvial plains of Borneo. Prefers shady surroundings.

Genus LATHRECISTA KIRBY

Lathrecista KIRBY, 1889, Trans. Zool. Soc. London, 12 : 264, 291.
(Genotype: *Libellula asiatica* FABRICIUS, ♂ Ind. or.)

Lathrecista asiatica asiatica (FABRICIUS)

Libellula asiatica FABRICIUS, 1798, Suppl. Ent. syst. : 283. — ♂ Ind. or.

Agrionoptera simulans SELYS, 1879, Ann. Mus. civ. Genova, 14 : 300-301 (♂ Malaya).

• *Lathrecista terminalis* KIRBY, 1889, Trans. Zool. Soc. London, 12 : 335 (♂ ♀ Borneo).

Lathrecista asiatica asiatica RIS, 1910, Cat. Coll. Selys, Lib. 10 : 129, 130-132 (pars: Malaya, Sumatra, Borneo), fig. 95, 96-97 (♂ wings, Ceylon; ♂ ♀ genit., loc. ?); RIS, 1919, ibid. 16² : 1067 (pars: Borneo); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 2 (N. E. Sumatra); LIEFTINCK, 1930, Treubia, 7 Suppl. : 310 (Java, note); LIEFTINCK, 1934, ibid. 14 : 406-407 (W. & centr. Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (N. E. Sumatra); LIEFTINCK, 1939, Treubia, 17 : 51 (S. W. Java, note); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 128, 198 (♂ Bali).

Lathrecista asiatica pectoralis FRASER, 1926, Treubia, 8 : 467 (Java).

Lathrecista asiatica RIS, 1927, Zool. Meded. 10 : 38 (♂ ♀ C. Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 220 (♂ ♀ Malaya), 239 (N. Borneo).

Range. — Siam; Penang; Malaya.

P. Wé; Sumatra.

Java; Kangean; Bali.

Borneo.

• Habitat. — Swampy forest of the littoral zone, slow flowing rivers, shady lagoons and estuaries, often in company of *A. insignis*: Widely but sparingly distributed. Breeds in mud-bottomed pools and shallow forest marshes, probably also in oligohaline waters. Rarely found inland and nowhere common.

Genus **POTAMARCHA** KARSCH*Potamarcha* KARSCH, 1890, Berlin. Ent. Zeitschr. 33 : 370-371.(Genotype: *Libellula obscura* RAMBUR, ♂♀ "des Indes")**Potamarcha obscura** (RAMBUR)

- Libellula obscura* RAMBUR, 1842, Hist. nat. Ins. Névropt.: 64. — ♂♀ "des Indes" (?).
Potamarcha obscura RIS, 1910, Cat. Coll. Selys, Lib. 10 : 156-157 (Malaya, Java),
 fig. 112 (♂ wings, Lombok); RIS, 1927, Zool. Meded. 10 : 39 (Sumatra); LAIDLAW,
 1931, J. Fed. Mal. States Mus. 16 : 221 (Malaya); LIEFTINCK, 1934, Treubia,
 14 : 407 (Java, Bawean & Kangean, bionomics); LIEFTINCK, 1935, Misc.
 Zoöl. Sum. 92-93 : 13 (Sumatra); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 137
 (Bali); LIEFTINCK, 1939, Treubia, 17 : 51 (S. W. Java, note); FRASER, 1942,
 Proc. R. Ent. Soc. London (B) 11 : 102 (Malaya); LIEFTINCK, 1953, Verh.
 Naturf. Ges. Basel, 64 : 128, 199 (Bali).

Range. — Siam; Malaya.

Sumatra.

Java; Bawean; Kangean; Bali.

Borneo.

Habitat. — Distributed throughout the plains of Malaysia and goes upwards into the mountains of Java as high as 1600 m. Breeds in all stagnant and slowly running waters and is much scarcer in wooded districts than in open cultivated areas.

Genus **CRATILLA** KIRBY*Cratilla* KIRBY, 1900, Ann. Mag. Nat. Hist. (7) 5 : 542.(Genotype: *Orthemis metallica* BRAUER, ♂♀ Malaya)**Cratilla lineata** *assidua* LIEFTINCK

Cratilla lineata assidua LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 125, 128,
 199-201, 202-206 (incl. key), fig. 71 (♂ thor., Java). — ♂♀ Java (*terr. typ.*);
 ♀ Panaitan; ♂ Bali.

Orthemis lineata SELYS, 1882, Anal. Soc. Espan. Hist. Nat. 11 : 11 sep. (*pars*:
 Java).

Protorthemis lineata KRÜGER, 1902, Stett. ent. Ztg. 63 : 140 (*pars*: ♂ Java).

Cratilla lineata RIS, 1910, Cat. Coll. Selys, Lib. 10 : 152, 153-155 (*pars*: Java),
 fig. 110 & 111 (♂ wings & genit., Java); LIEFTINCK, 1934, Treubia, 14 : 407-
 408 (W. & M. Java, notes & bionomics).

Cratilla lineata assidua LIEFTINCK, 1953, Idea, 9 : 54 (*nom. nud.*, Panaitan).

Range. — Panaitan; Java; Bali.

Habitat. — A woodland species, occurring from near the coast to about 850 m above sea-level. Very local and confined to uncultivated areas. Breeds in shady mud-bottomed pools.

Cratilla lineata lineata (BRAUER)

Orthemis lineata BRAUER, 1878, Sitzb. Akad. Wiss. Wien, 77 : 201-203. — ♂ "Malacca, Sumatra" (*terr. typ.*: Sumatra).

Cratilla lineata RIS, 1910, Cat. Coll. Selys, Lib. 10 : 152, 153-155 (*pars*: Malaya, Sumatra, Borneo); RIS, 1919, *ibid.* 16² : 1070 (*pars*: Malaya, Borneo); RIS, 1927, Zool. Meded. 10 : 39 (♂ ♀ C. Sumatra, colour-notes); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 239 (N. Borneo); LAIDLAW, 1934, *ibid.* 17 : 551 (Kinabalu), 553 (Kedah); LIEFTINCK, 1934, Treubia, 14 : 407-408 (*pars*: Krakatau & S. Sumatra only); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 13-14 (S. Sumatra); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 487 (Krakatau).

Cratilla lineata lineata LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 199-201, 202 (Malaya, Sumatra, Krakatau, Borneo, incl. key), fig. 69 (♂ thor., type Sumatra).

Range. — Siam; Malaya.
Sumatra; Krakatau.
Borneo.

Habitat. — Occurs in similar situations to *assidua*, chiefly in low heavily wooded country, but also in submontane areas. In the Malay States (Kedah) collected as high as 1100 m and on Mt. Kinabalu at about 1000 m. Often found in company of *metallica*.

Cratilla metallica (BRAUER)

Orthemis metallica BRAUER, 1878, Sitzb. Akad. Wiss. Wien, 77 : 199-201. — ♂ ♀ Malaya. (Sumatra; Borneo).

Cratilla metallica RIS, 1910, Cat. Coll. Selys, Lib. 10 : 152-153 (Malaya, Sumatra, Bangka, Java, Borneo), fig. 108-109 (♂ wings & genit., Borneo); RIS, 1915, Tijdschr. Ent. 58 : 16 (♂ ♀ Simalur); LAIDLAW, 1926, J. Mal. Br. R. As. Soc. 4 : 224 (♂ Siberut); RIS, 1927, Zool. Meded. 10 : 39 (C. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 221 (P. Tioman; Malaya), 239 (Borneo); LIEFTINCK, 1934, Treubia, 14 : 408 (Java); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (S. Sumatra).

Range. — Malaya & Singapore I.; P. Tioman.
Simalur; Siberut (Mentawai Is.); Sumatra; Bangka.
Java (west).
Borneo.

Habitat. — Lowland and hill forest, up to 900 m. Common in moist places in shady surroundings but never found in the open. Breeds in mud-bottomed puddles and wells, and in shallow forest pools. Larvae concealed among benthic debris and under rotten leaves, sometimes in company with those of *Indaeschna grubaueri*, which occurs in similar situations. A very scarce species in Java.

Genus **ORTHETRUM** NEWMAN

Orthetrum NEWMAN, 1833, Ent. Mag. 1 : 511 (note):
(Genotype: *Libellula coerulescens* FABRICIUS, ♂ Italia)

Orthetrum borneense KIMMINS

Orthetrum borneense KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 70-73, fig. 2 A, B, D & fig. 3 A, B (♂ genit. & app.) — ♂♀ Sarawak (N. W. Borneo).

Range. — Borneo.

Habitat. — Montane. Known only from the moss-forests on Mt. Dulit, 1350-1500 m.

Orthetrum chrysis (SELYS)

Libella testacea, race? *chrysis* SELYS, 1891, Ann. Mus. civ. Genova, 30 : 462. — ♂ Burma.

Orthetrum chrysis RIS, 1910, Cat. Coll. Selys, Lib. 10 : 181, 237 (Malaya, Sumatra, Borneo); RIS, 1915, Tijdschr. Ent. 58 : 17 (♂♀ Simalur); RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1094 (Bangka; Borneo); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 224 (Siberut, Sipora & N. Pagai); RIS, 1927, Zool. Meded. 10 : 40 (Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 55 (Sarawak); LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (♂ Nias); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 222 (Malaya); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (S. Natuna); LIEFTINCK, 1934, Treubia, 14 : 408-409 (W. & M. Java; Karimondjawa); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (Sumatra).

Range. — Siam; Malaya & Singapore I.

P. Wé; Simalur; Nias; Siberut, Sipora & N. Pagai (Mentawai Is.); Sumatra! Durian (Riouw Arch.); Bangka; Billiton.

Java; Karimondjawa.

S. Natuna; Karimata; Borneo.

Habitat. — A common species in the lowland and hill forest areas of Malaysia, up to about 1000 m. Chiefly confined to uncultivated country. Breeds in muddy forest pools, marshes and small brooks.

Orthetrum glaucum (BRAUER)

Libellula glauca BRAUER, 1865, Abh. Zool.-bot. Ges. Wien, 15 : 1012-1013. — ♂ Ceylon.

Orthetrum glaucum RIS, 1910, Cat. Coll. Selys, Lib. 10 : 181, 233-234 (Penang, Malaya, Sumatra, Nias, Java, Borneo); LAIDLAW, 1915, Proc. Zool. Soc. London : 25-26 (N. Borneo); RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1093 (Bangka; Borneo); RIS, 1927, Zool. Meded. 10 : 40 (Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (N. E. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (Sarawak); LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (Nias, sec. SELYS); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 221 (Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 379 (Sumatra, Java); LIEFTINCK, 1934, Treubia, 14 : 409 (Java,

bionomics); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551 (Kinabalu), 554 (Kedah); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (Sumatra); KIMMINS, 1936, J. Fed. Mal. States Mus. 18 : 70 (Borneo?), fig. 2 C, E & fig. 3 C, D (♂ genit.); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 102 (Malaya); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 206 (Bali).

• Range. — Siam; Penang; Malaya.
 Nias; Sumatra; Bangka; Billiton.
 • Java; Bali.
 Borneo.

• Habitat. — From sea-level up to 1400 m, occurring in similar situations to *chrysis*, but in Java most common in submontane areas.

Orthetrum luzonicum (BRAUER) ¹⁾

Libella luzonica BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 169-170. — ♂ ♀ Luzon (Philippine Is.)

Orthetrum chryso stigma luzonicum RIS, 1910, Cat. Coll. Selys, Lib. 10 : 203, 210-212 (*pars*: Sumatra, Java), fig. 144 (♂ genit., Java).

Orthetrum luzonicum RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1081 (*pars*: ♂ Mindoro); RIS, 1927, Zool. Meded. 10 : 40 (♂ ♀ C. Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 2 (♂ N. E. Sumatra, notes); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 222 (♂ ♀ Selangor); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 378 (♂ C. Sumatra, ♂ C. Java); LIEFTINCK, 1934, Treubia, 14 : 409-410 (W. & M. Java, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (N., N. E. & S. Sumatra).

• Range. — Malaya.
 Sumatra; Billiton.
 Java.

• Habitat. — Submontane and montane, from 700 m to 2100 m, occasionally down to 200 m. Very local. Breeds in marshes and shallow lakes with an abundant growth of sedges and horse-tails, a stream flowing through a marsh being a favoured spot.

Orthetrum pruinorum pruinorum (BURMEISTER)

Libellula pruinosa BURMEISTER, 1839, Handb. Ent. 2 : 858. — ♂ Java.

Orthetrum pruinorum pruinorum RIS, 1910, Cat. Coll. Selys, Lib. 10 : 181, 239, 241 (Sumatra, Java); RIS, 1927, Zool. Meded. 10 : 40 (♂ C. Sumatra, colour-notes); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (N. E. Sumatra); LIEFTINCK, 1931, *ibid.* 59 : 5 (Nias, *sec.* SELYS); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 379-380 (Java & Bali); LIEFTINCK, 1934, Treubia, 14 : 416 (Java, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (N. E. Sumatra, note); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 207 (Bali).

¹⁾ Examples in our collection from India which have passed as *luzonicum*, are very probably not conspecific.

Range. — Nias (?); Sumatra (parts).

Java; Bali.

Habitat. — Submontane and montane, upwards to about 2000 m and rarely encountered below 500 m. Very common where found, but scarce and local in Sumatra.

Orthetrum pruinosum neglectum (RAMBUR)

Libellula neglecta RAMBUR, 1842, Hist. nat. Ins. Névropt.: 86-87. — ♂ China.

Orthetrum pruinosum LAIDLAW, 1902, Proc. Zool. Soc. London, 1 : 68 (♂ Kuala Aing, Kelantan).

Orthetrum pruinosum neglectum RIS, 1910, Cat. Coll. Selys, Lib. 10 : 239-240 (♀ Sungei Udjung, Pahang); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 222 (Malaya).

Range. — Siam & Malaya.

Orthetrum pruinosum schneideri FÖRSTER

Orthetrum schneideri FÖRSTER, 1903, Ann. Mus. Nat. Hung. 3 : 541. — ♂ Central Sumatra.

Orthetrum pruinosum clelia RIS, 1910, Cat. Coll. Selys, Lib. 10 : 239 (key, *pars*), 242-243 (*pars*: ♂ ♀ Sumatra, ♂ ♀ Borneo; ? Banguey); RIS, 1915, Tijdschr. Ent. 58 : 17 (♀ Simalur); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 239 (♂ N. Borneo); LAIDLAW, 1934, *ibid.* 17 : 551 (Kinabalu).

Orthetrum clelia LAIDLAW, 1912, J. Str. Br. R. Asiatic Soc. 63 : 93 (♂ N. Sarawak); LAIDLAW, 1915, Proc. Zool. Soc. London : 26 (♂ ♀ N. Borneo).

Orthetrum pruinosum schneideri RIS, 1927, Zool. Meded. 10 : 40-41 (♂ ♀ Sumatra, colour-notes); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (N. E. Sumatra); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 380 (♂ S. Sumatra); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (N. E. & S. Sumatra).

Orthetrum pruinosum subspec.? LIEFTINCK, 1948, Treubia, 19 : 285 (Simalur & Nias).

Range. — Simalur (?); Nias (?); Sumatra (local).

Borneo; Banguey (?).

Habitat. — Marshes with slow-flowing water, preferably in hilly country and on Mt. Kinabalu up to 1000 m.

Orthetrum sabina sabina (DRURY)

Libellula sabina DRURY, 1770, Ill. Exot. Ins. 1 : 114-115, tab. 48, fig. 4. — China (? sex).

Orthetrum sabina RIS, 1910, Cat. Coll. Selys, Lib. 10 : 180, 223-225 (Penang, Malaya, Sumatra, Nias, Java, Borneo, Banguey), fig. 133 (♂ wings, Ceylon), fig. 149 (♂ genital., Amboin); RIS, 1915, Tijdschr. Ent. 58 : 16 (Simalur); RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1090; CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 165 (Sumatra); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 224 (N. Pagai); RIS, 1927, Zool. Meded. 10 : 40 (Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum.

- 34 : 3 (Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 54 (Sarawak); LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (Nias); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 221 (Malaya); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (S. Natuna); LIEFTINCK, 1934, Treubia, 14 : 410-411 (Java, coral islets, Karimondjawa & Bawean); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 379 (Sumatra, Java, Bali); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551 (Kinabalu); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 14 (Sumatra); LIEFTINCK, 1936, De Trop. Natuur, 25, jub.-no.: 102 (Java), fig. 1-2 (photogr., ins.); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 138 (Bali); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 103 (Malaya).
- Orthetrum sabina sabina* LIEFTINCK, 1942, Treubia, 18 : 475-478 (comp. notes); LIEFTINCK, 1948, *ibid.* 19 : 285, 294 (♂ Engano); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 207 (Bali).

Range. — Siam; Penang; Malaya & Singapore I.

Simalur; Nias; N. Pagai (Mentawai Is.); Engano; Sumatra; Bangka; Billiton.

Java; Thousand Is. & isles in Djakarta Bay; Karimondjawa; Bawean; Kangean; Bali.

South Natuna; Borneo; Banguay.

Habitat. — A common and widespread species, from sea-level up to 2400 m, most abundant in cultivated areas. Breeds in any stagnant and slow flowing water, including coastal swamps and lagoons, but its breeding places are usually of artificial origin.

Orthetrum silvarum LIEFTINCK

Orthetrum silvarum LIEFTINCK, 1934, Stylops, 3 : 267-269, fig. 3 (♂ genit., Java) — ♂ W. Java.

Orthetrum silvarum LIEFTINCK, 1934, Treubia, 14 : 411 (♂ W. Java).

Range. — Java (west).

Habitat. — Known only from a single locality on the north slope of Mt. Pangrango, 1200-1300 m, in dense primeval forest. Arboricolous, adults settling on foliage of trees and shrubbery. Breeds in rain forest pools and seepages.

Orthetrum testaceum testaceum (BURMEISTER)

Libellula testacea BURMEISTER, 1839, Handb. Ent. 2 : 859. — ♂ Java.

Orthetrum testaceum testaceum RIS, 1910, Cat. Coll. Selys, Lib. 10 : 181, 234-236 (Penang, Malaya, Sumatra, Java, Borneo, Mangalum I., Banguay); RIS, 1919, *ibid.* 16 : 1093-1094; LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (Sumatra); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 379 (Sumatra, Java); LIEFTINCK, 1934, Treubia, 14 : 411 (Java, notes); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Sumatra); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 139 (Bali); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 102 (Penang & Malaya); LIEFTINCK,

1953, *Idea*, 9 : 55 (Panaitan); LIEFTINCK, 1953, *Verh. Naturf. Ges. Basel*, 64 : 129, 207 (Bali).

Orthetrum testaceum RIS, 1915, *Tijdschr. Ent.* 58 : 16 (Simalur, descr.); LAIDLAW, 1915, *Proc. Zool. Soc. London* : 26 (N. Borneo); CAMPION, 1925, *J. Fed. Mal. States Mus.* 8 : 165 (Sumatra); LAIDLAW, 1926, *J. Mal. Br. R. Asiatic Soc.* 4 : 224 (Siberut); RIS, 1927, *Zool. Meded.* 10 : 40 (Sumatra); LIEFTINCK, 1931, *Misc. Zool. Sum.* 59 : 5 (Nias, sec. SELYS); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 222 (Malaya); LAIDLAW, 1934, *ibid.* 17 : 551 (Kinabalu).

Range. — Siam; Penang; Malaya & Singapore I.

P. Wé; Simalur; Nias; Siberut (Mentawai Is.); Sumatra;
Durian (Riouw Arch.)

Panaitan; Java; Kangean; Bali.

Karimata; Borneo; Mangalum I.; Banguay.

Habitat. — Chiefly a lowland species, widely distributed and also common in cultivated areas. Highest recorded altitude about 1500 m.

[*Orthetrum triangulare triangulare* (SELYS)]

Libella triangularis SELYS, 1878, *Mitt. Zool. Mus. Dresden*, 3 : 314. — ♂ Darjeeling (N. India).

Orthetrum triangulare triangulare RIS, 1910, *Cat. Coll. Selys, Lib.* 10 : 181, 243-244 (*pars*, loc. diff., excl. Selangor).

Range. — Extra-limital.]

Orthetrum triangulare malaccense FÖRSTER

Orthetrum triangulare malaccense FÖRSTER, 1903, *Ann. Mus. Nat. Hung.* 1 : 541, 542. — ♂ Jor (Perak, Malaya).

Orthetrum triangulare triangulare RIS, 1910, *Cat. Coll. Selys, Lib.* 10 : 181, 243-244 (*pars*: ♂ Selangor); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 222 (♂ Penins. Siam; ♂ Malay States); LIEFTINCK, 1934, *Treubia*, 14 : 411-412 (♂ W. Java); LIEFTINCK, 1948, *ibid.* 19 : 285, 295 (♂ Engano).

Orthetrum triangulare RIS, 1927, *Zool. Meded.* 10 : 41 (♂ C. Sumatra, descr.); LAIDLAW, 1934, *J. Fed. Mal. States Mus.* 17 : 552-553 (Malay States); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 15 (♂ ♀ S. Sumatra); FRASER, 1942, *Proc. R. Ent. Soc. London* (B) 11 : 102 (♂ Jor, Perak).

Range. — Siam; Malaya.

Engano; Sumatra.

Java (west).

Habitat. — Confined to virgin forest of the lower mountain zone, 500 m to 1300 m. Breeds in seepages from the hill-sides, and in forest pools with well-oxygenated water. A rare species.

Subfamily BRACHYDIPLACINAE

Genus NANNOPHYA RAMBUR

Nannophya RAMBUR, 1842, Hist. nat. Ins. Névropt.: 26-27.

(Genotype: *Nannophya pygmaea* RAMBUR, ♀ sine patria)

***Nannophya pygmaea* RAMBUR**

Nannophya pygmaea RAMBUR, 1842, Hist. nat. Ins. Névropt.: 27-28, tab. 2, fig. 1a (ins. & struct.) — ♀ sine patria, ex coll. SERVILLE.

Nannophya pygmaea RIS, 1910, Cat. Coll. Selys, Lib. 11 : 346-348 (Penang, Malaya, Sumatra, Bangka, Borneo), fig. 196-197 (♂ ♀ wings, Penang); RIS, 1915, Tijdschr. Ent. 58 : 17 (Simalur, bionomics); LAIDLAW, 1920, Proc. Zool. Soc. London : 322 (Sarawak); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 224 (Siberut); RIS, 1927, Zool. Meded. 10 : 41 (♂ ♀ C. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 55 (Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 223 (Malaya); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Riouw Arch. & E. Sumatra); FRASER, 1936, Fauna Brit. India, Odon. 3 : 323 (Sum).

Range. — Siam; Penang; Malaya.

Simalur; Siberut (Mentawai Is.); Sumatra; Durian (Riouw Arch.); Bangka; Billiton.

Borneo.

Habitat. — Haunts the grassy borders of lakes and marshes, especially those with a dense vegetation of rush and sedges. The males settle on the top of tall herbs with their bodies held up at a right angle. Occurs from near sea-level upwards to mountain lakes at 1250 m.

Genus NANNOPHYOPSIS LIEFTINCK

Nannophyopsis LIEFTINCK, 1935, Treubia, 15 : 183-184.

(Genotype: *Nannophyopsis chalcosoma* LIEFTINCK, ♂ ♀ Billiton)

***Nannophyopsis chalcosoma* LIEFTINCK**

Nannophyopsis chalcosoma LIEFTINCK, 1935, Treubia, 15 : 185-188, fig. 4-6 (♂ body, wings, genit. & app.) — ♂ ♀ Billiton.

Nannophyopsis chalcosoma LIEFTINCK, 1936, Ent. Med. Ned.-Indië, 2 : 4 (Billiton).

Range. — Billiton.

Borneo (northwest and south).

Habitat. — Marshes, weedy pools and slow flowing rivulets in forest areas in the plains, occasionally in company of *Nannophya pygmaea*. Smallest known member of the family. Very rare.

Genus **BRACHYGONIA** KIRBY*Brachygonia* KIRBY, 1889, *Trans. Zool. Soc. London*, 12 : 259, 310.(Genotype: *Tetrathemis oculata* BRAUER, ♂ Borneo).**Brachygonia oculata** (BRAUER)*Tetrathemis oculata* BRAUER, 1878, *Sitzb. Akad. Wiss. Wien*, 77 : 194-195. — ♂ Borneo.*Brachygonia oculata* RIS, 1910, *Cat. Coll. Selys, Lib. 11* : 353-354 (Malaya, Sumatra, Bangka, Borneo), fig. 203-204 (♂ wings & genit., Borneo); LAIDLAW, 1920, *Proc. Zool. Soc. London* : 322 (Sarawak); RIS, 1927, *Zool. Meded.* 10 : 41 (♂ ♀ C. Sumatra); LAIDLAW, 1931, *J. Fed. Mal. States Mus.* 16 : 223 (Selangor); LAIDLAW, 1932, *Bull. Raffles Mus.* 7 : 101 (♂ ♀ S. Natuna); LIEFTINCK, 1935, *Misc. Zool. Sum.* 92-93 : 15 (E. Sumatra); LIEFTINCK, 1937, *Treubia*, 16 : 107 (Bangka & Billiton); FRASER, 1942, *Proc. R. Ent. Soc. London (B)* 11 : 102 (Kedah), fig. 4 (♂ wings).

Range. — Malaya.

Sumatra; Bangka; Billiton.

South Natuna; Borneo.

(Also repeatedly found in one locality on the westcoast of Celebes, along with another characteristically Malaysian species, viz, *Rhyothemis obsolescens* KIRBY.)

Habitat. — Inhabits forest-swamps and marshes in shady surroundings and is usually very abundant where found. Confined to uncultivated areas of the plains.

Brachygonia ophelia RIS*Brachygonia ophelia* RIS, 1910, *Cat. Coll. Selys, Lib. 11* : 353, 354, fig. 205 (♂ wings). — ♂ S. Borneo.*Brachygonia ophelia* LAIDLAW, 1920, *Proc. Zool. Soc. London* : 322 (♀ Sarawak); LIEFTINCK, 1937, *Treubia*, 16 : 107 (W. Borneo).

Range. — Borneo (universal).

Habitat. — Found in similar situations to *oculata*, but is a much scarcer insect.**Brachygonia puella** LIEFTINCK*Brachygonia puella* LIEFTINCK, 1937, *Treubia*, 16 : 105-107, fig. 25 (♂ genit.) — ♂ ♀ Billiton.

Range. — Billiton.

Borneo (south).

Habitat. — Found in similar localities to *ophelia* and keeps company also with *Chalybeothemis fluviatilis* in suitable places.

Genus **TYRIOBAPTA** KIRBY*Tyriobapta* KIRBY, 1889, Trans. Zool. Soc. London, 12 : 262, 294.(Genotype: *Tyriobapta torrida* KIRBY, ♂ ♀ Borneo)***Tyriobapta kükenthali* (KARSCH)***Monocoloptera kükenthali* KARSCH, 1900, Abh. Senckenb. Naturf. Ges. 25 : 229. — ♂ Baram R., N. W. Borneo.*Tyriobapta kükenthali* RIS, 1910, Cat. Coll. Selys, Lib. 11 : 355, 357, fig. 209 (♂ wings, Borneo); RIS, 1919, *ibid.* 16² : 1120, 1122 (♂ Sarawak; ♀ E. Sumatra); LAIDLAW, 1920, Proc. Zool. Soc. London : 322 (♂ Sarawak).

Range. — Sumatra.

Borneo.

Habitat. — Forest swamps of the alluvial plains. Like *torrida*, both sexes usually rest vertically on tree-trunks.***Tyriobapta laidlawi* RIS***Tyriobapta laidlawi* RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1120, 1121-1122, fig. 644 (♂ wings). — ♂ Sarawak (Borneo).*Tyriobapta laidlawi* LAIDLAW, 1920, Proc. Zool. Soc. London : 322 (♂ Sarawak).

Range. — Borneo.

Habitat. — Found in similar situations to *kükenthali*. Breeds also in slowly running water.***Tyriobapta torrida* KIRBY***Tyriobapta torrida* KIRBY, 1889, Trans. Zool. Soc. London, 12 : 338-329, tab. 54, fig. 5-6 (♂ ♀ ins., coloured). — ♂ ♀ Borneo.*Tyriobapta torrida* RIS, 1910, Cat. Coll. Selys, Lib. 11 : 355-357 (Malaya, Sumatra, Bangka, Borneo), fig. 206-208 (♀ wings, ♂ genit. & ♀ genit., Borneo); RIS, 1919, *ibid.* 16² : 1120-1121, fig. 643 (♂ wings, Sarawak; ♂ ♀ Borneo, Sumatra, Bangka); LAIDLAW, 1920, Proc. Zool. Soc. London : 322 (Borneo); RIS, 1927, Zool. Meded. 10 : 41-42 (♂ ♀ C. Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (N. E. Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4^e : 55 (Sarawak); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 223 (Penins. Siam & Malaya), 239 (N. Borneo); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (E. Sumatra).

Range. — Siam; Malaya.

Sumatra; Bangka; Billiton.

Bunguran (North Natuna); Karimata; Borneo.

Habitat. — Lowland and hill forest, up to 600 m. Breeds in forest-marshes and slow flowing rivulets, but frequently wanders away from water, settling flat against the trunks of trees, with wings outspread.

Genus **CHALYBEOTHEMIS** LIEFTINCK*Chalybeothemis* LIEFTINCK, 1933, Sarawak Mus. Journ. 4 : 132-133.(Genotype: *Chalybeothemis fluviatilis* LIEFTINCK, ♂ ♀ Borneo).**Chalybeothemis fluviatilis** LIEFTINCK*Chalybeothemis fluviatilis* LIEFTINCK, 1933, Sarawak Mus. Journ. 4 : 133-137, pls. 1E-15, fig. 1-3 (♂ wings, ♂ ♀ genit. & ♂ app.) — ♂ ♀, W. Borneo.*Chalybeothemis fluviatilis* LIEFTINCK, 1936, Ent. Med. Ned.-Indië, 2 : 4 (♂ ♀ Billiton).

Range. — Pahang (Malaya); Singapore I.

Billiton.

Borneo (west and south).

Habitat. — Frequents the weedy shallows of rivers, but breeds also in ponded streams, dead river-arms and marshes in low country.

Genus **BRACHYDIPLAX** BRAUER*Brachydiplax* BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 172-173.(Genotype: *Diplax denticauda* BRAUER, ♂ New Guinea).**Brachydiplax chalybea chalybea** BRAUER*Brachydiplax chalybea* BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 173. — ♂ Bohol (Philippine Is.).*Brachydiplax chalybea* RIS, 1910, Cat. Coll. Selys, Lib. 11 : 359, 363 (Penang, Malaya, Sumatra, Nias, Borneo), fig. 210 (♂ wings, Celebes); CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 165 (Sumatra); RIS, 1927, Zool. Meded. 10 : 42 (Sumatra); HINCKS, 1930, Sarawak Mus. Journ. 4 : 55 (Sarawak); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (S. Natuna); LIEFTINCK, 1939, Treubia, 17 : 51 (S. W. Java).*Brachydiplax chalybea chalybea* RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1122-1123 (Borneo); LAIDLAW, 1920, Proc. Zool. Soc. London : 322 (Borneo); ? LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (Nias, *sec.* SELYS); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 239 (N. Borneo); LIEFTINCK, 1934, Treubia, 14 : 412 (W. & M. Java, Karimondjawa, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (C. Sumatra).

Range. — Siam; Penang; Malaya & Singapore I.

P. Wé; Nias (subspec. ?); Sumatra; Riouw Arch.; Bangka;

Billiton.

Java; Karimondjawa.

South Natuna; Karimata; Borneo.

Habitat. — Chiefly confined to low-lying country, but occasionally found on stagnant water in the hills. Prefers forest-marshes, but breeds also commonly in ponds or slow flowing streams, as well as in oligohaline backwaters near the coast and in mangrove swamps.

Brachydiplax chalybea simalura RIS

Brachydiplax chalybea simalura RIS, 1915, Tijdschr. Ent. 58 : 17-18. — ♂ Simalur.
Brachydiplax chalybea simalura RIS, 1919, Cat. Coll. Selys, Lib. 163 : 1123 (♂ Simafur); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 224 (♂ Siberut); ? LIEFTINCK, 1948, Treubia, 19 : 295-296 (♂♀ Engano, subsp.?).

Range. — Simalur; Siberut (Mentawai Is.); Engano (subspec.?)

Remarks. — The subspecific identification of the Engano population remains still uncertain.

Brachydiplax farinosa KRÜGER

Brachydiplax farinosa KRÜGER, 1902, Stett. ent. Ztg. 63 : 135-136. — ♂♀ N. E. Sumatra.

Brachydiplax pruinosa LAIDLAW, 1902, Proc. Zool. Soc. London : 67 (♂ Malaya).

Brachydiplax farinosa RIS, 1910, Cat. Coll. Selys, Lib. 11 : 359, 361-362 (Malaya, Sumatra), fig. 213-214 (♂♀ genit., Burma); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 223 (Penins. Siam & Kelantan); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 380 (♂♀ Sumatra, pars?); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 103 (♂ Perak); LIEFTINCK, 1953, Treubia, 22 : 263-264 (N. E. Sumatra, S. Java & Borneo, comp. notes), fig. 11 c-d (♂ genit. & app. sup., S. Sumatra).

Range. — Siam; Malaya.

Sumatra.

Java (south).

Borneo (east and south).

Habitat. — Swampy forest of the lowlands, often in vast numbers. Extremely rare in Java.

Brachydiplax sollaarti LIEFTINCK

Brachydiplax sollaarti LIEFTINCK, 1953, Treubia, 22 : 262-264, fig. 11, a-b (♂ genit. & app. sup.) — ♂ S. Sumatra.

Range. — Sumatra (south).

Habitat. — Occurs in similar surroundings to *farinosa* and has been found in company with that species.

Brachydiplax sobrina (RAMBUR)

Libellula sobrina RAMBUR, 1842, Hist. nat. Ins. Névropt.: 114-115. — ♀ *sine patria*.
Brachydiplax sobrina RIS, 1910, Cat. Coll. Selys, Lib. 11 : 359, 360-361 (not regional), fig. 211-212 (♂ genit., Burma, ♀ id., Ceylon); RIS, 1919, *ibid.* 16² : 1122 (♂ Jalor); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 223 (♂ Jalor, Penins. Siam).

Range. — Siam.

Genus RAPHISMIA KIRBY

Raphismia KIRBY, 1839, Trans. Zool. Soc. London, 12 : 263, 293.
 (Genotype: *Diplax bispina* HAGEN, ♂ ♀ Morotai; Halmahera)

Raphismia bispina (HAGEN)

Diplax bispina HAGEN, 1867, Stett. ent. Ztg. 23 : 91. — ♂ ♀ Morotai; Halmahera.
Raphismia bispina RIS, 1910, Cat. Coll. Selys, Lib. 11 : 368-370 (not regional), fig. 219-221 (♂ wings, Palawan; ♂ genit., Moluccas); LAIDLAW, 1931, Bull. Raffles Mus. 5 : 91 (Mangalum); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 224 (P. Tioman), 239 (N. Borneo); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (♀ S. Natuna); LIEFTINCK, 1934, Treubia, 14 : 412-413 (Krakatau, N. W. Java & Karimondjawa, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Riouw Arch.); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 487 (Verlaten I.).

Range. — Pulu Tioman (off E. Malaya).

Durian (Riouw Arch.); Billiton; Verlaten I. (Krakatau group).

Java (north-coast, west); coral islets (Djakarta Bay); Karimondjawa.

South Natuna; Borneo (northwestern extremity); Mangalum (off northwest Borneo).

Habitat. — Mangrove swamps.

Raphismia inermis RIS

Raphisma inermis RIS, 1910, Cat. Coll. Selys, Lib. 11 : 368, 370-371, fig. 222 (♂ genit.) — ♂ W. Borneo.
Raphismia inermis LAIDLAW, 1911, Sarawak Mus. Journ. 1 : 192 (♀ Borneo); RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1127-1128 (♂ ♀ Sarawak; ♀ Bangka); LAIDLAW, 1920, Proc. Zool. Soc. London : 323 (♂ Sarawak).

Range. — Bangka.

Borneo (northwest and south).

Habitat:— Swampy forest of the alluvial plains. Very rare. Breeds in tiny sluggish brooks on peaty soil.

Subfamily SYMPETRINAE

Genus ACISOMA RAMBUR

Acisoma RAMBUR, 1842, Hist. nat. Ins. Névropt.: 26, 28.

(Genotype: *Acisoma panorpoides* RAMBUR, ♂♀ Bengal)

***Acisoma panorpoides* RAMBUR**

Acisoma panorpoides RAMBUR, 1842, Hist. nat. Ins. Névropt.: 28-29, tab. 2, fig. 2 b (insect). — ♂♀ "Bengale?" (India).

Acisoma panorpoides panorpoides RIS, 1911, Cat. Coll. Selys, Lib. 12 : 456, 457-458 (Malaya, Sumatra).

Acisoma panorpoides RIS, 1912, Tijdschr. Ent. 55 : 165 (W. Java); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 225 (Sipora); RIS, 1927, Zool. Meded. 10 : 42 (C. Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 224 (Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 380 (Sumatra, Java, Bali); LIEFTINCK, 1934, Treubia, 14 : 413 (Krakatau, Java, Bawean); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Sumatra); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 487 (Krakatau); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 211 (Bali).

Range. — Siam; Malaya & Singapore I.

P. Wé; Sipora (Mentawai Is.); Sumatra; Bangka; Billiton; Krakatau.

Java; Bawean; Bali.

Borneo (south).

Habitat. — Haunts the grassy borders of marshes, irrigation-channels, ponds and abandoned rice-fields. A retiring, cryptically coloured insect. Probably wind-borne, and breeding also in slightly brackish water.

Genus DIPLACODES KIRBY

Diplacodes KIRBY, 1889, Trans. Zool. Soc. London, 12 : 263, 307.

(Genotype: *Libellula lefebvrei* RAMBUR, ♀ Egypt)

***Diplacodes nebulosa* (FABRICIUS)**

Libellula nebulosa FABRICIUS, 1793, Entom. syst. 2 : 379. — ♂ India or.

Diplacodes nebulosa RIS, 1911, Cat. Coll. Selys, Lib. 12 : 462, 463-464 (Penang, Malaya, Java); RIS, 1912, Tijdschr. Ent. 55 : 165, 180-182 (? larva, Java); RIS, 1927, Zool. Meded. 10 : 42 (♂♀ C. Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 224 (Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 380 (♂ N. Sumatra); LIEFTINCK, 1934, Treubia, 14 : 413 (N. W. Java).

Range. — Penang; Malaya.
Sumatra; Bangka.
Java.

Habitat. — Chiefly met with in coastal districts and confined to marshes and shallow ponds in open country. Found also in abandoned rice-fields and never seen away from its breeding-places. Occasionally observed on lakes at an altitude of 600-700 m. A very local insect, with a wide but scattered distribution.

Diplacodes trivialis (RAMBUR)

Libellula trivialis RAMBUR, 1842, Hist. nat. Ins. Névropt.: 115. — ♂♀ Bombay (India).

Diplacodes trivialis RIS, 1911, Cat. Coll. Selys, Lib. 12 : 462, 468-470 (Penang, Malaya, Sumatra, Java, Borneo), fig. 293-294 (♂ wings, Celebes; ♂ genit., Java); RIS, 1912, Tijdschr. Ent. 55 : 165 (Lang Eiland, Krakatau group); RIS, 1915, ibid. 58 : 18 (Simalur); RIS, 1919, Cat. Coll. Selys, Lib. 16² : 1153; CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 165 (Sumatra); LAIDLAW, 1926, J. Mal. Br. R. Asiatic Soc. 4 : 224 (Siberut, Sipora & S. Pagai); RIS, 1927, Zool. Meded. 10 : 42 (Sumatra); LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (Nias); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 224 (Malaya), 239 (Borneo); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 380-381 (Sumatra, Java); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 551, 552 (Kinabalu; Perak & Pahang); LIEFTINCK, 1934, Treubia, 14 : 413-414 (Krakatau, Java, Thousand Is., Karimondjawa, Bawean & Kangean); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Sumatra); LIEFTINCK, 1936, Revue Suisse Zool. 43 : 141 (Bali); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 103 (Malaya); LIEFTINCK, 1948, Treubia, 19 : 285, 296 (♂ Engano); DAMMERMAN, 1948, Verh. Kon. Ned. Akad. Wet. (2) 44 : 487 (Krakatau, Verlaten & Lang I.); LIEFTINCK, 1953, Idea, 9 : 55 (Panaitan); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 211 (Bali).

Range. — Siam; Penang; Malaya & Singapore I.
P. Wé; Simalur; Nias; Siberut, Sipora & S. Pagai (Mentawai Is.); Engano; Sumatra; Durian (Riouw Arch.);
Bangka; Billiton; Krakatau Is.
Panaitan; Java; Thousand Is. and coral-islets in Djakarta Bay; Madura; Karimondjawa; Bawean; Kangean; Bali.
Karimata; Borneo.

Habitat. — Universally distributed from sea-level to high altitudes (upwards of 3000 m). Often seen in dry places far from water.

Genus **INDOTHEMIS** RIS

Indothemis RIS, 1909, Cat. Coll. Selys, Lib. 9 : 29; RIS, 1911, *ibid.* 13 : 529.
(Genotype: *Libellula caesia* RAMBUR, ♂ Bombay)

Indothemis limbata limbata (SELYS)

- Trithemis limbata* SELYS, 1891, Ann. Mus. civ. Genova, 30 : 463. — ♂ Burma.
Indothemis limbata RIS, 1911, Cat. Coll. Selys, Lib. 13 : 530, 531 (Malaya), fig. 319 (♂ wings, Perak); RIS, 1919, *ibid.* 16² : 1163 (Malaya); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 224 (♂ Perak; ♂ Singapore).
Indothemis limbata limbata FRASER, 1936, Fauna Brit. India, Odon. 3 : 342 (Siam).

Range. — Siam; Malaya; Singapore I.

Habitat. — According to FRASER (*loc. cit.* 1936), the Indian subspecies *sita* is found "over small weedy tanks, keeping well out in the centre, and so shy that I was reduced to bringing them down with dust-shot". Superficially resembles a dark *Trithemis festiva*.

Genus **CROCOTHEMIS** BRAUER

Crocotthemis BRAUER, 1868, Abh. Zool.-bot. Ges. Wien, 18 : 367, 736.
(Genotype: *Libellula erythraea* BRULLÉ, Moravia).

Crocotthemis servilia (DRURY)

- Libellula servilia* DRURY, 1770, Ill. exot. Ins. 1 : 112-113, tab. 47, fig. 6. — ? sex, China.
Trithemis aurora? NEEDHAM, 1904, Proc. U.S. Nat. Mus. 27 : 708 (larva, W. Java), pl. 41, fig. 6-7 (photogr., larva).
Crocotthemis servilia RIS, 1911, Cat. Coll. Selys, Lib. 13 : 533, 539-542 (*pars*: Penang, Malaya, Sumatra, Java, Borneo), fig. 320 (♂ wings, Singapore); CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 165 (Sumatra); RIS, 1927, Zool. Meded. 10 : 43 (Sumatra); LIEFTINCK, 1929, Misc. Zool. Sum. 34 : 3 (Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 226 (Malaya); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 381 (Sumatra & Java); LIEFTINCK, 1934, Treubia, 14 : 417-418 (Java, Bawean, bionomics); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Sumatra); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 103 (Malaya); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 212 (Bali).

Range. — Siam; Penang; Malaya & Singapore I.

P. Wé; Sumatra; Billiton.

Java; coral-islets in Djakarta, Bay; Bawean; Bali.

Borneo (lowlands).

Habitat. — Rice-fields, ponds and lakes. Abundant everywhere, chiefly in low country and near human habitations, in open cultivated areas. Highest recorded altitude 2150 m (marshes or Mt. Papan-dajan, W. Java). Breeds equally in slow running and still waters.

Genus **NEUROTHEMIS** BRAUER*Neurothemis* BRAUER, 1867, Abh. Zool.-bot. Ges. Wien, 17.: 6-7.(Genotype: *Libellula fulvia* DRURY, ♀ China)***Neurothemis disparilis* KIRBY***Neurothemis disparilis* KIRBY, 1889, Trans. Zool. Soc. London, 12 : 322-323, tab. 54, fig. 8 (♂ ins., coloured). — ♂ ♀ Borneo.*Neurothemis disparilis* RIS, 1911, Cat. Coll. Selys, Lib. 13 : 552, 566 (Malaya, Borneo); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 225 (Kelantan & Singapore).

Range. — Malaya & Singapore I.

Borneo.

Habitat. — Little or nothing is known of the habits and breeding-places of this species.

Neurothemis fluctuans* (FABRICIUS)Libellula fluctuans* FABRICIUS, 1793, Entom. syst., 2 : 379. — ♂ India or.*Polyneura palliata* RAMBUR, 1842, Hist. nat. Ins. Névropt.: 129 (♂ Sumatra).*Neurothemis fluctuans* RIS, 1911, Cat. Coll. Selys, Lib. 13 : 552, 566-569 (Penang, Malaya, Sumatra, Java, Borneo, Banguay); RIS, 1915, Tijdschr. Ent. 58 : 19 (♂ ♀ Simalur); LAIDLAW, 1920, Proc. Zool. Soc. London : 323 (Borneo); CAMPION, 1925, J. Fed. Mal. States Mus. 8 : 165 (Sumatra); RIS, 1927, Zool. Meded. 10 : 42-43 (♂ ♀ Sumatra, descr.); HINCKS, 1930, Sarawak Mus. Journ. 4 : 55 (Sarawak); LIEFTINCK, 1931, Misc. Zool. Sum. 59 : 5 (♂ Nias); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 225 (Malaya); LAIDLAW, 1932, Bull. Raffles Mus. 7 : 101 (S. Natuna); SCHMIDT, 1934, Arch. Hydrob. Suppl. 13 : 381-382 (Sumatra), pl. 17, fig. 6 (♂ wings); LIEFTINCK, 1934, Treubia, 14 : 414-415 (W. & M. Java, bionomics & notes); LAIDLAW, 1934, J. Fed. Mal. States Mus. 17 : 552 (Perak); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (Sumatra); FRASER, 1936, Fauna Brit. India, Odon. 3 : 356 (Siam); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 104 (Malaya); LIEFTINCK, 1953, Idea, 9 : 55 (Panaitan).

Range. — Siam; Penang; Malaya & Singapore I.

P. Wé; Simalur; Nias; Sumatra; Durian (Riouw Arch.);

Bangka; Billiton.

Panaitan; Java (not east).

South Natuna; Karimata; Borneo; Banguay.

Habitat. — Occurs on lakes, in marshes and in rice fields, sometimes gregariously and in immense numbers. Very common in western Malaysia and Borneo, but rare and extremely local in Java, where it is largely replaced by *terminata*. Undoubted hybrids between *fluctuans* and *terminata* are known from various localities in Java. Found as high as 1200-1500 m in Perak and W. Sumatra, and at 1500 m on a lake in West Java.

Neurothemis fulvia (DRURY)

Libellula fulvia DRURY, 1773, Ill. exot. Ins. 2 : 84-85, tab. 46, fig. 2. — ♀ China.

Neurothemis fulvia RIS, 1911, Cat. Coll. Selys, Lib. 13 : 553, 580-581 (Penang, Malaya, Sumatra); LAIDLAW, 1931, J. Fed. Mal. States Mus. 16 : 225 (Penins. Siam & Malaya); LAIDLAW, 1934, ibid. 17 : 552 (Perak); LIEFTINCK, 1935, Misc. Zool. Sum. 92-93 : 15 (E. Sumatra); FRASER, 1936, Fauna Brit. India, Odon. 3 : 354 (Siam & Malaya); FRASER, 1942, Proc. R. Ent. Soc. London (B) 11 : 104 (Malaya).

Range. — Siam; Penang; Malaya.
Sumatra (east, westcoast, and south).

Habitat. — A species of the swampy alluvial plains, very local and nowhere common. Breeds also in sluggish streams and is apparently confined to flat country, though once it was found in Perak at 1500 m altitude.

[Neurothemis intermedia intermedia (RAMBUR)]

Libellula intermedia RAMBUR, 1842, Hist. nat. Ins. Névropt.: 91. — ♂ Bombay (India).

• Range. — Extra-limital.]

Neurothemis intermedia excelsa LIEFTINCK

Neurothemis intermedia excelsa LIEFTINCK, 1934, Stylops, 3 : 269-270. — ♂ N. & S. Java.

Neurothemis intermedia excelsa LIEFTINCK, 1934, Treubia, 14 : 415 (Java); LIEFTINCK, 1953, Verh. Naturf. Ges. Basel, 64 : 129, 131, 213-214 (comp. notes, distrib.; Sumba).

Range. — Java (scattered); Kangean.

Habitat. — Occurs in small colonies in wooded districts of the plains and in hill forest. Breeds in marshes, inundated scrub jungle and rice fields at the edge of forest, up to 500 m. Rare.

Remarks. — The endemic Celebesian species *nesaea* RIS can possibly also be linked with *intermedia*, since closely similar populations of *excelsa* have been found as far east as Kangean and on the island Sumba.