

LIST
OF THE
SPECIMENS
OF
NEUROPTEROUS INSECTS
IN
THE COLLECTION

OF THE
BRITISH MUSEUM. (lat. his
= Dept. of zoology.

—
PART III.—(TERMITIDÆ—EPHEMERIDÆ).
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PRINTED BY ORDER OF THE TRUSTEES.
LONDON, 1853.

first joint broad: prothorax slightly conical, not broader than long; borders and dorsal stripe testaceous: mesothorax and metathorax each as large as the prothorax; mesothorax partly testaceous: abdomen linear, not broader or longer than the thorax, with a short, broad, testaceous stripe on the disk: legs testaceous; femora with piceous streaks. Length of the body $5\frac{1}{2}$ lines.

The broader head of this species and the shape of its prothorax distinguish it from *O. Brasiliensis*.

a. Brazil. From Mr. Stevens' collection.

Sub-order 5. EPHEMERINÆ.

Partes oris oblitteratæ, subnullæ. Abdominis apex bi- vel trisetus. Tarsi 4-5-articulati. Alæ duo vel quatuor, inæquales, homonomæ, membranacæ, venis transversis plurimis. Larvæ aquaticæ, branchiopneustæ, nudæ.

Ephemerinæ, *Latr.*; *Pictet*; *Blanchard*.

Ephemera, *Linn.*; *Fabr.*; *Deg.*; *Barb.*; *Gmel.*; *Berk.*; *Stew.*; *Turt.*; *Panz.*

Agnatha, *Cuvier*.

Ephemeridæ, *Leach*; *Steph.*; *Curt.*; *Westw.*

Biomorphotica, p., *Westw.*

Arkiptera, p., *Brullé*; *Delaporte*.

Ephemerina, *Newman*.

“Antennæ very short, 3-jointed; terminal joint longest, and a mere seta. Ocelli three. Mouth and prothorax atrophied. Abdomen terminating in long caudal multiarticulate setæ. Legs simple; fore-legs longer and porrected in the males. Wings much reticulated with veins, very unequal in size, the fore-wings being ample, the hind small, and sometimes totally wanting; when at rest they are erect and meet vertically over the back. *Larva*.—Aquatic, breathes by means of external gills, which also serve as organs of natatory locomotion. Antennæ long, filiform, multiarticulate. Mandibles corneous, small, feeble. Setæ long, filiform, multiarticulate. Legs long and strong. Frequents the bottom of ponds, and especially of running streams, secretes itself under stones, and appears to feed on the decomposing organic matter which mingles so largely in the sediment of all waters. *Pupa*.—Similar to the

larva in form, habit and food. Rudiments of wings very perceptible at the posterior angles of the wing-bearing segments. Attains its perfect state by a double ecdysis; after the first, the insect retains the soft, silky pellicle which invests a great number of insects, and which, in all other cases, is shed with the pupa-case. After a feeble flight the insect settles, and in the course of a few hours divests itself of the pellicle, and has then accomplished all its transformations."—*Newman*.

Genus 1. EPHEMERA.

Oculi remoti, maris simplices. Pedes bene determinati. Setæ caudales tres, æquales. Alæ reticulatæ, quatuor, venis plurimis transversis. Larva subiens, instrumentis respiratoriis quasi ammentales.

Ephemera, *Linn.*, &c.

Ephemeræ trisetæ, p., *Zett.*

Ephemeridæ, p., *Newman*.

Eyes simple in both sexes, always separated by a broad interval: wings four, with numerous cross-veins; hind-wings almost as long as one-fourth of the fore-wings, with a complete neuration and an angular costal border: abdominal tentaculæ of middle size; internal appendages hidden, very small: three tail-bristles of equal length.

1. EPHEMERA VULGATA.

Obscure fusca; abdomen lutescens; setæ caudales nigricantes; pedes pallidi, obscure nebulosi; alæ fuscæ, anticæ costæ pallida fusca, maculis tribus vel quatuor, posticæ maris macula media.

Ephemera vulgata, *Linn. Syst. Nat. Ed. 12, ii. 906, 1. Fauna Suecica, 1472, 1. Geoffr. Hist. Ins. ii. 238, 1. Scop. Ent. Carn. 264, 683. Schæff. Elem. pl. 72. Deg. Ins. ii. 621, pl. 16. Müll. Prod. Zool. Dan. 142, 1641. Sulz. Ins. fig. 103. Mus. Lesk. i. 50, 13. Schrank, Ins. Austr. 602; Faun. Boic. 1937. Gmel. Ed. Syst. Nat. i. 5, 2678, 1. Barbut, Gen. 213,*

pl. 11, fig. inf. dext.? *Fourcroy, Ent. Par.* 351, 1. *De Vill. Linn. Ent.* iii. 16, 1. *Berk. Syn. Nat. Hist.* i. 150. *Rossi, Faun. Etrusc.* ii. 672. *Oliv. Enc. Méth.* vi. 417, 1. *Stew. Elem. Nat. Hist.* ii. 211. *Shaw, Gen. Zool.* vi. 249, pl. 81, fig. sup. *Fabr. Ent. Syst.* ii. 68, 1. *Panz. Faun. Ins. Germ.* xciv. fig. 16. *Cederhielm, Faun. Ingr. Prod.* 134, 407. *Turt. Syst. Nat.* iii. 393. *Walcken. Faun. Par.* ii. 8, 1. *Latr. Hist. Nat. Ins.* xiii. 94, 1. *Wood, Ill. Linn. Gen. Ins.* ii. 23, pl. 47. *Duméril, Cons. Gen. Ins.* pl. 28, f. 4, 5. *Sam. Ent. Comp.* pl. 7, f. 2. *Zett. Ins. Lap.* 1044. *Steph. Ill. Brit. Ent. Mand.* vi. 55, 1. *Burm. Handb. Ent.* ii. 804, 1. *Blunch. Hist. Nat. Ins.* iii. 53, 1. *Ramb. Hist. Nat. Ins. Neur.* 293, 1. *Westw. Intr. Class. Ins.* ii. 25, 61, 1—16. *Pictet, Hist. Nat. Ins. Neur. Eph.* 126, 1, pl. 1—5. *Ramb. Hist. Nat. Ins. Neur.* 293, 1.

—c. England.

Var. ? *Ephemera hispanica*, *Ramb. Hist. Nat. Ins. Neur.* 294.

“A little smaller than *E. vulgata*, which it resembles: thorax black: abdomen yellow, spotted with black: filaments reddish with brown rings, very long: anal appendages much attenuated at the tip, with the two last joints longer and more slender than in *E. vulgata*, but not suddenly contracted at the base of the penultimate as in *E. lutea*: legs blackish, a little shorter than those of *E. lutea*: wings slightly reddish, almost hyaline; almost all the veins bordered with brown, with which the spots of the middle are confluent.”

Madrid.

2. EPHEMERA DANICA.

Oculi fusci; thorax maris nigricans; setæ caudales fulvæ, fusco annulatæ; alæ anticæ maculis tribus vel quatuor, posticæ immaculatæ.

Ephemera Danica, *Müll. Faun. Fridr.* 554; *Syst. Ins.* pl. 9, f. 5, 6. *Prod. Zool. Dan.* 142, 1640. *De Vill. Linn. Ent.* iii. 18, 6. *Schæff. Icon. Ins. Ratisb.* pl. 9, f. 5, 6. *Pictet, Hist. Nat. Neur. Eph.* 130, 2, pl. 7.

Ephemera vulgata? *Donovan, Nat. Hist. Brit. Ins.* iv. 53, pl. 128.

Ephemera maculata, *De Vill. Linn. Ent.* iii. 22, 17.

Ephemera cognata, Steph. *Ill. Brit. Ent. Mæd.* vi. 516, 2. Curt. *Brit. Ent.* 708.

a, b. England.

3. EPHEMERA GLAUCOPS.

Oculi cyanei; thorax maris flavus; setæ caudales fulvæ, fusco annulatae; alæ anticæ maculis tribus vel quatuor, posticæ immaculatæ.

Ephemera lutea, Sulz. *Ins.* 171, pl. 24, f. 6. *Burm. Handb. Ent.* ii. 804, 2.

Ephemera glaucops, Pictet, *Hist. Nat. Neur. Eph.* 132, 3, pl. 8, f. 1—3.

Europe.

Var. ? *Ephemera flavicans*, Ramb. *Hist. Nat. Ins. Neur.* 296, 7.

“ A little larger than *Cloeon Diptera* : yellow : abdomen dull red above, darker on the borders of the segments : filaments three, red, twice the length of the body, with brown rings ; anal appendages horn-shaped, long, slender, contiguous at the tip and forming an oval by their reunion : legs yellow ; anterior legs long, reddish, almost as long as the body, with red rings at the tips of the thighs, and with brown rings on the other joints : wings large, hyaline, very slightly yellowish, a little darker along the fore border ; veins yellow ; transverse veinlets brownish. Female paler than the male.”

France.

4. EPHEMERA GUTTULATA.

Alæ anticæ confertim maculatæ.

Ephemera guttulata, Pictet, *Hist. Nat. Neur. Eph.* 135, pl. 8, f. 4. Switzerland.

5. EPHEMERA SIMULANS.

Picea; setæ pubescentes, corpore longiores; pedes fulvi, antice obscuriores; alæ subcinereæ, anticæ fusco maculatæ et subfasciatæ, venis nebulosis.

Piceous: abdomen more than twice the length of the thorax: **setæ** pale piceous, pubescent, longer than the body: legs dull **tawny**; fore-legs darker: wings grayish; veins black, clouded **except** towards the tips and along the hind border with brown, which **forms** in the disk a spot at one-third of the length, another at two-thirds of the length, and an interrupted band between them. Length of the body 5 lines; of the **setæ** 6 lines; of the wings 14 lines.

a. River St. Lawrence. Presented by the Entomological Club.

6. EPHEMERA COLOMBIÆ.

Fulva; antennæ fuscae; thorax testaceo notatus; abdomen luteum, nigro fasciatum et bivittatum; setæ fuscae, corpore duplo longiores; pedes fulvi; alæ albidæ, venis testaceis.

Subimago.—Tawny: antennæ brown: thorax with some **testaceous** marks: abdomen luteous, about twice the length of the **thorax**, with two black stripes, and with a black band on the hind **border** of each segment: **setæ** brown, about twice the length of the **body**: legs tawny: wings whitish; veins testaceous. Length of **the** body $4\frac{1}{2}$ lines; of the **setæ** 9 lines; of the wings 16 lines.

a. Columbia. From Dr. Cuming's collection.

7. EPHEMERA DECORA.

Picea; antennæ nigræ, basi fulvæ; abdomen ferrugineo varium; setæ testaceæ, fusco fasciatæ, corpore multo longiores; pedes testacei, antici picei; alæ hyalinæ, fusco maculatæ et apud venas nebulosæ.

Piceous: antennæ black, tawny at the base: abdomen rather more than twice the length of the thorax, partly ferruginous on the **disk** and about the borders of the segments: **setæ** testaceous with brown bands on the sutures of the joints, much longer than the **body**: legs pale testaceous; fore-legs piceous: wings hyaline; veins black, and with the exception of those at the tips and along the hind border deeply clouded with brown which forms a few spots in each disk. Length of the body $5\frac{1}{2}$ lines; of the **setæ** 12? lines; of the wings 13 lines.

a. Canada. Presented by Dr. Barnston.

8. EPHEMERA HEBES.

Picea; antennæ nigræ; setæ fusco-testaceæ; pedes testacei, antici fusci; alæ cinereæ, venis nigris.

Subimago, Fem.—Dull piceous: antennæ black: abdomen more than twice the length of the thorax: setæ brownish testaceous, mutilated: legs dull testaceous; fore-legs brown: wings gray; veins black, not strongly marked. Length of the body 4 lines; of the wings 10 lines.

a. Newfoundland. Presented by W. C. St. John, Esq.

9. EPHEMERA AUSTRALIS, Mas.

Picea; vertice antennisque nigris; thoracis latera flavo maculata; abdomen rufum; setæ fulvæ, corpore plus duplo longiores; pedes fulvi, antici fusci; alæ limpidæ, costa apicali fusca. Subimago? Ferrugineo-fusca; setæ corpore longiores; alæ anticæ fusco bifasciatæ.

Male.—Piceous: head black above: antennæ black: thorax with yellow spots on each side: abdomen red, paler beneath, hardly twice the length of the thorax: setæ tawny, much more than twice the length of the body: legs tawny; fore-legs brown: wings limpid; veins black, very slender: fore border of the fore-wings brown along one-third of the length from the tip. Length of the body 4 lines; of the setæ 11 lines; of the wings 9 lines.

a—d. Van Dieman's Land. From Dr. Hooker's collection.

Subimago? — Ferruginous-brown; borders of the segments paler: antennæ black: abdomen full twice the length of the thorax: setæ longer than the body: wings limpid; veins black, clouded with brown: fore-wings with two broad, irregular, interrupted, and very oblique bands. Length of the body 3 lines; of the setæ 6 lines; of the wings 9 lines.

a—d. Van Dieman's Land. From Dr. Hooker's collection.

Genus 2. POTAMANTHUS.

Oculi maris duplices. Pedes bene determinati. Setæ caudales tres. Alæ reticulatæ, quatuor, venis transversis plurimis. Larva non depressa, repens, non subiens, cauda simplici.

Potamanthus, *Pictet, Hist. Nat. Neur. Eph.* 197.

Ephemera, p., *Steph.*

Ephemeræ trisetæ, p., *Zett.*

Ephemeridæ, p., *Newman.*

Each of the ordinary eyes of the male surmounted by a large reticulated eye, whose superior border rests against the front eye: wings four, with numerous transverse veins, which are delicate, and often invisible to the unaided eye: hind-wings smaller than those of the three preceding genera, but with a complete neuration: abdominal tentaculæ of middle size; internal appendages conical, of moderate size: three tail-bristles of equal length.

1. POTAMANTHUS FERRERI.

Corpus læte flavum; setæ caudales non annulatæ; alæ distinctissime reticulatæ, venis transversis pallidis.

Potamanthus Ferreri, *Pictet, Hist. Nat. Neur. Eph.* 203, pl. 25, f. 1.
Switzerland.

2. POTAMANTHUS LUTEUS.

Corpus læte flavum; setæ caudales annulatæ; alæ distinctissime reticulatæ, venis transversis fuscescentibus.

Ephemera lutea, *Linn. Syst. Nat. Ed.* 12, ii. 906, 2. *Geoffr. Hist. Ins.* ii. 239, 2. *Schæff. Icon. Ins. Ratisb.* 42, f. 7?
Sulz. Abg. Gesch. 171, pl. 24, f. 6. *Fabr. Ent. Syst.* ii. 68, 2. *Gmel. Ed. Syst. Nat.* i. 2628, 2. *Schrank, Ins. Austr.* 603; *Faun. Boic.* 1939. *De Vill. Linn. Ent.* iii. 17, 2. *Rossi, Faun. Etrusc.* ii. 673. *Oliv. Enc. Méth.* vi. 417, 2. *Walck. Ent. Par.* ii. 8, 2. *Latr. Hist. Nat. Ins.* xiii. 95, 2.

Turt. Syst. Nat. iii. 393. *Blanch. Hist. Nat.* iii. 54, 1. *Steph. Ill. Brit. Ent. Mand.* vi. 57, 5. *Ramb. Hist. Nat. Ins. Neur.* 294, 2.

Ephemera hyalinata, *Panz. explicat. Schæff. tabul.*

Baëtis marginalis? *Burm. Handb. Ent.* ii. 801, 3.

Potamanthus luteus, *Pictet, Hist. Nat. Neur. Eph.* 2052.

a. England. Presented by F. Walker, Esq.

Subimago? *Ephemera chloretica*, *Ramb. Hist. Nat. Ins. Neur.* 296, 9.

A little larger than *Cloeon Diptera*, resembling *E. flavicans*, R.: yellow, with a dull red band on the dorsal part of the abdomen beneath, red on the prothorax: filaments three, longer by half than the body, dull, with blackish rings, slightly downy: anal appendages rather thick, moderately attenuated and tapering at the tips: legs yellow, much shorter than the body; feet 4-jointed, with indistinct brownish rings; anterior legs slightly reddish: wings very slightly yellowish, a little more tinged at the base and along the fore border; reticulation yellowish; membrane slightly opaque.

Paris.

3. POTAMANTHUS MARGINATUS.

Corpus obscurum; alæ indistincte reticulatæ, regione subcostali nigricante.

Ephemera marginata, *Linn. Syst. Nat. Ed. 12*, ii. 906, 3. *Geoffr. Hist. Ins.* ii. 239, 3. *Müll. Zool. Dan. Prodr.* 142, 1642. *De Vill. Linn. Ent.* iii. 17, 3. *Oliv. Enc. Méth.* vi. 417, 3. *Fabr. Ent. Syst.* ii. 69, 4. *Cederhielm, Faun. Ingr. Prod.* 134, 408. *Schrank, Faun. Boic.* 1941. *Stew. Elem. Nat. Hist.* ii. 211? *Shaw, Gen. Zool.* vi. pl. 81, fig. inf.? *Walck. Faun. Par.* ii. 8, 3. *Latr. Hist. Nat. Ins.* xiii. 95, 3. *Steph. Ill. Brit. Ent. Mand.* vi. 57, 6. *Blanch. Cours Hist. Nat.* iii. 54, 3.

Ephemera procellaria, *Roesel, Ins.* ii. pl. 12, f. 1, 2.

Ephemera viridescens, *Fourcr. Ent. Par.* 351, 3.

Potamanthus marginatus, *Pictet, Hist. Nat. Neur. Eph.* 208, 3, pl. 25, f. 4, 5.

a. England. Presented by F. Walker, Esq.

b. England.

Var. ? *Ephemera rufa*, *Ramb. Hist. Nat. Ins. Neur.* 296, 8.

A little larger than *Cloeon Diptera*: red: body thick, rather short, rather dark red above: eyes very prominent on the outer side: filaments three, blackish: legs rather dark red, perceptibly shorter than the body, with 5-jointed tarsi; anterior legs brownish: wings hyaline, long, hardly broad, yellowish at the base and along the fore border; reticulation brownish, tolerably distinct; veins yellow towards the base.

Tarbes.

4. POTAMANTHUS GEERII.

Corpus longum, plerumque nigro-fuscum; mesothorax non vittatus; setæ caudales fusæ; pedes violaceo-fusci; alæ indistincte reticulatæ, regione subcostali vix colorata; alæ subimuginis maculatæ.

Ephemera vespertina, *Linn. Syst. Nat.* ii. 906. *Deg. Ins.* ii. 646, pl. 17, f. 11—16. *Berk. Syn.* i. 150. *Stew. El. Nat. Hist.* ii. 211. *Zett. Ins. Lap.* 1044, 5.

Ephemera albipennis, *Retz. Gen. de Deg.* 57, 181.

Baëtis fusa, *Burm. Handb. Ent.* ii. 800, 1.

Leptophlebia, *Westw. Intr. Class. Ins.* ii. 31.

Potamanthus Geerii, *Pictet, Hist. Nat. Neur. Eph.* 211, 4, pl. 26, f. 1—3.

Europe.

5. POTAMANTHUS TALCOSUS.

Piceo-fuscus; abdominis apice pedibus setisque luridis; alis hyalinis immaculatis.

Ephemera talcosa, *Steph. Ill. Brit. Ent. Mand.* vi. 57, 4.

Potamanthus talcosus, *Pictet, Hist. Nat. Neur. Eph.* 234.

England.

6. POTAMANTHUS STIGMA.

Piceo-fuscus; abdomine pallidiore; pedibus setisque luridis immaculatis; alis hyalinis pallide lutescentibus haud maculatis, anticarum costa ad apicem luteo-fuscescente.

3 A 3

Ephemera stigma, Steph. Ill. Brit. Ent. Mand. vi. 56, 3.

Potamanthus stigma, Pictet, Hist. Nat. Neur. Eph. 235.

P. Geeri?

England.

7. POTAMANTHUS DISPAR.

Piceo-niger; abdominis basi pedibusque pallide rufo-piceis; setis luridis fusco subannulatis.

Ephemera dispar, Steph. Ill. Brit. Ent. Mand. vi. 58, 8.

Potamanthus dispar, Pictet, Hist. Nat. Neur. Eph. 234.

P. Geeri?

England.

8. POTAMANTHUS CASTANEUS.

Corpus longum, plerumque nigro-fuscum; mesothorax vitta discali; setæ caudales fuscae; pedes omnino fusci; alarum venæ indistincte reticulatæ, regione subcostali vix colorata; alæ subimuginis maculatæ.

Potamanthus castaneus, Pictet, Hist. Nat. Neur. Eph. 215, 5, pl. 26, f. 4, 5.

Switzerland.

9. POTAMANTHUS BRUNNEUS.

Corpus longum, plerumque nigro-fuscum; setæ caudales flavescens; alæ indistincte reticulatæ, regione subcostali vix colorata; alæ subimuginis cinereæ, unicolores.

Potamanthus brunneus, Pictet, Hist. Nat. Neur. Eph. 217, 6, pl. 27.

Switzerland.

10. POTAMANTHUS FUSCUS.

Obscure piceus; vertice et basi pedum anteriorum ferrugineis; pedibus posterioribus ochraceis; setis luridis fusco punctatis.

Ephemera fusca, Curt. *Phil. Mag.* 1834, 120. *Steph. Ill. Brit. Ent. Mand.* vi. 58, 9.

Potamanthus fuscus, Pictet, *Hist. Nat. Neur. Eph.* 235.

P. brunneus, Var.?

England.

11. POTAMANTHUS HELVIPES.

Piceo-niger obscurus; pedibus helvolis; setis pallide luridis immaculatis; alis hyalinis.

Ephemera helvipes, *Steph. Ill. Brit. Ent. Mand.* vi. 59, 14.

Potamanthus helvipes, Pictet, *Hist. Nat. Neur. Eph.* 235.

P. fuscus?

England.

12. POTAMANTHUS CINCTUS.

Corpus obscurum; abdomen nigricans, segmentis mediis maris albis; alæ indistincte reticulatæ, regione subcostali vix colorata.

Ephemera cincta, Retz. *Deg. Gen. et Sp. Ins.* 57, 182. *Deg. Ins.* ii. 650, pl. 17, f. 17, 18.

Ephemera dubia? *Steph. Ill. Brit. Ent. Mand.* vi. 59, 15. *Fuscus subnitidus; abdominis basi pedibusque pallidis; setis pallide luridis immaculatis; alis hyalinis, costa subflavescente.*

Potamanthus cinctus, Pictet, *Hist. Nat. Neur. Eph.* 219, 7, pl. 28.

a. England.

13. POTAMANTHUS APICALIS.

Fusco-ferrugineus, nitidus; abdominis basi pallida; pedibus ochraceo-ferrugineis; alis hyalinis.

Ephemera apicalis, Steph. Ill. Brit. Ent. Mand. vi. 59, 11.

Potamanthus apicalis, Pictet, Hist. Nat. Neur. Eph. 236.

Ephemera halterata, Fabr. Ent. Syst. ii. 69? Shaw, Gen. Zool. vi. 253, pl. 81, fig. med.?

Europe.

14. POTAMANTHUS INANIS.

E. cincto affinis; abdominis segmenta 1o ad 3um nigra.

Ephemera inanis, (Mus. Lesk.) Enc. Méth. vi. 421.

Potamanthus inanis, Pictet, Hist. Nat. Neur. Eph. 235.

Europe.

15. POTAMANTHUS ERYTHROPTHALMUS.

Corpus latum, breve, læte coloratum; mesothorax imaginis distincte lineatus; abdomen fere unicolor; alæ indistincte reticulatæ, regione subcostali vix colorata.

Ephemera erythroptalma, Schr. Faun. Boic. 1940.

Ephemera rufescens, Steph. Ill. Brit. Ent. Mand. vi. 59, 12. Pallide rufo-fulvus, subnitidus; pedibus rufescentibus posterioribus pallidioribus; setis luridis fusco-maculatis; alis hyalinis costa flavescente.

Potamanthus erythroptalmus, Pictet, Hist. Nat. Neur. Eph. 222, 8, pl. 29, 30.

Europe.

16. POTAMANTHUS GIBBUS.

Corpus latum, breve, læte coloratum; mesothorax maris saltem non lineatus; abdomen fere unicolor; alæ indistincte reticulatæ, regione subcostali vix colorata, venæ subcostalis dimidio apicali nigricante.

Potamanthus gibbus, *Pictet, Hist. Nat. Neur. Eph.* 226, 9, pl. 31, 32.

Switzerland.

17. POTAMANTHUS SUBMARGINATUS.

Rufo-piceus; pedibus pallidioribus, geniculis posticis nigricantibus; alis hyalinis, costa subochracea.

Ephemera submarginata, *Steph. Ill. Brit. Ent. Mand.* vi. 58, 7.

Potamanthus submarginatus, *Pictet, Hist. Nat. Neur. Eph.* 236.

Allied to *P. erythrophthalmus*.

England.

18. POTAMANTHUS DILUTUS.

Pallide rufo-ferrugineus; abdomine nigricante; pedibus pallidis; alis hyalinis costa concolore.

Ephemera diluta, *Steph. Ill. Brit. Ent. Mand.* vi. 58, 10.

Potamanthus dilutus, *Pictet, Hist. Nat. Neur. Eph.* 236.

England.

19. POTAMANTHUS ROSEUS.

Pallide roseus, subnitidus; pedibus pallidioribus; setis luridis fusco maculatis; alis hyalinis basi summa et costa dilute roseis.

Ephemera rosea, *Steph. Ill. Brit. Ent. Mand.* vi. 59, 13.

Potamanthus roseus, *Pictet, Hist. Nat. Neur. Eph.* 236.

England.

20. POTAMANTHUS ÆNEUS.

Corpus latum, breve, læte coloratum; mesothorax maris saltem non lineatus; abdomen fere unicolor; alæ indistincte reticulatæ, regione subcostali vix colorata, vena subcostali omnino flava.

Potamanthus æneus, *Pictet, Hist. Nat. Neur. Eph.* 229, 10, pl. 33.

Switzerland.

21. POTAMANTHUS HALTERATUS.

Fuscus; abdomen album, apice fuscum; pedes antici albi; setæ corpore quadruplo longiores; alæ albæ.

Ephemera halterata, Fabr. Ent. Syst. ii. 69, 6.

Potamanthus halteratus, Pictet, Hist. Nat. Neur. Eph. 236.

Europe.

22. POTAMANTHUS MINOR.

Obscure fuscus, segmentorum marginibus rufescentibus; pedibus pallidis; alis angustis hyalinis costa concolore.

Ephemera minor, Steph. Ill. Brit. Ent. Mand. vi. 60, 16.

Potamanthus minor, Pictet, Hist. Nat. Neur. Eph. vi. 237.

England.

23. POTAMANTHUS? COSTALIS, Mas.

Niger; thoracis linea ante alas albida; abdomine pedibusque rufo cingulatis; alæ subfumatæ, venis omnibus areolæ marginalis 1æ et 2æ infuscatis. Long. 6 lin.

Baëtis costalis, Burm. Handb. Ent. ii. 800, 2.

Potamanthus? costalis, Pictet, Hist. Nat. Neur. Eph. vi. 237.

New Holland.

P. costalis? Fem. Nigro-picea, flavo guttata; thorax rufo-bivittatus; abdomen rufo varium; setæ piceæ; pedes rufi, femoribus piceo bifasciatis, tarsi piceis, antici picei, femoribus rufo fasciatis; alæ limpidæ, venis costalibus nigro-nebulosis.

Fem.—Piceous black: head and thorax with pale yellow dots: head reddish on each side: antennæ black: thorax with an indistinct reddish stripe on each side: abdomen with some reddish marks, about twice the length of the thorax: setæ piceous: legs red; femora with two piceous bands; tarsi piceous: fore-legs piceous, with a red band near the tip of each femur: wings quite

limpid; veins black; transverse veins numerous and distinct; veins clouded with black along the fore border, which is brown along one-third from the tip. Length of the body $4\frac{1}{2}$ lines; of the wings 12 lines.

a—c. New Holland. Presented by the Entomological Club.

24. POTAMANTHUS? INANIS.

Alæ duæ.

Potamanthus? inanis, *Pictet, Hist. Nat. Neur. Eph.* 232, 11, pl. 24, f. 5.

Brazil.

Genus 3. PALINGENIA.

Oculi remoti, maris simplices. Pedes bene determinati. Setæ caudales tres, media maris saltem brevissima. Alæ reticulatæ, quatuor, venis plurimis transversis. Larva subiens, instrumentis respiratoriis foliaceis, ciliatis.

Palingenia, *Burm. Handb. Ent.* ii. 2. *Pictet. Ephemeridæ*, p., *Newman.*

Eyes simple in both sexes, almost always parted by an interval: wings four, like those of *Ephemeræ*, but with a more close reticulation: prothorax large: abdominal tentaculæ slightly curved; internal appendages large and conical: median tail-bristle of the male rudimentary.

1. PALINGENIA VIRGO.

Corpus flavum, immaculatum; prothorax longior quam latior; seta caudalis media brevissima sed distincta; alæ hyalinæ.

Palingenia virgo, *Pictet, Hist. Nat. Neur.* 141, 1, pl. 9, 10, 11, f. 1—3.

Ephemeræ virgo, *Oliv. Enc. Méth.* vi. 419, 11. *Reaum. Ins.* vi. 457, pl. 42—44. *Schæff. Abhandl. Ins.* iii. 30; *Icon. Ins. Ratisb.* pl. 175, f. 1—3. *Latr. Hist. Nat. Ins.* xiii. 98, 13.

Ephemera maroccana? *Fabr. Ent. Syst.* ii. 69, 3.

Palingenia horaria, *Burm. Handb. Ent.* ii. 802, 1.

Ephemera albipennis, *Latr. Règne Anim. de Cuv.* v. 252. *Ramb.*

Hist. Nat. Neuropt. 296. *Westw. Intr. Class. Ins.* ii. 33.

Blanch. Cours Hist. Nat. iii. 54.

Ephemera plumosa? *Müll. Zool. Dan. Prodr.* 244.

Ephemera, &c., *Villa, Comparsa Periodica delle Efimere nella Brianza*, 1847.

a. Rhine. Presented by F. Bond, Esq.

2. PALINGENIA PUELLA.

Corpus flavum, immaculatum; prothorax latior quam longior; seta caudalis media brevissima sed distincta; alæ hyalinæ.

Palingenia puella, *Pictet, Hist. Nat. Neur. Eph.* 145, 2, pl. 11, f. 4.

New Orleans.

3. PALINGENIA LIMBATA.

Corpus flavo fuscoque varium; prothorax pallide fulvus, fusco bimaculatus; seta caudalis brevissima sed distincta.

Palingenia limbata, *Serville, Guér. Icon. Règne Anim. Ins.* pl. 60, f. 7. *Pictet, Hist. Nat. Neur. Eph.* 146, 3, pl. 12.

Ephemera limbata, *Ramb. Hist. Nat. Ins. Neur.* 295, 4, pl. 8, f. 2.

North America.

4. PALINGENIA ALBICANS.

Corpus flavum, immaculatum; seta caudalis media brevissima sed distincta; alæ basi violaceæ.

Ephemera albicans, *Percheron, Gen. Ins. Livr.* vi.; *Neuropt.* pl. 6.

Palingenia albicans, *Burm. Handb. Ent.* ii. 803. *Pictet, Hist. Nat.*

Neur. Eph. 149, 4, pl. 13, f. 1—3.

Brazil.

Pal. albicans? Fem. — Testaceous, whitish beneath: head darker than the thorax: abdomen pale testaceous, blackish above for three-fourths of the length, less than twice the length of the thorax: setæ white, slender, shorter than the body: legs whitish, short: wings white, slightly opaque; veins whitish, brownish along the fore border of the fore-wing till near the tip. Length of the body $3\frac{1}{2}$ lines; of the setæ $2\frac{1}{2}$ lines; of the wings 12 lines.

a. Brazil. Presented by J. P. G. Smith, Esq.

5. PALINGENIA DORSALIS.

Corpus flavo fuscoque varium; prothorax fusco vittatus; seta caudalis media brevissima sed distincta; alarum venæ violaceo-fusca.

Palingenia dorsalis, *Burm. Handb. Ent.* ii. 803, 3. *Pictet, Hist. Nat. Neur. Eph.* 153, 6, pl. 13, f. 5.

Brazil.

6. PALINGENIA INDICA.

Corpus flavo fuscoque varium; prothorax fusco vittatus; seta caudalis media brevissima sed distincta; alarum venæ flavæ.

Palingenia Indica (*Kollar, MSS.*) *Pictet, Hist. Nat. Neur. Eph.* 151, 5, pl. 13, f. 4.

East Indies.

7. PALINGENIA LONGICAUDA.

Maxima; seta caudalis media fere obsoleta.

Ephemera longicauda, *Oliv. Enc. Méth. Ins.* vi. 418, 6. *Aug. Clutius, De Hemerobio sive Ephemero*, p. 96, 100. *Swammerd. Bibl. Nat.* i. 234-270, ii. pl. 13—15. *Schæff. Icon. Ins. Ratisb.* pl. 204, f. 3. *Latr. Hist. Nat. Ins.* xiii. 98, 8; *Gen. Cr. et Ins.* iii. 184. *Ramb. Hist. Nat. Neur.* 295, 5.

Ephemera flos-aquæ, *Illig. Mag.* i. 187, 17.

Ephemera Swammerdamia, *Latr. Hist. Nat. Ins.* xiii. 98, 7; *Règne Anim.* v. 244. *Blanch. Cours Hist. Nat.* iii. 54.

Palingenia longicauda, *Burm. Handb. Ent.* ii. 803, 2. *Westw. Intr. Class. Ins.* ii. 33. *Pictet, Hist. Nat. Neur. Eph.* 155, 7, pl. 14, 15.

Germany; France.

8. PALINGENIA SAVIGNYI.

———— *Descript. de l'Égypte, Neuropt. Savigny*, pl. 2, f. 5.
Palingenia Savignyi, *Pictet, Hist. Nat. Neur. Eph.* 157.

Egypt.

9. PALINGENIA ATROSTOMA.

Palingenia atrostoma, *Weber, Obs. Entom.* pl. 99, 1. *Pictet, Hist. Nat. Neur. Eph.* 157.

Brazil.

10. PALINGENIA LATA.

Subimago. Testacea; caput fuscum; thorax fusco bivittatus; abdominis dorsum fuscum; setæ latæ, pilosæ, corpore triplo longiores; alæ fusæ.

Male.—Testaceous, rather broad: head mostly brown: thorax with two brown stripes (which are broadest on the prothorax), and with some slight brown streaks: abdomen less than twice the length of the thorax, brown above except on each side: setæ pale testaceous, broad, hairy, thrice the length of the body: wings brown, with about twelve distinct longitudinal veins; transverse veins few and indistinct especially towards the hind border. Length of the body 9 lines; of the setæ 27 lines; of the wings 20 lines.

a, b. Silhet. From Mr. Sowerby's collection.

11. PALINGENIA VIRIDESCENS, Fem.

Cinereo-fusca, subtus testacea; antennæ nigre; abdomen apice testaceo bivittatum; setæ testacæ abdomine breviores; pedes testacei; alæ subcinereæ.

Ephemera viridescens, Barnston's MSS.

Grayish brown, testaceous beneath excepting the disk of the pectus: antennæ black: hinder part of the thorax with testaceous borders: abdomen scabrous, more than twice the length of the thorax; the two last segments with a testaceous stripe on each side: setæ testaceous, pubescent, shorter than the abdomen: legs testaceous: wings grayish; veins black, testaceous at the base; longitudinal veins about twelve in number, differing much in structure from those of *P. lata*; transverse veins numerous and distinct: hind-wings with brown hind borders. Length of the body 9 lines; of the setæ 8 lines; of the wings 24 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

12. PALINGENIA OCCULTA.

Testacea; antennæ nigræ; mesothoracis latera fusca; abdomen fusco bivittatum; setæ corporis longitudine; tarsi et pedes antici subfusci; alæ subcinereæ.

Testaceous: antennæ black, testaceous at the base: mesothorax brown on each side: abdomen darker than the thorax, with two irregular brown stripes: setæ dark testaceous, minutely pubescent, as long as the body: legs testaceous; tarsi and fore-legs brownish: wings grayish; veins black, testaceous at the base: fore-wings pale yellow at the base; fore border slightly tinged with brown. Length of the body 9—11 lines; of the setæ 8 lines; of the wings 18—22 lines.

a—c. Arctic America, between Lake Winipeg and Lake Superior. Presented by Sir John Richardson.

13. PALINGENIA NATATA.

Fusco-testacea; antennæ nigræ; abdomen fusco bivittatum; setæ fulvæ, fasciatæ, hirsutissimæ, corpore paullo breviores; pedes testacei, tibiis tarsisque fuscis; alæ subcinereæ, venis nebulosis, anticæ nigro maculatæ.

Ephemera natata, Barnston, MSS.

3 B 2

Subimago.—Dull testaceous, slightly shaded with brown: antennæ black: abdomen with two interrupted brown stripes, about thrice the length of the thorax: setæ tawny with darker bands, very hairy, a little shorter than the body: legs dark testaceous; tibiæ and tarsi brown: wings grayish; veins black, clouded with blackish brown except at the tips and along the hind borders: fore-wings with three or four black spots in the disk. Length of the body 9 lines; of the setæ 7 lines; of the wings 18 lines.

a, b. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

14. PALINGENIA HUMERALIS.

Testacea; abdomen olivaceo-fuscum, subtus piceo-fuscum; setæ pubescentes; tibiæ anticæ albidæ, alæ subcinereæ, costa basali flava apicali subfusca.

Dull testaceous; abdomen olive-brown above, piceous brown beneath, about twice the length of the thorax: setæ testaceous, pubescent, longer? than the body, composed of very short and numerous joints: legs pale testaceous; fore-tibiæ whitish: wings slightly gray; veins black; fore border of the fore-wings yellow at the base, slightly tinged with brown towards the tip, its intermediate veins clouded with black. Length of the body 4 lines; of the wings 16 lines.

a. New Zealand. Presented by Dr. Sinclair.

15. PALINGENIA BICOLOR.

Ferruginea; pectus nigro bimaculatum; abdomen fuscum; setæ testaceæ, pilosæ, abdomine duplo longiores; pedes flavi, antici fusco-testacei, tarsis basi albidis; alæ cinereæ.

Subimago.—Pale ferruginous: pectus with a blackish spot on each side: abdomen brown, paler beneath, full twice the length of the thorax: setæ testaceous, hairy, about the length of the abdomen: legs yellow: fore-legs brownish-testaceous; tarsi whitish towards the base: wings gray, pubescent along the hind borders;

veins black, slightly clouded with brown. Length of the body 5 lines; of the setæ 3 lines; of the wings 12 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

16. PALINGENIA PALLIPES.

Ferruginea; capitis discus piceus; antennæ nigræ; thoracis latera fulvo maculata; setæ fulvæ, subfasciatæ; pedes testacei, antici ferruginei; alæ limpidæ, anticæ macula stigmatica sub-lurida.

Fem. Dark ferruginous, paler beneath: disk of the head piceous: antennæ black: thorax with some tawny spots on each side: abdomen less than twice the length of the thorax: setæ dull tawny, a little darker about the sutures of the joints, a little longer than the body: middle seta short: legs testaceous: fore-legs ferruginous: wings limpid; veins brown, distinct: fore border of the fore-wings with a lurid tinge towards the tip.

Subimago.—Brown: wings gray. Length of the body $4\frac{1}{2}$ lines; of the setæ 7 lines; of the wings 11 lines.

a—c. Nova Scotia. From Lieut. Redman's collection.

17. PALINGENIA CONCINNA.

Picea, subtus ferrugineo varia; setæ testaceæ, corpore plus duplo longiores; pedes testacei, gracillimi, antici fusci longissimi, femoribus testaceis; alæ limpidæ, costa apicali subfusca.

Male.—Piceous, partly ferruginous beneath: antennæ black: abdomen less than twice the length of the thorax: tentacula luteous: middle seta very short; lateral setæ dull testaceous, more than twice the length of the body: legs testaceous, very slender: fore-legs brown, very long; femora testaceous: wings limpid; veins pale testaceous, darker towards the tips: fore border of the fore-wings pale brown along one-third of the length from the tip. Length of the body 4 lines; of the setæ 12 lines; of the wings 10 lines.

a. Nova Scotia. From Lieut. Redman's collection.

3 B 3

18. PALINGENIA NEBULOSA.

Niger; abdomen piceum, subtus fulvum; setæ testaceæ, fusco fasciatæ, corpore plus duplo longiores; pedes fulvi, antici obscuriores longissimi; alæ limpidæ, anticæ fusco fasciatæ.

Male.—Black: abdomen piceous, tawny beneath, nearly twice the length of the thorax: setæ testaceous; middle seta very slender, about half the length of the abdomen; lateral setæ with brownish bands, more than twice the length of the body: legs tawny: fore-legs dark tawny, very long: wings limpid; veins brown: fore-wings with a broad, brown band, which occupies full one-third of the length, and extends nearly to the tip. Length of the body 4½ lines; of the setæ 12 lines; of the wings 9 lines.

a—b. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

19. PALINGENIA ALBIFILUM.

Fulva; caput nigrum; antennæ testaceæ; abdomen testaceum; setæ albæ, corpore triplo longiores; pedes testacei, antici subfusci; alæ limpidæ, venis albis.

Tawny: head mostly black: antennæ testaceous: abdomen testaceous: setæ white, slender, thrice the length of the body: legs testaceous: fore-legs brownish: wings limpid, broad; veins white. Length of the body 4—5 lines; of the setæ 15—18 lines; of the wings 10—13 lines.

Var. Abdomen brownish above: fore-wings with a blackish tinge towards the base: veins of the fore border blackish for one-third of the length from the base.

a, b. Pará. Presented by J. P. G. Smith, Esq.

20. PALINGENIA LATIPENNIS.

Pallide testacea, nonnunquam obscurior; setæ albæ, corpore duplo longiores; pedes albi; alæ subalbæ, sublimpidæ, venis albis.

Subimago.—Pale testaceous: abdomen twice the length of the thorax: setæ white, twice the length of the body: legs white: wings whitish, nearly limpid; veins white. Length of the body $3\frac{1}{2}$ lines; of the setæ 7 lines; of the wings 7 lines.

Var. Head piceous above: prothorax with two short brown streaks: disk of the mesothorax tawny.

—c. Pará. From Mr. Stevens' collection.

21. PALINGENIA VITREA.

Testacea; femora fusco subnotata; alæ albidæ, subopacæ, venis testaceis.

Ephemera vitrea, Barnston, MSS.

Subimago.—Testaceous: abdomen hardly twice the length of the thorax: an indistinct brownish mark on each femur: wings dingy whitish, slightly opaque; veins testaceous. Length of the body 3 lines; of the wings 12 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

Genus 4. BAËTIS.

Oculi maris approximati, simplices. Pedes bene determinati. Setæ caudales duæ. Alæ reticulatæ, quatuor, venis plurimis. Larva valde depressa, repens, non subiens, cauda simplici.

Baëtis, *Leach; Steph.; Curt.; Burm.; Pictet.*

Ephemeræ hisetæ, *Zett.*

Baëtidæ, *Newman.*

Eyes simple in both sexes, but much largest in the male where they are generally only separated by a very small interval: wings four, with numerous cross-veins; fore-wings long and narrow; hind-wings almost as long as one-fourth of the fore-wings, with a complete neuration and an angular costal border: abdominal tentacula large and much curved; internal appendages short and quadrate:

two tail-bristles of equal length, without any rudiment of the median bristle.

1. BAETIS FLUMINUM.

Corpus fulvum, fusco maculatum; caput mediocre; oculi maris approximati; pedes immaculati, aut vix maculati; alæ hyalinæ, aut basi subtinctæ, areola costali pallida invaria.

Baëtis fluminum, *Pictet, Hist. Nat. Neur. Eph.* 164, 1, pl. 16—19. Allied to *Ephemera* — *Schæff. Icon. Ins. Ratisb.* pl. 229, 2, 3, and 232, 4, 5.

a, b. England. Presented by F. Walker, Esq.
c—e. England.

2. BAETIS VENOSA.

Pallide castanea; oculi nigri; abdominis latera lineis obliquis valde, distinctis notata, marginibus fuscis; alæ hyalinæ, areola costali basi hyalina apice colorata.

Baëtis venosa, *Burm. Handb. Ent.* ii. 801, 6. *Steph. Ill. Brit. Ent. Mand.* vi. 63, 2. *Pictet, Hist. Nat. Neur. Eph.* 167, 2, pl. 20, f. 1.

Ephemera venosa, *Fabr. Ent. Syst.* ii. 70, 8. *Deg. Ins.* ii. 652, 4, pl. 18, f. 1—4. *Oliv. Enc. Méth.* 418, 8. *Latr. Hist. Nat. Ins.* xiii. 97, 10. *Zett. Ins. Lapp.* 1045, 7.

Ephemera nervosa, *Fabr. Sp. Ins.* i. 384, 6. *De Vill. Linn. Ent.* iii. 22, 14.

Baëtis dispar? *Curt. Brit. Ent.* xi. pl. 484. *Phil. Mag.* 1834, 120. *Steph. Ill. Brit. Ent. Mand.* vi. 63, 1.

a, b. England.

3. BAETIS CYANOPS.

Corpus angustum, fulvum; oculi cyanei; alæ hyalinæ, aut basi subtinctæ, areola costali basi hyalina apice colorata.

——— *Schæff. Icon. Ins. Ratisb.* 229, 2, 3, 239, 4, 5.

Baëtis cyanops, *Pictet, Hist. Nat. Neur. Eph.* 171, 3, pl. 20, f. 2. Switzerland.

4. BAETIS MONTANA.

Oculi cyanei; thorax niger; abdomen viridescens, innotatum; alæ hyalinæ, aut basi subtinctæ, areola costali basi hyalina apice colorata.

Baëtis montana, *Pictet, Hist. Nat. Neur. Eph.* 172, 4, pl. 20, f. 3.

♂, ♀. England. Presented by F. Walker, Esq.

5. BAETIS PURPURASCENS.

Oculi cinerei; thorax et abdomen pallide] violacea; alæ hyalinæ, aut basi subtinctæ, areola costali basi hyalina apice colorata.

Baëtis purpurascens, *Pictet, Hist. Nat. Neur. Eph.* 174, 5, pl. 20, f. 4.

Switzerland.

6. BAETIS LATERALIS.

Corpus fulvum, fusco maculatum; caput maximum; oculi maris remoti; pedes immaculati aut vix maculati; alæ hyalinæ aut basi subtinctæ, areola costali pallida invaria.

Baëtis lateralis, *Curt. Phil. Mag.* 1834, 121. *Steph. Ill. Brit. Ent. Mand.* vi. 65, 8. *Pictet, Hist. Nat. Neur. Eph.* 175, 6, pl. 21.

♂. England. Presented by F. Walker, Esq.

7. BAETIS SEMICOLORATA.

Femora anteriora fusca; alæ dimidio basali valde colorata, areola costali immaculata.

Baëtis semicolorata, *Curt. Phil. Mag.* 1834, 121. *Steph. Ill. Brit. Ent. Mand.* vi. 64, 7. *Pictet, Hist. Nat. Neur. Eph.* 7.

Europe.

8. BAETIS SEMITINCTA.

Femora anteriora fulva ; alæ dimidio basali mediocriter colorata, areola costali immaculata.

Baëtis semitincta, *Pictet, Hist. Nat. Neur. Eph.* 180, 8, pl. 22, f. 1—3.

Switzerland.

9. BAETIS OBSCURA.

Corpus omnino nigrum ; alæ hyalinæ ; areola costalis invaria.

Baëtis obscura, *Steph. Ill. Brit. Ent. Mand.* vi. 65, 9. *Pictet, Hist. Nat. Neur. Eph.* 182, 9, pl. 23, f. 1.

a? England. Presented by F. Walker, Esq.

10. BAETIS CEREÆ.

Corpus omnino fulvum vel flavum ; alæ hyalinæ aut basi subtinctæ, areola costali immaculata, venis transversis fulvis indistinctis.

Baëtis cerea, *Pictet, Hist. Nat. Neur. Eph.* 183, 10, pl. 23, f. 2.

a. England. Presented by F. Walker, Esq.

b. England

11. BAETIS SULPHUREA.

Corpus latum, stramineum ; oculi virides ; alæ hyalinæ aut basi subtinctæ, areola costali basi hyalina apice colorata.

Baëtis sulphurea, *Pictet, Hist. Nat. Neur. Eph.* 185, 11, pl. 23, f. 3.

Ephemera sulphurea, *Müller, Zool. Dan. Prodr.* 142, 1645.

Ephemera helveta? *Sulz. Abg. Gesch.* pl. 24, f. 7. *Roemer, Gen.* pl. 24.

Baëtis straminea? *Curt. Phil. Mag.* 1834, 121.

Europe.

12. BAETIS FLAVEOLA.

Corpus omnino fulvum vel flavum ; alæ hyalinæ aut basi subtinctæ, areola costali immaculata, venis transversis nigricantibus optime determinatis.

Baëtis flaveola, (Kollar, MSS.) Pictet, *Hist. Nat. Neur. Eph.* 186, 12, pl. 23, f. 4.

B. flaveola ?—Pale testaceous : antennæ darker : abdomen pale luteous, with narrow blackish bands on the sutures of the segments, about twice the length of the thorax : setæ whitish, very minutely pubescent, without bands, more than twice the length of the body : legs whitish, slender : fore-legs long ; femora with a brownish spot in the middle and another at the tip : wings limpid ; veins brownish, partly pale, not strongly marked.

Subimago.—Paler : setæ shorter : wings slightly opaque, pubescent along the hind border ; veins pale or brown. Length of the body $2\frac{1}{2}$ lines ; of the setæ 8 lines ; of the wings 9 lines.

a—c. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr Barnston.

13. BAETIS GUTTATA.

Corpus fulvum, fusco maculatum ; pedes distinctissime maculati ; alæ hyalinæ aut basi subtinctæ ; areola costalis fuscescens invaria.

Baëtis guttata, Pictet, *Hist. Nat. Neur. Eph.* 187, 13, pl. 24, f. 3. Switzerland.

14. BAETIS AUSTRALASICA.

Areola costalis venis transversis nigro maculatis.

Baëtis Australasica, (Kollar, MSS.) Pictet, *Hist. Nat. Neur. Eph.* 189, 14, pl. 24, f. 1.

New Holland.

15. BAETIS AURANTIACA.

Rufo-testacea ; segmentis abdominalibus utrinque linea obliqua nigra ; alæ graciles, hyalinæ. Long. 3½ lin.

Baëtis aurantiaca, *Burm. Handb. Ent. ii. 801, 4. Pictet, Hist. Nat. Neur. Eph. 191.*

Germany.

16. BAETIS LONGICAUDA.

Ochraceo-lutea ; pedibus pallidioribus ; setis longissimis ; geniculis abdominisque segmentorum marginibus fuscis.

Baëtis longicauda, *Steph. Ill. Brit. Ent. Mand. vi. 63, 3. Pictet, Hist. Nat. Neur. Eph. 193.*

Baëtis mellea, *Curt. Phil. Mag. 1834, 121.*

England.

17. BAETIS ELEGANS.

Ochraceo-flava ; abdomine pallide subcastaneo ; tarsorum articulis apice nigris ; alis subflavescentibus, costa saturatiore.

Baëtis elegans, *Curt. Phil. Mag. 1834, 120. Steph. Ill. Brit. Ent. Mand. vi. 64, 6. Pictet, Hist. Nat. Neur. Eph. 193.*

a. England. Presented by F. Walker, Esq.

18. BAETIS CARNEA.

Incarinata ; abdomine saturatiore ; setis immaculatis ; alis elongatis, hyalinis, costa subrosea, venis subfuscis.

Baëtis carnea, *Curt. Phil. Mag. 1834, 121. Steph. Ill. Brit. Ent. Mand. vi. 65, 10. Pictet, Hist. Nat. Neur. Eph. 193.*

England.

19. BAETIS FLAVESCENS.

B. stramineæ similis sed minor.

Baëtis flavescens, *Curt. Phil. Mag.* 1834, 121. *Pictet, Hist. Nat. Neur. Eph.* 193.

Baëtis straminea, var?

England.

20. BAETIS COSTALIS.

Pallide castanea; thoracis lateribus, abdominis apice et pedibus ochraceis; alis hyalinis, costa flavescente.

Baëtis costalis, *Curt. Phil. Mag.* 1834, 120. *Steph. Ill. Brit. Ent. Mand.* vi. 64, 4. *Pictet, Hist. Nat. Neur. Eph.* 194.

England.

21. BAETIS SUBFUSCA.

Obscure castanea; abdomine fuscescente, segmentorum marginibus saturatoribus; alis subflavescentibus, costa concolore, stigmate subochraceo.

Baëtis subfusca, *Steph. Ill. Brit. Ent. Mand.* vi. 64, 5. *Pictet, Hist. Nat. Neur. Eph.* 194.

England.

22. BAETIS? RETICULATA.

Fusca; thoracis vittis, abdominis cingulis femoribusque pallidioribus; alæ cinereæ, venis omnibus late fuscis. Long. 3½ lin.

Baëtis reticulata, *Burm. Handb. Ent.* ii. 2, 801, 5.

“**Baëtis fluminum et Potamanthi vespertini subimagines confusæ?**”
Pictet.

Germany.

23. BAETIS INTERPUNCTATA.

Albida ; caput viridescens ; abdominis segmenta marginibus posticis nigris.

Baëtis interpunctata, Say, Journ. Acad. Nat. Sci. Phil. viii. 41, 1.

Yellowish white, tinged with green : head rather prominent, yellow-green ; vertex with a lateral black point : eyes with a longitudinal black line : ocelli distant, each with a black orbit ; anterior one less than half the size of the others : front with a black angular line under the antennæ : seta of the antennæ black : prothorax with a black line on each side : thorax somewhat brownish : abdomen with the hind borders of the segments black : setæ immaculate : legs greenish ; anterior femora with two blackish bands ; hind pair with dusky tips : wings greenish on the fore border, with black transverse veins, and a distinct black abbreviated longitudinal line on the middle, between the third and fourth veins ; the small black spot on the middle of the costal border is very obvious : tip of the abdomen more or less ferruginous. Length nearly three-tenths of an inch.

Indiana.

24. BAETIS ARIDA.

Fuscescens ; pedes posteriores et setæ alba.

Baëtis arida, Say, Journ. Acad. Nat. Sci. Phil. viii. 42, 2.

Reddish brown, with dusky incisures : head rather prominent, whitish, varied with ferruginous ; vertex with a small black spot on each side of the orbit : eyes rufous, with a whitish vitta : ocelli prominent, approximate ; anterior one nearly as large as the others : fore-tibiæ whitish, obscure at each end ; posterior legs and setæ greenish white. Length $\frac{2}{3}$ ths of an inch.

Indiana.

25. BAETIS VERTICIS.

Flavido-alba ; caput ferrugineum ; thorax ferrugineo bivittatus.

Baëtis verticis, Say, Journ. Acad. Nat. Sci. Phil. viii. 42, 3.

Yellowish white: head sessile; vertex ferruginous: thorax with two ferruginous vittæ, confluent before and becoming obsolete behind: setæ with black rings, hardly longer than the body: legs white; fore-femora ferruginous at the tips; tips of the fore-tibiæ and of the joints of the fore-tarsi brown: veins of the wings except those of the margin, black; hind-wings not extending beyond the fourth abdominal segment. Length more than $\frac{1}{4}$ of an inch.

Indiana.

26. BAETIS OBESA.

Brevis; alæ nigricantes, maculis una magna plurimisque parvis hyalinis.

Baëtis obesa, Say, *Journ. Acad. Nat. Sci. Phil.* viii. 43, 4.

Subimago.—Very short and robust, blackish livid: borders of the abdominal segments dull rufous, livid: setæ very short, hairy, with black rings: legs pale yellowish; tips of the joints of the tarsi black: wings dark brown or blackish, with numerous small, transverse, hyaline spots or abbreviated lines, and a large, hyaline, very oblique semifascia about the middle on the anal half: hind-wings with numerous transverse abbreviated hyaline lines, which do not extend to the apical margin. Length over $\frac{1}{10}$ ths of an inch.

Indiana.

27. BAETIS LURIDIPENNIS.

Fusca; abdomine cingulato; alis luridis fusco venosis. Long. mar. 7 lin.; fœm. $9\frac{1}{4}$ lin.

Baëtis luridipennis, *Burm. Handb. Ent.* ii. 2, 801, 7. *Pictet, Hist. Nat. Neur. Eph.* 192.

North America.

B. luridipennis? Male.—Tawny: antennæ brown, tawny at the base: abdomen with brownish bands on the sutures of the segments, less than twice the length of the thorax: setæ whitish, very minutely pubescent, a little more than twice the length of the body:

legs whitish, rather stout; a pale brownish band on the middle and another at the tip of each femur: fore-legs long: wings limpid; veins tawny: fore border of the fore-wing with a slight tawny tinge towards the tip. Length of the body 4 lines; of the setæ 12 lines; of the wings 12 lines.

a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

28. BAETIS ANGULATA, Mas.

Ferruginea, testaceo varia; abdominis discum piceum; setæ fusca, testaceo annulata, corpore plus duplo longiores; pedes testacei, antici picei; alæ limpidæ, anticæ ad costam fusca, posticæ fusco submarginatæ.

Male.—Ferruginous, partly testaceous beneath: disk of the head tawny in front: mesothorax and metathorax testaceous: abdomen less than twice the length of the thorax; disk above piceous: setæ brown with distinct testaceous bands, more than twice the length of the body: legs testaceous: fore-legs piceous: wings limpid; veins black; transverse veins numerous and strongly marked: fore border of the fore-wings brown: hind-wings slightly tinged with brown along the hind border. Length of the body 9 lines; of the setæ 23 lines; of the wings 20 lines.

a. Canada. Presented by Dr. Barnston.

29. BAETIS REMOTA.

Picea, ferrugineo varia; setæ testaceæ, corpore multo longiores; pedes testacei, antici picei longissimi; alæ limpidæ, anticæ longæ, costa basi lurida apice fusca.

Piceous, partly ferruginous on each side and beneath: setæ dull testaceous, much longer than the body: legs testaceous, slender: fore-legs piceous, very long: wings limpid; veins black: fore-wings long, with an indistinct tinge on the fore border, which is lurid at the base and brown towards the tip. Length of the wings 16 lines.

a. New Zealand. Presented by Dr. Sinclair.

30. BAETIS VICARIA, Mas.

Ferruginea; antennæ nigræ; thoracis latera flavo notata; abdomen fusco fasciatum; setæ testaceæ, subannulatæ, corpore plus duplo longiores; pedes testacei, femoribus nigro bifasciatis; alæ hyalinæ, anticæ venis costalibus et discalibus fusco nebulosis.

Male.—Ferruginous: antennæ black: thorax with pale yellow marks on each side: abdomen hardly twice the length of the thorax; a brown band on each segment: setæ dull testaceous, darker on the sutures of the joints, more than twice the length of the body: legs testaceous, slender; a broad brown band on the middle, and a narrower one on the tip of each femur: fore-legs longer and darker: wings hyaline; veins of the fore-wings brown, indistinctly clouded along the fore border, and in the disk: fore border pale brown for one-third of the length from the tip. Length of the body 6 lines; of the setæ 15 lines; of the wings 15 lines.

a. North America? Presented by the Entomological Club.

31. BAETIS BASALIS, Mas.

Nigro-picea, longa, gracilis; abdomen testaceo fasciatum; setæ albidæ, nigro annulatæ, corpore fere duplo longiores; alæ anticæ limpidæ, venis costalibus fusco nebulosis, posticæ fuscæ apice limpidæ.

Pitchy black, long, slender: abdomen with dull testaceous bands on the sutures of the segments, more than twice the length of the thorax: tentacula whitish: setæ whitish with blackish bands on the sutures of the joints, nearly twice the length of the body: fore-wings limpid; veins brown, clouded along the fore border with black, which forms a spot about the middle of the costa: hind-wings brown, limpid towards the tips. Length of the body 6 lines; of the setæ 11 lines; of the wings 14 lines.

a. Lake Winnipeg. Presented by Sir John Richardson.

32. BAETIS TESSELLATA.

Albido-testacea, sat lata, fusco notata; abdomen supra fuscum; setæ testaceæ, corpore fere duplo longiores; pedes testacei, femoribus nigro fasciatis, tarsis fuscis; alæ subcinereæ, venis testaceis fusco nebulosis.

Subimago.—Whitish testaceous, rather broad, marked here and there with brown: antennæ brown, testaceous at the base: abdomen brown above, less than twice the length of the thorax: setæ testaceous, without bands, nearly twice the length of the body: legs testaceous, rather long; femora with a blackish band on each: tarsi brown: wings grayish; veins testaceous, clouded with black. Length of the body 5 lines; of the setæ 9 lines; of the wings 14 lines.

a. Nova Scotia. From Lieut. Redman's collection.

33. BAETIS ALBIVITTA.

Nigra, gracilis, albo vittata, subtus ferruginea; setæ fuscae, testaceo annulatae, corpore duplo longiores; pedes testacei, tibiis tarsisque anticis nigris; alæ subluridæ, anticæ costa saturate lurida, posticæ venis fusco nebulosis.

Black, slender, with a white dorsal stripe extending along the whole length of the body, and having a testaceous tinge on the head; under side ferruginous: setæ twice the length of the body, brown with testaceous bands: legs testaceous; fore-tibiæ and fore-tarsi black: wings with a slight lurid tinge; veins black: fore-wings deeply lurid along the fore border: veins of the hind-wings clouded with brown. Length of the body 8 lines; of the setæ 16 lines; of the wings 13 lines.

a. Pará. Presented by Gordon Graham, Esq.

b. Brazil From Mr. Stevens' collection.

34. BAETIS ANNULATA, Mas.

Ferruginea, subtus testacea; thorax testaceo bivittatus; abdominis latera testaceo maculata; setæ albidæ, nigro annulatæ; pedes albidii fasciis nigris, antici longissimi; alæ hyalinæ.

Male.—Ferruginous, testaceous beneath: eyes very large, connected: antennæ brown, ferruginous at the base: thorax with two testaceous stripes: abdomen rather less than twice the length of the thorax; each segment with a triangular testaceous spot on each side: setæ whitish, mutilated, with black bands on the sutures of the joints: legs whitish, with blackish bands: fore-legs very long: wings hyaline; veins blackish, very slender, but distinct. Length of the body 5 lines; of the wings 13 lines.

a. Trenton Falls, New York. Presented by the Entomological Club.

35. BAETIS TAPROBANES, Mas.

Nigra; thoracis latera ferrugineo notata; abdominis latera testaceo maculata; setæ piceæ, corpore plus duplo longiores; pedes picei; alæ hyalinæ, anticæ basi fuscæ.

Male.—Black: thorax with some ferruginous marks on each side: abdomen twice the length of the thorax; each segment with a triangular testaceous spot on each side of the fore border: setæ piceous, much more than twice the length of the body: legs piceous: wings hyaline; veins black; transverse veins numerous and distinct: fore-wings brown at the base; fore border pale brown for one-third of the length from the tip. Length of the body 5 lines; of the setæ 14 lines; of the wings 13 lines.

a. Ceylon. Presented by R. Templeton, Esq.

36. BAETIS? DETERMINATA, Mas.

Picea, flavo vittata, subtus testacea; caput flavo varium; abdominis vitta piceo notata; pedes testacei, femoribus ferrugineo fasciatis, tarsi apice ferrugineis; alæ limpidæ, costa fusca striga basali flava.

Male.—Piceous, testaceous beneath: head yellow about the eyes: antennæ black: thorax with a yellow stripe which has a luteous tinge on the metathorax: abdomen hardly twice the length of the thorax, with a broad yellow stripe which contains some piceous marks: legs testaceous; a broad ferruginous band on each femur; tarsi ferruginous towards the tips: fore-legs long: wings quite limpid: veins black; transverse veins very numerous and strongly marked: fore border of the fore-wings dark brown, with a yellow streak in the front towards the base. Length of the body 5 lines; of the wings 11 lines.

a. Java. From Mr. Argent's collection.

37. BAETIS INVARIATA, Mas.

Ferruginea, subtus fulva; antennæ nigræ, basi ferruginæ; pedes testacei, antici longi; alæ limpidæ, venis testaceis transversis albidis.

Male.—Pale ferruginous, tawny beneath: antennæ black, ferruginous at the base: abdomen hardly twice the length of the thorax: legs testaceous; fore-legs long: wings limpid; veins pale testaceous, indistinct; transverse veins whitish, very indistinct. Length of the body $2\frac{1}{2}$ —3 lines; of the wings 7—9 lines.

a—c. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

38. BAETIS FUSCA.

Picea, subtus ferruginea; abdomen ferrugineum, subtus fulvum; setæ testacæ, fusco subannulatæ, corpore plus duplo longiores; pedes testacei, antici fusci; alæ hyalinæ, venis testaceis, anticæ costa apicali fusca.

Piceous, ferruginous beneath: antennæ black: abdomen ferruginous, tawny beneath, hardly twice the length of the thorax: setæ dull testaceous, more than twice the length of the body, with pale brownish bands on the sutures of the joints: legs testaceous; fore-legs brown: wings hyaline; veins testaceous; fore border of the fore-wings pale brown for one-third of the length from the tip.

Length of the body 4 lines; of the setæ 12 lines; of the wings 9 lines.

a, b. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

c. Nova Scotia. From Lieut. Redman's collection.

39. BAETIS DEBILIS.

Ferruginea; setæ testaceæ, corpore longiores; pedes testacei; alæ sublimpidæ, venis testaceis.

Fem.—Ferruginous: abdomen darker than the thorax and twice its length; setæ testaceous, longer than the body: legs pale testaceous: wings nearly limpid; veins pale testaceous, distinct. Length of the body 3 lines; of the setæ 4 lines; of the wings 8½ lines.

a. Nova Scotia. From Lieut. Redman's collection.

40. BAETIS CANADENSIS.

Testacea; capitis vertex thoracisque discus ferruginei; abdomen piceo fasciatum; pedes pallidi; femorum fasciis tarsisque nigricantibus; alæ limpidæ, costa apicali fusca. Var.? Flava; caput supra piceum; thorax antice piceo bivittatus, apud discum ferrugineus; abdomen ferrugineo fasciatum; setæ fusco subannulatæ, corpore paullo plus duplo longiores; femora fasciis duabus nigricantibus; alæ anticæ costa apicali subflava.

Male.—Pale testaceous: head ferruginous above: disk of the thorax ferruginous: abdomen rather less than twice the length of the thorax; borders of the segments piceous: legs pale testaceous; bands of the femora and tarsi blackish: wings limpid; veins black, very distinct: fore border of the fore-wings brown along one-third of the length from the tip. Length of the body 3 lines; of the wings 8 lines.

a. Canada. Presented by Dr. Barnston.

Var.? Pale yellow: head piceous above: thorax with two piceous stripes in front; disk mostly ferruginous: hind borders of the abdominal segments mostly ferruginous: setæ rather more than twice the length of the body; sutures of the joints brownish: femora with two blackish bands: fore border of the fore-wings with a pale yellow tinge, brown for one-third of the length from the tip. Length of the body 4 lines; of the setæ 9 lines; of the wings 10 lines.

a. ——— ?

41. BAETIS FUSCATA.

Picea, subtus ferruginea; thoracis latera luteo maculata; pedes ferruginei, antici picei; alæ limpidæ, venis pallidis. Subimago? Testacea; setæ corpore longiores; alæ cineræ.

Ephemera fuscata, Barnston, MSS.

Piceous, ferruginous beneath: antennæ black: thorax with some luteous spots on each side: abdomen less than twice the length of the thorax: legs ferruginous; fore-legs piceous: wings limpid; veins pale, slender; transverse veins indistinct. Subimago?—Dull testaceous: setæ pale testaceous, longer than the body: wings gray; hind borders ciliated. Length of the body 2—2½ lines; of the wings 6—8 lines.

a, b. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston.

42. BAETIS SCITA.

Nigro-picea, gracilis; setæ albidæ, nigro annulatæ, corpore multo longiores; pedes testacei, longi, graciles, femoribus tibiis et tarsorum articulis apice nigris; alæ limpidæ, venis nigris, costa venis nigro nebulosis basi nigro-fusca.

Piceous black, slender: setæ whitish with numerous black rings, much longer than the body: legs pale testaceous, long and slender; tips of the femora, of the tibiæ and of the joints of the tarsi black; a blackish band on each femur: wings quite limpid; veins black, very slender: fore border of the fore-wings blackish-

brown at the base; its veins stout, clouded with black. Length of the body $2\frac{1}{2}$ lines; of the setæ 4 lines; of the wings $6\frac{1}{2}$ lines.

a, b. New Zealand. Presented by Dr. Sinclair.

43. BAETIS? TORRIDA.

Ferruginea; caput piceum; thoracis latera testacea; pedes testacei, validi, femoribus apice pedibusque anticis piceis; alæ subluridæ, anticæ costa fusca.

Ferruginous, paler beneath: head piceous: sides of the thorax testaceous: abdomen mutilated: legs testaceous, stout; tips of the femora and fore-legs piceous: wings with a slight lurid tinge; veins black, distinct; fore border of the fore-wings brown. Length of the body 4 lines? of the wings 10 lines?

a. Philippine Isles. From Mr. Wood's collection.

44. BAETIS? IGNOTA, Mas.

Picea; abdomen subtus ferrugineum; setæ testaceæ; pedes flavi, antici picei; alæ limpidæ, venis albis.

Male.—Piceous: abdomen twice the length of the thorax, ferruginous beneath: setæ testaceous, mutilated; legs entirely pale yellow; fore-legs piceous: wings wholly limpid, with no stigma or tinge along the fore border; veins white. Length of the body $4\frac{1}{2}$ lines; of the wings 12 lines.

a. ———?

45. BAETIS? ———, Subimago.

Ephemera angustipennis, Ramb. Hist. Nat. Ins. Neur. 295, 6.

Fem.—Size of *Cloeon Diptera*: head with the eyes broader than the chest: eyes very prominent exteriorly, very far apart: ocelli almost on the same line: thorax rather dark red: abdomen reddish-gray, pale, with two rather thick filaments: legs dull reddish; tarsi 5-jointed: wings grayish: fore-wings narrow at the base, their veinlets with slightly brownish borders.

Madrid.

Genus 5. CLOËON.

Oculi maris duplices. Pedes bene determinati. Setæ caudales duæ. Alæ quatuor, venis transversis paucis. Larva natans, non subiens, cauda valde ciliata.

Ephemera, *Linn.*; *De Vill.*; *Fabr.*; *Gmel.*; *Oliv.*; *Schr.*; *Walkn.*; *Latr.*; *Stew.*; *Turt.*; *Guér.*; *Zett.*; *Blanch.*

Cloëon, *Leach*; *Steph.*; *Curt.*

Cloë, *Burm. Handb. Ent.* ii. 2; *Pictet*; *Ramb.*

Baëtis, p., *Steph.*

Oxycypha, p., *Burm.*

Each of the ordinary eyes of the male surmounted by a great reticulated eye in the form of a turban, that is supported on an ob-conical ring at whose base is the ordinary eye: wings two or four: fore-wings having only very few cross-veins which generally form two crooked lines: lower wings, when they exist, rudimentary, and with a more or less incomplete neuration: abdominal tentacula rather large; internal appendages short, conical: two tail-bristles with a very little rudiment of the median one.

A. Alæ quatuor.

1. CLOËON BIOCULATA.

Maris oculi obscuri; mesothorax flavus unicolor; abdomen basi apiceque obscurum, apud medium pallidius; alæ non fasciatæ nec maculatæ.

Ephemera bioculata, *Linn. Hist. Nat. Ed.* 12, ii. 906, 5. *De Vill. Linn. Ent.* iii. 18, 7. *Oliv. Enc. Méth.* vi. 419, 10. *Fabr. Ent. Syst.* ii. 70, 9. *Gmel. Ed. Syst. Nat.* i. 2629, 5. *Barbut. Gen. pl.* 11, fig. inf. sinist.? *Stew. El. Nat. Hist.* ii. 211. *Turt. Syst. Nat.* iii. 394. *Walkn. Faun. Par.* ii. 9, 6. *Panz. Faun.* xciv. fig. 17. *Latr. Hist. Nat. Ins.* xiii. 97? *Guér. Icon. Règne Anim. Ins. Pl.* 60. *Zett. Ins. Lapp.* 1044, 9. *Blanch. Hist. Nat. Ins.* iii. 54, 6.

Baëtis bioculata, *Steph. Ill. Brit. Ent. Mand.* vi. 65, 12.

Cloë bioculata, *Pictet, Hist. Nat. Neur. Eph.* 244, pl. 34, 35.

—*d.* England. Presented by F. Walker, Esq.

—*f.* England.

g. St. Martin's Falls, Albany River, Hudson's Bay. Presented by F. Walker, Esq.

2. CLOEON RHODANI.

Maris oculi obscuri; mesothorax fuscus vel niger, nonnunquam albo lineatus; abdomen basi apiceque obscurum, apud medium pallidius; setæ caudales fusco maculatæ; pedes anteriores fusci vel fusco maculati; alæ non fasciatæ nec maculatæ.

Cloë Rhodani, *Pictet, Hist. Nat. Neur. Eph.* 248, 2, pl. 36—39.

Switzerland.

3. CLOEON FUSCATA.

Oculi fusci; mesothorax omnino niger; abdomen basi apiceque obscurum, medio pallidius; setæ caudales albæ; pedes albi, non maculati; alæ non fasciatæ nec maculatæ, posticæ mediocres.

Ephemera fuscata, *Linn. Syst. Nat. Ed.* 12, ii. 907, 6. *De Vill. Linn. Ent.* iii. 19, 8. *Oliv. Enc. Méth.* vi. 419, 9. *Fabr. Ent. Syst.* ii. 70, 11. *Gmel. Ed. Syst. Nat.* i. 2629, 6. *Walkn. Faun. Par.* ii. 9, 8. *Schr. Faun. Boic.* 1946. *Turt. Syst. Nat.* iii. 394. *Latr. Hist. Nat. Ins.* xiii. 97, 11.

Baëtis fuscata, *Steph. Ill. Brit. Ent. Mand.* vi. 62, 13.

Cloë fuscata, *Pictet, Hist. Nat. Neur. Eph.* 251, 3, pl. 40, f. 1.

Europe.

4. CLOEON PUMILA.

Oculi fusci; mesothorax omnino niger; abdomen basi apiceque obscurum, medio pallidius; setæ caudales albæ; pedes albi, anteriores suturis fuscis; alæ non fasciatæ nec maculatæ, posticæ parvæ.

3 D

Ephemera parvula? Scop. *Ent. Carn.* 264, 687.

Cloë pumila, Burm. *Handb. Ent.* ii. 2, 799, 4. *Pictet, Hist. Nat. Neur. Eph.* 253, 4, pl. 40, f. 2. *Ramb. Hist. Nat. Ins. Neur.* 298, 5.

a. ? England. Presented by F. Walker, Esq.

5. CLOEON TRANSLUCIDA.

Oculi rufi; mesothorax fuscus, albo lineatus; abdomen basi apiceque obscurum, medio pallidius; setæ caudales albæ; pedes albi; alæ non fasciatæ nec maculatæ.

Cloë translucida, *Pictet, Hist. Nat. Neur. Eph.* 255, 5, pl. 40, f. 3, 4.

a, b. England.

6. CLOEON ALPINA.

Oculi maris obscuri; mesothorax lineis nullis aut pallidis; abdomen unicolor, transverse lineatum; setæ caudales fuscæ; alæ non fasciatæ nec maculatæ.

Cloë alpina, *Pictet, Hist. Nat. Neur. Eph.* 257, 6, pl. 40, f. 5.
Switzerland.

7. CLOEON MELANONYX.

Oculi maris obscuri; mesothorax lineis nullis aut pallidis; abdomen fuscum invarium; setæ caudales flavæ, maculatæ; alæ non fasciatæ nec maculatæ.

Cloë melanonyx, *Pictet, Hist. Nat. Neur. Eph.* 258, 7, pl. 40, f. 6.
Switzerland.

8. CLOEON LITURA.

Oculi maris flavi; mesothorax fuscus, nigro vittatus; alæ non fasciatæ nec maculatæ.

Cloë litura, *Pictet, Hist. Nat. Neur. Eph.* 260, 8, pl. 4, f. 1—3.
Switzerland.

9. CLOEON FASCIATA.

Alæ distinctissime fasciatæ.

Cloë fasciata (*Kollar, MSS.*) *Pictet, Hist. Nat. Neur. Eph.* 262, 9, pl. 41, f. 4.

Brazil.

10. CLOEON UNDATA.

Alæ quatuor maculis nebulosis.

Cloë undata, *Pictet, Hist. Nat. Neur. Eph.* 264, 10, pl. 41, f. 6.

Switzerland.

B. Alæ duæ.

11. CLOEON DIPTERA.

Pallide rufescente-cinerea, segmentorum marginibus fuscescentibus; setis fusco punctatis; alis hyalinis, costa flavescente-fusco, albo marmorata, posticis nullis.

Ephemera diptera, *Linn. Syst. Nat. Ed.* 12, ii. 907, 11. *Gmel. Ed. Syst. Nat.* i. 5, 2630, 11. *Deg. Ins.* ii. 2, 650, 5, pl. 18, f. 5—7, fem., 8—10 mas. *Retz, Gen. Deg.* 57, 184. *Schrank, Faun. Boic.* 1947. *De Vill. Linn. Ent.* iii. 22, 21. *Rossi, Faun. Etrusc.* 677. *Oliv. Enc. Méth.* vi. 420, 16. *Fabr. Ent. Syst.* ii. 71, 16. *Latr. Hist. Nat. Crust. et Ins.* xiii. 99, 19. *Shaw, Gen. Zool.* vi. 253. *Zett. Ins. Lapp.* 1046. *Blanch. Hist. Nat. Ins.* iii. 54, 11.

Ephemera annulata, *Müll. Zool. Dan. Prodr.* 143, 1652, fem.

Ephemera striata? *Müll. Zool. Dan. Prodr.* 143, 1651, mas?

Cloëon pallida, *Leach, Edin. Encycl.* ix. 137.

Cloëon marmoratum, *Curt. Phil. Mag.* 1834, 121.

Cloëon obscurum, *Curt. Phil. Mag.* 1834, 121, Subimago.

Cloëon unicolor? *Curt. Phil. Mag.* 1834.

Cloëon dipterum, *Steph. Ill. Brit. Ent. Mand.* vi. 67, 1.

Cloë diptera, *Burm. Handb. Ent.* ii. 2, 798, 1. *Pictet, Hist. Nat. Neur. Eph.* 266, 11, pl. 42.

Cloë affinis, *Ramb. Hist. Nat. Ins. Neur.* 298, 4.

a—c. England. Presented by F. Walker, Esq.

d—f. England.

12. CLOEON HORARIA.

Fusca; abdomine cinerascete, segmentorum marginibus albis; pedibus pallidis; alis hyalinis, costa nigricante.

Ephemera horaria, *Linn. Syst. Nat. Ed.* 12, ii. 907, 9; *Faun. Suec.* 1476. *Fabr. Ent. Syst.* ii. 71, 13. *Gmel. Ed. Syst. Nat.* i. 5. *Berk. Syn.* i. 150. *Stew. El. Nat. Hist.* ii. 211. *Turt. Syst. Nat.* iii. 394.

Baëtis horaria, *Steph. Ill. Brit. Ent. Mand.* vi. 66, 15.

Cloë horaria, *Pictet, Hist. Nat. Neur. Eph.* 270. *Ramb. Hist. Nat. Ins. Neur.* 299, 7.

Europe.

13. CLOEON CULICIFORMIS.

Nigricans; abdomine fusco; pedibus pallidis; alis immaculatis.

Ephemera culiciformis, *Linn. Syst. Nat. Ed.* 12, ii. 907, 8. *Geoffr. Berk. Syn.* i. 150. *Stew. El.* ii. 211. *Turt. Syst. Nat.* iii. 394.

Baëtis culiciformis, *Steph. Ill. Brit. Ent. Mand.* vi. 66, 14.

Cloë culiciformis, *Pictet, Hist. Nat. Neur. Eph.* 270.

a. England.

14. CLOEON STRIATA.

Fusca; abdomine maris albo pellucido, fæminæ opaco rufescente; alis hyalinis, venis subfuscis.

Ephemera striata, *Linn. Syst. Nat. Ed.* 12, ii. 907, 10. *Berk. Syn.* i. 150. *Stew. El. Nat. Hist.* ii. 212. *Turt. Syst. Nat.* iii. 394.

Baëtis striata, *Steph. Ill. Brit. Ent. Mand.* vi. 65, 11.

Cloë striata, *Pictet, Hist. Nat. Neur. Eph.* 270.

a—d. England.

15. CLOEON DISCOLOR, Fem.

Cinerea, subtus pallida; filamenta longius pilosa; alæ infuscatæ, ciliatæ, costa obscuriori. Long. $2\frac{1}{2}$ lin.

Onycypha discolor, Burm. Handb. Ent. ii. 2, 797, 3.

Cloë obscura? Ramb. Hist. Nat. Ins. Neur. 297, 1.

Cape.

16. CLOEON HALTERATA, Mas.

Pallida; oculi medii maximi rubri; abdomen apice ochraceum; filamenta alba, subcingulata. Long. $2\frac{1}{2}$ lin.

Ephemera halterata, Fabr. Ent. Syst. ii. 69, 6. Deg. Ins. ii. 2, 27, pl. 17, f. 17, 18.

Cloë halterata, Burm. Handb. Ent. ii. 2, 798, 3. Ramb. Hist. Nat. Ins. Neur. 299, 6.

Europe.

Var.?

Cloë brunnea, Ramb. Hist. Nat. Ins. Neur. 298, 3.

Larger than *C. obscura*, Ramb.: body dull reddish, with paler legs: appendages of the male short, slightly diverging, not opposed, their tips short, somewhat pointed: wings brownish, fringed; second vein rather deeply bent after the middle.

South Spain.

Var.?

Cloë subinfuscata, Ramb. Hist. Nat. Ins. Neur. 298, 2.

Much larger than *C. obscura*, Ramb., which in other respects it just resembles: veins of wings thicker; extremity of costal space broader; second vein after the middle much more bent, so that the following space is broader.

South France.

17. CLOEON VERNA.

Pallide ferruginea; thorace piceo, ochraceo maculato; setis pallidis fusco punctatis; pedibus obscuris.

Baëtis verna, *Curt. Phil. Mag.* 1834, 121. *Steph. Ill. Brit. Ent. Mand.* vi. 66, 16.

Cloë verna, *Pictet, Hist. Nat. Neur. Eph.* 270.

a. England. Presented by F. Walker, Esq.

18. CLOEON AUTUMNALIS.

Pallide fusca; thoracis lateribus ochraceis; setis longissimis pallidis; pedibus luridis.

Baëtis autumnalis, *Curt. Phil. Mag.* 1834, 121. *Steph. Ill. Brit. Ent. Mand.* vi. 67, 17.

Cloë autumnalis, *Pictet, Hist. Nat. Neur. Eph.* 270.

England.

19. CLOEON CINGULATA.

Gracilis, fusca; abdominis segmentorum marginibus pedibusque posterioribus luridis; alis hyalinis.

Baëtis cingulata, *Steph. Ill. Brit. Ent. Mand.* vi. 67, 18.

Cloë cingulata, *Pictet, Hist. Nat. Neur. Eph.* 271.

a. England. Presented by F. Walker, Esq.

20. CLOEON OCHRACEA.

Pallide rufo-ochracea; pedibus pallidioribus; alis hyalinis costa concolore; setis pallidis fusco subpunctatis.

Cloëon ochraceum, *Steph. Ill. Brit. Ent. Mand.* vi. 68, 2.

Cloë ochracea, *Pictet, Hist. Nat. Neur. Eph.* 271.

a. England.

21. CLOEON HYALINATA.

Incarnata ; pedibus pallidioribus ; alis hyalinis, venis obsolete-
tissimis.

Cloëon hyalinatum, *Steph. Ill. Brit. Ent. Mand. vi. 68, 3.*

Cloë hyalinata, *Pictet, Hist. Nat. Neur. Eph. 271.*

England.

22. CLOEON ALBIPENNIS.

Nigra ; abdominis basi pallida apice fusco ; pedibus pallidis,
geniculis nigricantibus ; alis hyalinis.

Cloëon albipenne, *Steph. Ill. Brit. Ent. Mand. vi. 69, 4.*

Cloë albipennis, *Pictet, Hist. Nat. Neur. Eph. 271.*

Ephemera albipennis ? Fabr. Ent. Syst. ii. 70.

England.

23. CLOEON UNICOLOR.

Rufescente-ochracea ; pedibus pallidioribus ; setis albis immacu-
latis ; alis hyalinis ; costa apicem versus fuscescente.

Cloëon unicolor, *Curt. Phil. Mag. 1834. Steph. Ill. Brit. Ent. Mand. vi. 69, 5.*

Cloë unicolor, *Pictet, Hist. Nat. Neur. Eph. 271.*

England.

24. CLOEON COGNATA.

Piceo-rufa ; abdominis basi pallidiore ; pedibus setisque luridis,
his fusco punctatis ; alis hyalinis.

Cloëon cognatum, *Steph. Ill. Brit. Ent. Mand. vi. 69, 6.*

Cloë cognata, *Pictet, Hist. Nat. Neur. Eph. 272.*

England.

25. CLOEON DIMIDIATA.

Castaneo-fusca; prothoracis lateribus puncto ochraceo; pedibus stramineis.

Cloë dimidiata, *Pictet, Hist. Nat. Neur. Eph.* 272.

Cloëon dimidiatum, *Curt. Phil. Mag.* 1834, 121. *Steph. Ill. Brit. Ent. Mand.* vi. 69, 7.

England.

26. CLOEON VIRGO.

Pallida; oculis nigris; femoribus anticis apicem versus obscuris; alis hyalinis.

Cloëon virgo, *Steph. Ill. Brit. Ent. Mand.* vi. 70, 8.

Cloë? virgo, *Pictet, Hist. Nat. Neur. Eph.* 272.

Ephemera virgo? *Oliv. Latr. Hist. Nat. Ins.* xiii. 98.

England.

Genus 6. CÆNIS.

Oculi remoti, maris simplices. Pedes bene determinati. Alæ duæ, venis transversis paucis.

Cænis, *Stephens; Pictet.*

Ephemera, p., *Fabr.*

Brachycercus, *Curt.*

Oxycypha, *Burm.*

Ephemeræ trisetæ, p., *Zett.*

Cœnidæ, *Newman.*

Eyes simple in both sexes, and always separated by a broad interval: wings two, much rounded on the internal border, fan-shaped, almost without transverse veins: body short and broad: ungues of the tarsi terminated by two small laminae; three tail-bristles of equal length, very long in the male, and very short in the female.

1. CÆNIS LACTEA.

Cinerea ; setæ caudales immaculatæ ; pedes anteriores cinerei.

Oxycypha lactea, *Burm. Handb. Ent.* ii. 796, 1.

(Subimago) *Brachycercus chironomiformis*, *Curt. Phil. Mag.* 1834.—
Ochracea nitida ; oculis nigris ; pedibus pallidis ; alis lacteis,
costa fusca.

Cænis chironomiformis, *Steph. Ill. Brit. Ent. Mand.* vi. 62, 6.

Cænis lactea, (*Hoffm. MSS.*) *Pictet, Hist. Nat. Neur. Eph.* 276, 1,
pl. 43, f. 1—4 ; pl. 44.

Europe.

2. CÆNIS GRISEA.

Flava ; setæ caudales immaculatæ ; pedes anteriores albi.

Cænis grisea, *Pictet, Hist. Nat. Neur. Eph.* 278, 2, pl. 45, f. 1, 2.

Switzerland.

3. CÆNIS ARGENTATA.

Cinerea ; setæ caudales fusco obscuro pallidoque indistincte annu-
latæ.

Cænis argentata, *Pictet, Hist. Nat. Neur. Eph.* 279, 3, pl. 43,
f. 6.

Switzerland.

4. CÆNIS VARICAUDA.

Flava ; setæ caudales nigro flavoque scite annulatæ.

————— *Descript. Egypte, Neuropt.* pl. 2, f. 6 (mas), f. 7 (fœm.)
Cænis varicauda, (*Kollar, MSS.*) *Pictet, Hist. Nat. Neur. Eph.*
281, 4, pl. 43, f. 5.

Egypt.

5. CÆNIS LUCTUOSA.

Nigro-fusca aut nigra ; pedes anteriores flavi, distinctissime fusco notati ; alarum venæ costali excepta indistinctæ.

Oxycypha luctuosa, Burm. Handb. Ent. ii. 797, 2.

Cænis luctuosa, Pictet, Hist. Nat. Neur. Eph. 283, 5, pl. 45, f. 3.

Germany.

6. CÆNIS OOPHORA.

Nigro-fusca aut nigra ; pedes anteriores omnino flavi ; alarum venæ sat distinctæ.

Cænis oöphora, (Kollar, MSS.) Pictet, Hist. Nat. Neur. Eph. 284, 6, pl. 45, f. 4.

Sardinia.

7. CÆNIS DIMIDIATA.

Piceo-nigra ; abdomine pallido ; pedibus ochraceis ; alis lacteis costa fusca.

Cænis dimidiata, Steph. Ill. Brit. Ent. Mand. vi. 61, 2. Pictet, Hist. Nat. Neur. Eph. 286.

Brachycercus minimus, Curt. Phil. Mag. 1834, 122.

England.

8. CÆNIS BREVICAUDA.

Piceo-fusca ; abdomine pedibusque pallidis ; setis brevibus ; alis albidis, costa fusca.

Ephemera brevicauda, Fabr. Ent. Syst. ii. 69.

Cænis brevicauda, Steph. Ill. Brit. Ent. Mand. vi. 61, 3. Pictet, Hist. Nat. Neur. Eph. 286.

a, b. England.

9. CÆNIS HARRISELLA.

Pallida; alis hyalinis, costa concolore.

Ephemeron, *Harris, Exp.* pl. 6, fig. 3.

Brachycercus Harrisellus, *Curt. Phil. Mag.* 1834, 122.

Cænis Harrisella, *Steph. Ill. Brit. Ent. Mand.* vi. 61, 4. *Pictet, Hist. Nat. Neur. Eph.* 286.

England.

10. CÆNIS PENNATA.

Thorace lato fusco-ferrugineo; abdomine pedibusque albidis; oculis atris; setis brevibus pennatis.

Cænis pennata, *Steph. Ill. Brit. Ent. Mand.* vi. 61, 5. *Pictet, Hist. Nat. Neur. Eph.* 286.

England.

11. CÆNIS INTERRUPTA.

Atra, nitida; abdomine pallido, strigis duabus dorsalibus atris interruptis; pedibus fuscis; alis fuscescentibus, costa saturatiore.

Cænis interrupta, *Steph. Ill. Brit. Ent. Mand.* vi. 62, 7. *Pictet, Hist. Nat. Neur. Eph.* 287.

England.

12. CÆNIS MACRURA.

Fusco-nigra; abdomine piceo; pedibus piceo-fuscis; alis hyalinis, costa fusca; setis longissimis.

Cænis macrura, *Steph. Ill. Brit. Ent. Mand.* vi. 60, 1.

England.

13. CÆNIS HILARIS.

Alba, minuta; stethidium pallide fulvum; abdomen punctis lateralibus fuscis.

Ephemera hilaris, Say, *Journ. Acad. Nat. Sci. Phil.* viii. 43.

White, minute: eyes black, double: stethidium pale fulvous: pleura and pectus with a few abbreviated dusky lines: abdomen depressed, with three brownish punctures on each side towards the tip: setæ long: wings ample; costal border slightly dusky. Length one-tenth of an inch.

Indiana.

14. CÆNIS DIMINUTA, Mas.

Fulva; abdomen testaceum; setæ albæ, corpore quadruplo longiores; pedes albi, antici fasciis duabus vel tribus nigricantibus; alæ limpidæ, venis albis ad costam nigricantibus.

C. hilaris, var. ?

Male.—Tawny: abdomen pale testaceous, not longer than the thorax: setæ white, about four times the length of the body: legs white: fore-legs with two or three blackish bands: wings limpid: veins white, blackish along the fore border. Length of the body 1½ line: of the setæ 6 lines; of the wings 3 lines.

a. St. John's Bluff, E. Florida. Presented by E. Doubleday, Esq.

15. CÆNIS SINENSIS.

Fusco-fulva, subtus testacea; antennæ albidæ, articulis 1o et 2o apice fuscis; thorax testaceo bivittatus; abdomen album, basi et apice fuscum; alæ limpidæ, venis albis.

Brownish tawny, testaceous beneath: antennæ whitish; tips of the first and second joints brown: thorax with two slender, testaceous stripes: abdomen white, hardly twice the length of the thorax, brown at the base and towards the tip: wings limpid, veins white, few and slender. Length of the body 2 lines; of the wings 4 lines.

a. China. Presented by G. T. Laye, Esq.

16. CÆNIS PERPUSILLA.

Testacea ; setæ albæ, corpore quadruplo longiores ; pedes albi ; alæ limpidæ, antice subcinereæ, venis albis.

Pale testaceous : abdomen a little longer and paler than the thorax : setæ white, about four times the length of the body : legs white : wings limpid, with a grayish tinge on the fore border of the fore-wings ; veins white. Length of the body $1\frac{1}{4}$ line ; of the setæ 6 lines ; of the wings 3 lines.

a. Ceylon. Presented by R. Templeton, Esq.

Genus 7. OLIGONEURIA.

Oculi maris simplices. Pedes informes ; tarsi filiformes. Alæ quatuor, venis transversis paucis.

Oligoneuria, *Pictet, Hist. Nat. Neur. Eph.* 289.

Wings four ; fore-wings triangular, with only seven longitudinal veins, and with some cross-veins near the fore border ; hind-wings large, with four longitudinal veins, without cross-veins : legs distorted ; tarsi filiform : three short tail-bristles.

1. OLIGONEURIA ANOMALA.

Oligoneuria anomala, (*Kollar, MSS.*) *Pictet, Hist. Nat. Neur. Eph.* 291, pl. 46, 47.

Brazil.