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# Ephemeroptera, Plecoptera and Neuroptera

By D. E. KIMMINS

Department of Entomology, British Museum (Nat. Hist.)

## Ephemeroptera

This order is represented by fifteen pinned examples, mostly rather shrivelled and incomplete. In view of their condition and the smallness of the series, it is not proposed to do more than list them, identified as far as the genus.

### Family BAËTIDAE

#### **Cloëon** sp.

RUWENZORI RANGE: Semliki Forest, Hot Springs, 2750 ft., 28.viii-1.ix.1952, 1 ♂, 2 ♀ subimagines.

#### **Baëtis** sp.

RUWENZORI RANGE: Ibanda, 4700 ft., 4-6.vii.1952, 2 ♂, 1 ♀ imagines, 1 ♂, 2 ♀ subimagines; Mahoma River, 6700 ft., 13-16.viii.1952, 1 ♂ subimago.

#### **Centroptilum** sp.

RUWENZORI RANGE: Mahoma River, 6700 ft., 13-16.viii.1952, 1 ♀ imago.

#### **Centroptilum** sp.

RUWENZORI RANGE: Semliki Forest, 2850 ft., 22.viii-3.ix.1952, 1 ♂ imago.

### Family TRICORYTHIDAE

#### **Tricorythus** sp.

RUWENZORI RANGE: Semliki Forest, 2850 ft., 22.viii-3.ix.1952, 1 ♀ imago.

### Family HEPTAGENIIDAE

#### **Afronurus** sp.

RUWENZORI RANGE: Semliki Forest, 2850 ft., 22.viii-3.ix.1952, 1 ♀ imago, 1 ♂ subimago.

## Plecoptera

This order is represented by a single male example of the species *Neoperla spio* (Newman), a species which is widely distributed in Africa. The present specimen is from Ibanda, 4700 ft., 20-21.viii.1952.

## Neuroptera

The order Neuroptera is represented by a dozen examples of the families Ascalaphidae, Osmyliidae, Hemerobiidae and Chrysopidae, in all, eight species, of which two are here described as new. The types of these are in the British Museum (Nat. Hist.).

### Family ASCALAPHIDAE

RUWENZORI RANGE: Semliki Forest, 2850 ft., 22.viii-3.ix.1952, 1 larva.

### Family OSMYLIDAE

#### *Spilosmylus camerunensis* (Navás)

RUWENZORI RANGE: Bundibugyo, 3440 ft., 22.viii-3.ix.1952, 1 ♀.

Recorded Distribution: West and East Africa.

### Family HEMEROBIIDAE

#### *Kimminsia majuscula* sp.n.

(Figure 1, p. 66)

RUWENZORI RANGE: Lamia Valley, 11,900 ft., 30-31.vii.1952, 1 ♂ (HOLOTYPE). Nyamaleju, 10,530 ft., 14-19.vii.1952, 2 ♂ (paratypes).

Head fulvous above, spotted with fuscous, frons shining piceous, mouthparts fulvous. Antennae dark fulvous. Prothorax transverse, lateral margins triangularly produced; fulvous, spotted with fuscous, a longitudinal, dark fuscous stripe on each side, leaving only the median third fulvous. Meso- and metathorax fuscous, sometimes with an obscure, paler, median stripe. Legs pale fuscous. Abdomen fuscous.

Fore wing elongate-oval, obtusely rounded at its apex, costal margin convex. Membrane hyaline, with numerous greyish markings arising from the fuscous spots on the veins and with heavy brownish markings over the anal area. Veins pale, with brownish spots, the margin of the wing alternately pale and dark. Costal area moderately broad, only gradually narrowed at its base. Three radial sectors, the third forking twice before the outer gradate series; six cross-veins in both inner and outer series, which are fuscous. Hind wing oval, apex obtusely rounded. Membrane hyaline, veins dark fuscous except in the pterostigmatic area, which is pale. The radial sector emits four branches before the outer gradate series, with a considerable space between the third and the outermost branch. Six cross-veins in the outer gradate series and two in the disc of the wing.

♂ Genitalia. Ectoprocts large, broad at their bases, tapering to rounded apices, the lower, inner margin of each produced shortly before the apex in a short, inwardly and basally directed tooth, its upper margin with a comb-like row of acute black teeth. This row of teeth is shorter than in *K. nubila* (Kimmins), barely extending to the middle of the appendage. Gonarcus with a long, moderately stout mediuncus, the entoprocessi forming acute, down-curved hooks. Parameres long, slender, slightly sinuous.

Length of fore wing, 12.5 mm.

Holotype and paratypes pinned, one paratype with abdomen mounted in Canada balsam. In general appearance this species resembles a large *K. nubila* (Kimmins) and the general pattern of the male genitalia is similar. It may be distinguished by the relatively shorter row of comb-like teeth on the ectoproct, the apex of which is somewhat differently shaped, the stouter mediuncus and the curved, hook-like entoprocessi. Comparative figures of both species are given, which should make these differences quite clear.

### **Hemerobius** sp.

Two examples, of different species, both lacking genitalia and not determinable with certainty, from the following localities.

RUWENZORI RANGE: Misigo, 8550 ft., 2-3.viii.1952, and Mahoma River, 6500 ft., 13-16.viii.1952.

### **Eumicromus timidus** (Gerstaecker)

RUWENZORI RANGE: Mahoma River, 6700 ft., 13-16.viii.1952, 1 ♂.

Widespread in Africa.

### **Eumicromus capensis** (Esben-Petersen)

RUWENZORI RANGE: Mahoma River, 6700 ft., 13-16.viii.1952, 1 ♀.

Recorded Distribution: South and East Africa.

## Family CHRYSOPIDAE

### **Chrysopidia varians** sp.n.

(Figures 2-3, p. 67)

RUWENZORI RANGE: Nyinabitaba, 8650 ft., 7-13.vii.1952, 1 ♂ (HOLOTYPE), 2 ♀ (allotype and paratype).

♂ (pinned). General colour yellowish. Head immaculate, antenna with its basal segment short and stout (succeeding segments missing). Palpi pale fuscous. Pronotum about as broad as long, somewhat narrowed anteriorly; there is a faint indication of a reddish, transverse, median line. Meso- and metanota yellowish green, immaculate. Legs pale yellowish. Abdomen pale yellowish.

Wings hyaline, venation yellowish, the gradate veins, many other cross-veins and the anal veins very faintly brownish. Venation as figured.

♂ Genitalia. Ectoprocts (fused to ninth tergite) forming a pair of plates, apical margin in side view slightly concave. Fused eighth and ninth sternites forming an elongate subgenital plate,

its upper margin running in shallow, concave curve to the obliquely truncate apex. Beyond the apex, and linked to it by membrane, is a short, broad, moderately sclerotized plate and within it is a short, sagittate structure with widespread arms, the gonopsis. Gonarcus narrow and arched, with an acute apex in side view. Pseudopenis also arched, the lateral wings flattened and rounded, median hook long, slender, bent downwards. Fused to the pseudopenis on each side is a short sinuous structure.

♀. Resembling the male, antenna nearly as long as fore wing. Both allotype and paratype show variations in the venation, notably in the shape of the first intra-median cell of the fore wing. In the male it has the normal *Chrysopa* form, rather long and narrow, but it does not reach the medio-cubital cross-vein beyond it. In one of the females it just reaches, and in the other it terminates in, this cross-vein, much as in *Nothochrysa*. In one female (paratype) there are only two gradate series in the hind wing and in the allotype there are two or three cross-veins in the median gradate series in this wing.

Length of fore wing, ♂, 16 mm., ♀, 17-18.3 mm.

I believe that this is the first African representative of this palaeartic genus. It differs from *C. jordani* Navás (Mediterranean North Africa) in its narrower, more pointed wings, its more definite triple series of gradate veins and in the absence of green lateral bands bordering the yellow on the meso- and metanota.

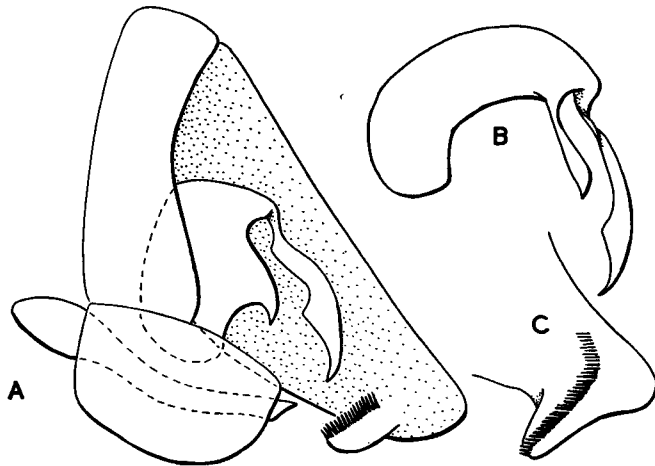


FIG. 1. *Kimminsia majuscula* sp.n. and *K. nubila* Kimmins, ♂ genitalia. (A), *majuscula*, lateral, left ectoproct not shown; (B), *nubila*, gonarcus, lateral; (C), *nubila*, apex of right ectoproct

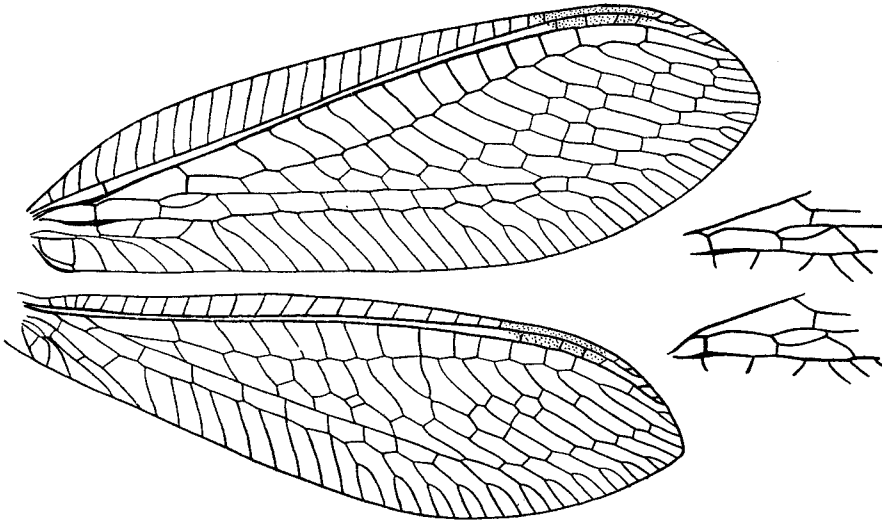


FIG. 2. *Chrysopidia varians* sp.n. Wings of ♂ and first intra-median cell of females

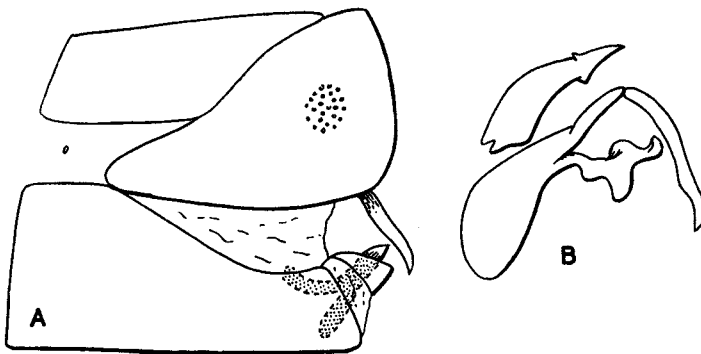


FIG. 3. *Chrysopidia varians* sp.n. ♂ genitalia. (A), lateral; (B), gonarcus and pseudopenis, lateral