

CARLO CONSIGLIO (\*)

ODONATA COLLECTED IN ETHIOPIA BY THE  
EXPEDITIONS OF THE  
ACCADEMIA NAZIONALE DEI LINCEI  
I. INTRODUCTION AND THE ZYGOPTERA

RIASSUNTO. — Dopo una rassegna storica delle ricerche odonatologiche in Etiopia, l'Autore elenca gli Zigotteri raccolti dalle spedizioni zoologiche in Etiopia dell'Accademia Nazionale dei Lincei. La lista contiene 16 specie, di cui due nuove per la scienza e una dubbia. Sono date ridescrizioni parziali o totali di *Eudallagha elongatum*, *Pseudagrion acaciae*, *P. guichardi*, *P. korsteni*, *P. spernatum spernatum*, *P. sublactum sublactum*, *P. tricornis* (?) e *Platycephala caligata*. È inoltre descritta la colorazione *in vivo* di *Lestes virgatus*, *Pseudagrion acaciae*, *P. spernatum spernatum* e *Platycephala caligata*.

*Elatonocura pasquini* n. sp. somiglia a *E. tropicalis*, da cui è distinta per il torace più chiaro, la forma del pene (che somiglia a quello di *E. dorsalis*) e la forma dei processi proteracici della ♀ (che somigliano a quelli di *E. glauca*).

*Pseudagrion kuffinui* n. sp. è affine a *P. guichardi*, da cui si distingue per il disegno dell'8° e 9° segmento addominale, la forma delle appendici anali superiori e la forma del pene. La ♀ è ignota.

L'A. dà una lista degli Zigotteri finora citati d'Etiopia, con le sinonimie stabilite o supposte dai vari Autori. Le specie di Zigotteri finora citate d'Etiopia sono 32, alcune delle quali assai dubbie; 9 di tali 32 specie sono state ritrovate dalle nostre spedizioni. Concludono il lavoro alcune considerazioni sulla distribuzione di alcune specie e sul lavoro ancora da fare in Etiopia.

In 1973 I participated with my colleagues and friends, Paolo Brignoli, Vezio Cottarelli and Augusto Vigna Taglianti, in a zoological expedition to western and southern Ethiopia, organized by the Accademia Nazionale dei Lincei. In the course of this expedition many dragonflies were caught, mostly by myself and by the expedition's driver, Mr. Mesfin Mengistabe. A few dragonflies were also caught by a second expedition organized by the Academy in 1975, of which only Paolo Brignoli and Vezio Cottarelli were members.

In this note, after an historical introduction, the Zygoptera collected during the expeditions are listed and two new species are described. The Anisoptera will form the subject of a further note.

I am touched in dedicating this contribution to Prof. Pasquale Pasquini, fellow of the Academy, recently deceased, who promoted this and other expeditions to various parts of the world and who dedicated his whole life to encouraging all kinds of zoological research.

(\*) Istituto di Zoologia dell'Università, Città Universitaria, 00100 Roma, Italy.

## 1. HISTORY OF ODONATOLOGICAL RESEARCHES IN ETHIOPIA

SÉLYS seems to me to have been the first Author to report dragonflies from Ethiopia. Thus, in 1853 he reported, for *Libellago caligata*, the locality "Le Sémen"; in 1854 he reported two specimens of *Libellago caligata* collected by Dr. Rüppel in "Schoa (sud de l'Abyssinie)", and in 1858 he reported *Gomphus Ruppeli*, Simmen (Abyssinie), VII-1831, Dr. Edouard Rüppel leg., 1 ♂, Mus. Francfort, and *G. dorsalis*, Abyssinie, 1 ♀, Mus. Paris. In this last paper he also reported *Onychogomphus punilio* from "Chartoum en Abyssinie", but this is surely a mistake, since Khartoum is in the Sudan. In 1876 SÉLYS reports *Enallagma? subfurcatum* from "Abyssinie", M. Dillon leg., 2 ♂♂, Mus. Paris, and in 1878, *Onychogomphus Hagenii*, Abyssinie, MacLachlan, 1 ♂, and *O. abyssinicus*, Abyssinie, MacLachlan, 2 ♀♀, of which 1 ♀ in coll. Sélys. Then, in 1881, he reported three species collected at Mahal Uonz by Marchese Orazio Antinori: *Libellula caffra* (2 ♂♂), *Enallagma? subfurcatum* (2 ♂♂) and *Pseudagrion spernatum* (many specimens ♂ and ♀). In 1892 he described *Cremigomphus denticulatus* from Kobbo, Shoa (quoted by PINHEY, 1962).

KIRBY (1889) reports 1 ♂ of *Pseudomacromia torrida* from "Abyssinia" in the British Museum. In 1898 he reported *Trithemis lacustris* from "Abyssinia" in coll. British Museum, and in 1900 he reported 1 ♀ of *Apelutheres Strachani* from "Abyssinia".

CALVERT in 1896 reported 3 ♀♀ of *Aeschna Rileyi* collected at Sciotalit and Let-Marefia (Scioa) in 1887 by Ragazzi. In 1899 CALVERT refers to the Odonata collected by A. Donaldson Smith in eastern Africa in 1894 and, since geographical coordinates of most localities are given, it is possible to state which species were caught in Ethiopia. They are: *Pantala flavescens*, *Palpopleura Portia*, *Trithemis ardens*, *Pseudomacromia Donaldsoni*, *Orthetrum contractum*, *Sympetrum Fonscolombii* and *Hemistigma deceptor*, most of which are from Sheikh Husein. He also quoted BRAUER (1868), who described *Trithemis Marnois* "aus Setith" (nomen nudum).

FÖRSTER (1902) described *Erythronna conanoniæ* after 1 ♂ from Erythraea, collected "von der Firma Dr. O. Staudinger und A. Bang-Haas". PINHEY (1962) states "ex Ethiopia, teste Kormondy" about this specimen. In 1906 FÖRSTER reported a list of species collected in Abyssinia and Somaliland in 1900 and 1901 by Carlo Freiherr von Erlanger and the species which can be ascribed to present Ethiopia are: *Pantala flavescens*, *Tramea basilaris*, *Palpopleura marginata*, *Hemistigma deceptor*, *Termitophora rufina*, *Caceres leucosticta*, *Sympetrum Fonscolombii*, *Philonomon Erlangeri*, *Crocothemis erythraea*, *Trithemis Stuhlmanni*, *T. ardens*, *T. sanguinolenta*, *T. Erlangeri*, *T. Distanti*, *T. Ellenbeckii*, *Orthetrum farinosum*, *O. brachiale*, *O. caffrum*, *O. Abbotti*, *O. contractum*, *Macromia pallidinervis*, *Ictinus* sp., *Sapho iridipennis iridipennis*, *Libellago caligata*, *Ischnura (Micronymphia) schoana*, *I. (M.) senegalensis*, *Thermagrion webbianum*, *Ceragrion glabrum*, *Pseudagrion Gerstaeckeri*, *P. punctum*, *Disparoneura alba* and *Lestes somalicus*.

MARTIN (1906) described some Odonata collected by Baron Maurice de Rothschild, among which were *Disparoneura Simba*, about which he stated "commune en Abyssinie", and *Ischnura abyssinica* collected "entre Dire-Daoua et Harrar". In 1910 MARTIN described *Lestes regulatus* and *L. radiatus* and reported *L. pallidus* from "Abyssinie". In 1915 he stated about *Aeschna minuscula*: "assez commune en Abyssinie" (after PINHEY, 1956, 1962, this report refers to *A. ellioti*). In 1922 he gave the list of Odonata collected by Baron Rothschild, among which the following were caught in Ethiopia: *Pantala flavescens*, *Trithemis pruinata*, *Orthetrum chrysostigma*, *Anax formosus*, *Pseudagrion praxetatum* (= *P. Deckeni*), *Ischnura senegalensis* and *I. abyssinica*.

RIS (1908) referred to *Pseudagrion kersteni* the specimens of Mahal Uonz collected in 1877 by Marchese Orazio Antinori and reported by SÉLYS (1881) sub *P. spernatum*. He also reported some Odonata collected in Eritrea in 1907 by Kristensen and preserved in the collection of E. Petersen-Silkeborg: *Enallagma subfurcatum*, *Anax imperator mauricianus*, *Anax Rutherfordi*. Furthermore, he reported the last species, as well as *Orthetrum farinosum*, *Palpopleura deceptor* and *Trithemis stictica*, from Harrar and "Abyssinia".

In 1909 RIS reported various species collected by Rüppel at Agama, "Schoa" and "Abessinien": *Libellago caligata*, *Ischnura senegalensis*, *Enallagma subfurcatum*, *Pseudagrion kersteni*, *P. torridum*, *P. acaciae*, *Notogomphus Ruppelli*, *Mesogomphus punilio*, *Orthetrum trinacria*, *O. farinosum*, *Crocothemis erythraea*, *Brachythemis leucosticta*, *Trithemis annulata*. In 1911 he described *Orthetrum Kristenseni* from Kunhe.

In the "Libellulinen monographisch bearbeitet" RIS (1909-1919), reported many species collected by Kristensen in 1907-1911 (in coll. Petersen-Silkeborg and coll. Ris), Rüppel (in coll. Mus. Senckenberg, Frankfurt), Ragazzi (in coll. Selys), Martin (in coll. Selys and Ris), Iwarson (in coll. Mus. Stockholm), Stordy in 1911 (in coll. British Museum) and without the name of the collector in coll. Martin, British Museum, Morton and Selys. The species reported were: *Orthetrum taeniolatum*, *O. trinacria*, *O. brachiale*, *O. caffrum*, *O. chrysostigma chrysostigma*, *O. chrysostigma Abbotti*, *O. stemmale capense*, *O. farinosum*, *Palpopleura lucia*, *P. jucunda*, *P. deceptor*, *Diplacodes Lefebvrei*, *Crocothemis sanguinolenta*, *C. erythraea*, *Bradinyopyga Strachani*, *Brachythemis leucosticta*, *B. lacustris*, *Sympetrum Fonscolombii*, *Philonomon luninans*, *Trithemis arteriosa*, *T. annulata*, *T. Kirbyi ardens*, *T. Donaldsoni Donaldsoni*, *T. stictica*, *T. Distanti Distanti*, *T. Ellenbecki*, *Pseudomacromia torrida*, *Pantala flavescens*, *Rhyothemis semihyalina*, *Tramea basilaris basilaris*, *Urothemis assignata*, *Orthetrum Kristenseni*, *Hemistigma albipuncta*, *Aisoma panorpoides ascalaphoides*.

In 1921 RIS reported species of other families of Odonata, most of which were collected by Kristensen in Eritrea or near Harrar in 1907-1911: *Enallagma subfurcatum*, *Mesogomphus Hageni*, *M. cognatus*, *Anaciaeschna triangulifera*, *Anax speratus*, *A. imperator mauricianus*.

SJÖSTEDT (1917) described *Enallagma abessinicum* after specimens collected at Asmara by Iwarson and preserved in the museum at Stockholm.

CAMPION (1923) described *Notogomphus lecythus* from Zegi, Lake Tsana, collected in 1902 by Degen.

NAVÁS (1930/31) reported four species caught by Barone Raimondo Franchetti in Dancalia in 1928-1929: *Orthetrum sabinum*, *Crocothemis erythraea*, *Trithemis arteriosa* and *Pantala flavescens*.

RIS and SCHMIDT (1936) reported *Pseudagrion spernatum* from Harrar and Addis Abeba and referred to this species the previous report by RIS (1908, 1909, sub *P. kersteni*) concerning the specimens taken by Antinori and Rüppell. However, they reported 1 ♂ of *P. kersteni* taken in Abissinia by Kristensen and preserved in Morton's collection. They also reported again *P. torridum* taken in Abissinia in 1908 by Rüppell and preserved in the Senckenberg museum.

NIELSEN (1936) studied the Odonata in the collections of the Genoa museum, part of which had already been classified by Sélvs, Calvert and Navás. Such specimens were taken by Antinori in 1877-1887, Ragazzi in 1881-1892, Traversi in 1885, Ruspoli in 1892-1893, Derchi in 1894, Bottego in 1896, Figini in 1906, Ferrari in 1907, Pantano in 1907, Citerni in 1910, Franchetti in 1928-1929 and Mochi (without datum). The species reported were: *Aeschna Elliotti*, *A. Rileyi*, *Anax imperator mauricianus*, *Hemianax ephippiger*, *Crenigomphus denticulatus*, *Orthetrum cafferum*, *O. chryso stigma*, *O. sabinu*, *O. taeniolatum*, *Palpopleura lucia*, *Aethiothemis palustris*, *Brachythemis leucosticta*, *Crocothemis erythraea*, *C. sanguinolenta*, *Diplacodes Lefebvrei*, *Trithemis annulata*, *T. arteriosa*, *T. Donaldsoni*, *T. Ellenbecki*, *T. Kirby ardens*, *Pantala flavescens*, *Urothemis assignata*, *Pseudagrion lindicum*, *P. Kersteni* (of which he considers *spernatum* a synonym), *P. practextatum*, *P. salisburyense*, *Ceriagrion glabrum*, *Enallagma subfurcatum*, *Ischnura senegalensis*, *Agriocnemis exilis*.

In 1939 NIELSEN reported three species taken by Zavattari in the land of Borana in 1937. These were: *Lestes* sp., *Mesocnemis singularis* and *Enallagma elongatum*. In 1946 NIELSEN reported the Odonata taken by Zavattari in the Sagan-Omo area in 1939: *Pseudagrion aetiae*, *P. Kersteni*, *P. massaicum*, *Enallagma subtile* (sic), *Hemianax ephippiger*, *Orthetrum stenmale capense*, *Palpopleura deceptor*, *Diplacodes Lefebvrei*, *Crocothemis erythraea*, *Brachythemis lacustris*, *B. leucosticta*, *Philonomon huminus*, *Trithemis annulata*, *Tholymis tillarga*, *Pantala flavescens* and *Urothemis assignata*.

KLOTS (1944) reported *Notogomphus dorsalis* from Addis Ababa.

SCHMIDT (1944) described *Notoneura africana* from "Massawa, Eritrea". This is held by PINHEY (1962) as a mistake for Massua, Solomon Islands. In 1951a he reported *Pseudagrion spernatum* from Addis Abeba and Madir Aloaba (p. 138 and p. 151) and, in 1951b, he reported *Enallagma subfurcatum* from Alelu, South Ethiopia, collected by Neumann.

FRASER (1947) reported *Enallagma elongatum* from Djem-Djem Forest, in coll. Hugh Scott; while, in 1960, he reported *Crenigomphus denticulatus*

and *C. abyssinicus* for the localities previously reported by SÉLVYS and NIELSEN.

LONGFIELD (1952) has confirmed *Ceriagrion glabrum* for "Abyssinia".

KIMMINS (1958) described two new taxa collected by K. M. Guichard in 1948: *Pseudagrion guichardi* from Cencia and Moggio, and *Atoconeuva biordinata aethiopica* from Segheria, Wondo and Dilla. In addition he reported *Enallagma somalicum* from Errer near Gota, also collected by Guichard in 1948.

PINHEY (1961) stated about *Notogomphus kilimanjariensis*: "I believe it is known also from Ethiopia". He also reported some Odonata in the Coryndon Museum: *Hemianax ephippiger* from Ogaden (leg. Jackson), *Brachythemis lacustris* from Galana-Dullei rivers and Giarso (leg. Adefris Bellehuc), *B. leucosticta* from "Ethiopia", and *Trithemis ellenbecki* from south-west Abyssinia.

In 1962 PINHEY quoted a statement of GAMBLES (in litteris) that both *Trithemis ellenbecki* and *T. risi* are found in Ethiopia. In 1964a PINHEY reported *Pseudagrion guichardi* from Limu Rd., caught in 1963 by B. G. Hill, and *P. spernatum spernatum* from Addis Ababa. In 1964b he described *Ischnura hilli* caught near Dire Dawa by Hill, and reported *Palpopleura jucunda*, also taken near Dire Dawa by Hill in 1961. In 1966 he reported, with doubt, *Lestes cinereus* from a ♀ in the British Museum. In 1970 he reported *Orthetrum trinacria* from the Kenya/Ethiopia border, *O. chryso stigma*, *O. taeniolatum* and *O. julia falsum* from "Ethiopia", and *O. kristensei* from Goba, and, in 1974, he reported *Agriocnemis pygmaea sania* from Errer near Gota, taken by Hill in 1963.

KITCHING (1967) reported *Trithemis donaldsoni donaldsoni* from Lake Tana, taken in 1965 and classified by P. H. Ward.

## 2. ZYGOPTERA COLLECTED IN 1973 AND 1975

In this following section, the Zygoptera collected in 1973 and 1975 are listed. The genera are arranged in the systematic sequence given by PINHEY (1962, pp. 43 and foll.) and the species are in alphabetical order.

The collecting stations are described in the note "General remarks about the first and second zoological expeditions to Ethiopia, organized by the Accademia Nazionale dei Lincei", by BRIGNOLI, CONSIGLIO, COTTARELLI and VIGNA TAGLIANTI, published in this same volume.

### *Lestes virgatus* (Burm.)

KAFFA, loc. 6, Asandabà, F. Piccolo Ghibiè, m 1700 circa, 22-X-1973, C. Consiglio leg., 2 ♂♂, 1 ♀.

KAFFA, loc. 9, tra Gimma e Cossa, pozza prativa, m 1800 circa, 24-X-1973, C. Consiglio leg., 2 ♂♂ tenerals.

KAFFA, loc. 23, Uncuri, cascate del Piccolo Ghibiè, m 1650 circa, 29-X-1973, C. Consiglio leg., 3 ♂♂, 6 ♀♀; M. Mengistabe leg., 1 ♂, 2 ♀♀.

None of the ♂♂ was mature. Since this species is known to breed in temporary waters, it is probable that the specimens caught by the river Piccolo

Ghibiè (loc. 6 and 23) were ready to overwinter in the shadow of the dense vegetation along the river.

Colouration in life of a ♀ from loc. 23:

Head largely green on the upper side. Eyes brown above, grey under. Pleurae of mesothorax metallic green, bordered by metallic red and ivory. Pterostigma brown, its center lighter and grey. Abdomen metallic green.

**Elattonaura pasquinii** n.sp.

*Series typica.* Holotype 1 ♂, paratypes 1 ♂, 1 ♀ (this caught in tandem with the holotype), KAFFA, loc. 23, Uncuri, cascade del Piccolo Ghibiè, m 1650 circa, 29-X-1973, C. Consiglio leg. Preserved in my collection.

*Diagnosis.* A largely black species, resembling *E. tropicalis* Pinhey, from which it is distinguished in the ♂ sex by the lighter thorax and the shape of the penis (which resembles that of *E. dorsalis* Kimmins) and in the ♀ sex by the shape of the prothoracic processes (which resemble those of *E. glauca* (Selys)).

*Description of the holotype.* Total length 38 mm, abdomen 31 mm, hindwing 21 mm.

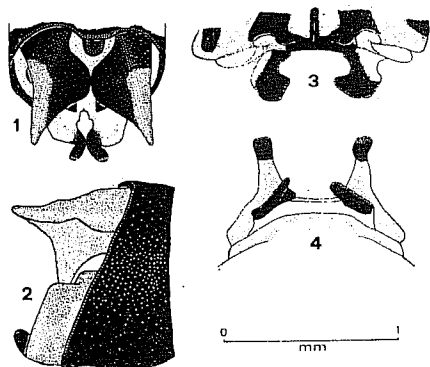


Fig. 1-4. - *Elattonaura pasquinii* n.sp. 1-2: ♂ holotype, anal appendages: 1: seen from above; 2: seen from right side. 3-4: ♀ paratype, prothoracic processes; 3: seen from above; 4: seen from behind.

Labrum black with brown border. Anteclypeus brown. Postclypeus black, scarcely pruinose. A brown strip on each side running from the lateral ocellus to the base of the antenna. Remaining part of the superior face of the head anteriorly heavily pruinose, posteriorly black, without postocular spots. Under surface of the head largely yellow brown.

Prothorax black on its median and lateral parts, grey on the intermediate ones. Mesothorax black, except for a pruinose stripe in the middle of the mesepisterna and a narrow grey band lying immediately under it. Metathorax grey, with faint black stripe on the 2nd lateral suture. Upper trochanters grey, rest of the legs black, slightly pruinose.

Wings.  $R_3$  arises at 6<sup>th</sup> Px in both forewings.  $Px \frac{14-14}{12-12}$ . Pterostigma brown, bordered with a white line.

Abdominal segments 1-2 black with lateral grey pattern; 3-6 medially black and laterally ferruginous, except for a narrow basal white annulus and an apical black part; 7-10 entirely black (8-9 slightly pruinose). Posterior border of segment 10 with a median prominence. Appendages ferruginous, superior ones in dorsal view with wide basal part, abruptly tapering at the apex; in lateral view with a single inferior flattened triangular tooth, taking its origin from the basal part of the medial border; inferior appendages short, with apex curled upwards (figs. 1-2).

Penis. Head of the penis truncate, bearing two lateral lobes, whose edges have a lateral excision, and a posterior lobe. The penis has a pair of subapical long, tapering processes, and another similar one before the bending of the penis, after the end of the sclerotised stem (figs. 5-6).

*Description of the ♂ paratype.* Total length 38 mm, abdomen 32 mm, hindwing 21 mm.

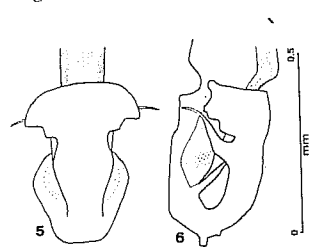


Fig. 5-6. - *Elattonaura pasquinii* n.sp. ♂ holotype, penis; 5: seen from under; 6: seen from right side.

The ♂ paratype is very similar to the holotype, except that the pruinose band on the mesepisterna is wider, covering the grey band and reaching the middle carina and approaching the humeral suture. A faint pruinosity is also present on the first lateral suture, on the metepimera and on the sides of the 1<sup>st</sup> and 2<sup>nd</sup> abdominal segments.  $Px \frac{14-?}{13-12}$ .

*Description of the ♀ paratype.* Total length 41 mm, abdomen 34 mm, hindwing 22 mm.

Labrum ocre. Anteclypeus and postclypeus brown. Remaining part of the upper surface of the head ocre with two transverse black bands, the anterior one in front of the antennae, the posterior one behind the lateral

ocelli. A small transverse black spot behind the anterior ocellus. Under surface of the head light grey brown.

Anterior lobe of the prothorax ocre with black pattern, with its anterior border raised and excised in the middle. Intermediate lobe (middle lobe of PINHEY, 1964a) black with twin medial ocre spots and two large sublateral ocre regions. Hind lobe very narrow, with two pairs of flat processes, at an angle of about 45°; the anterior ones directed upwards, brown with black tip, narrower and slightly longer than the posterior ones which are largely black, directed upwards and hindwards and slightly inturned (figs. 3-4). Mesothorax black, except for three pairs of ocre stripes: a narrow one in the upper part of the mesepisterna, a rather wide one in the inferior part of the mesepisterna and a narrow incomplete posterior one in the upper part of the mesepimera. Metathorax light brown grey, except for a black stripe on the second lateral suture. Legs tawny, with a black stripe on the anterior surface of the femora (broken up in the proximal part of the second and third pairs of legs into a series of black spots) and on the inner surface of the tibiae and the distal part of the femora; tarsi black.

Wings.  $R_3$  arises at 6-6½<sup>th</sup> Px in the forewing.  $Px \frac{14-14}{12-12}$ . Pterostigma light brown, bordered with white.

Abdominal segment 1 largely tawny; 2-7 tawny or light brown with dorsal black stripe, interrupted basally and widened before the apex; 8-9 black with median ocre stripe; 10 grey brown with sublateral black spots. Anal appendages ocre. Ovipositor reaching farther than tip of abdomen.

*Derivatio nominis.* I dedicate this species to the late Prof. Pasquale Pasquini, fellow of the Accademia Nazionale dei Lincei, who has promoted the zoological expedition to Ethiopia during which this species was discovered.

*Discussion.* *Elatoneura pasquini* n.sp. resembles *E. tropicalis* Pinhey very much. Through the courtesy of Dr. E. Pinhey I had 2 ♂♂ and 2 ♀♀ of *E. tropicalis* from Zambia for comparison. The ♂ of *E. tropicalis* has a much blacker thorax: the prothorax and mesothorax are entirely black, with a pruinose band on the mesepisterna, and the black stripe on the second lateral suture is much wider. The penis is of an entirely different shape. The ♀ of *E. tropicalis* has only one light band on each side of the mesothorax, the two narrow ones being very faint or absent. The prothoracic processes are shorter.

For the shape of the penis, the new species resembles *E. dorsalis* Kimmins, which is readily distinguished by the different shape of the superior appendages of the ♂.

For the shape of the prothoracic processes of the ♀, the new species resembles *E. glauca* (Selys).

The shape of the penis also distinguishes the new species from *E. tsiamae* Aguesse, 1966, and «*Disparoneura adalac*» Aguesse, 1966. The names of both of these species, however, are not available, according to the International Code of Zoological Nomenclature, because they do not satisfy the provisions of article 13 (there is no statement of characters differentiating such taxa).

**Agriocnemis** sp.

KAFFA, loc. 7, Gimma, stagno a est di Gimma, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♀.

I could not assign this isolated ♀ to any of the known species.

**Ceriagrion glabrum glabrum** (Burm.).

KAFFA, loc. 7, Gimma, stagno a est di Gimma, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♂.

KAFFA, loc. 13, Saca, m 1800 circa, 25-X-1973, C. Consiglio leg., 1 ♂.

**Ceriagrion suave** Ris.

KAFFA, loc. 6, Asandabà, F. Piccolo Ghibiti, m 1700 circa, 22-X-1973, C. Consiglio leg., 1 ♂.

KAFFA, loc. 23, Uncuri, cascate del Piccolo Ghibiti, m 1650 circa, 29-X-1973, C. Consiglio leg., 1 ♂.

The distinction between *C. suave* Ris and *C. moorei* Longfield is rather uncertain (see PINHEY, 1961). The diagnostic character given by LONGFIELD (1952), i.e. the form of the inferior edge of the inferior anal appendage of the ♂, is difficult to evaluate in my specimens since they are a little general.

**Enallagma elongatum** (Martin).

KAFFA, loc. 9, tra Gimma e Cossa, pozza prativa, m 1800 circa, 24-X-1973, C. Consiglio leg., 8 ♂♂.

KAFFA, loc. 10, tra Gimma e Cossa, torr. Aueddu del Diddessa e pozza, m 1650 circa, 24-X-1973, C. Consiglio leg., 3 ♂♂.

The superior appendages show a ventral tooth near the apex, like in fig. 245 of PINHEY (1951). This tooth is not shown in figures given by RIS (1921, sub *E. fractum*), LONGFIELD (1936) and FRASER (1947); perhaps because it is hidden by the inferior appendage.

My specimens differ further from the description given by LONGFIELD (1936) in that the femora have a wide black stripe; some of them also have part or all of the postclypeus black, antennae entirely black, postocular spots separated by the hind part of the head through a black stripe. They also differ from the description give by PINHEY (1951), the dorsal surface of segment IX being entirely blue. Segment VIII is also blue, or has only a small black basal spot.

The superior corner of the lamina mesostigmalis is elevated in a vertical plane directed from behind and medial to before and lateral. This character seems to me not to have been described by any author.

NIELSEN (1939) points out that the pterostigma is darker in the anterior wings than in the posterior ones. This is true also in my specimens. In fore wings the pterostigma is black or black bordered by brown; in hind wings it is black bordered by brown or dark brown bordered by light brown.

**Enallagma nigridorsum** Sclys.

KAFFA, loc. 7, Gimma, stagno a est di Gimma, m 1700 circa, 23-X-1973, C. Consiglio leg., 2 ♂♂.

**Enallagma subfurcatum** Sclys.

KAFFA, loc. 8, Foresta di Badabuna, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♂.  
KAFFA, loc. 13, Saca, m 1800 circa, 25-X-1973, C. Consiglio leg., 4 ♂♂.  
KAFFA, loc. 16, Baca, m 1800 circa, 25-X-1973, C. Consiglio leg., 1 ♂, 2 ♀♀.  
KAFFA, loc. 17, tor, Bonga, m 1800 circa, 27-X-1973, C. Consiglio leg., 1 ♂ and 1 ♀.  
KAFFA, loc. 19, Anderaccia, verso Anmaia, m 1650 circa, 26-X-1973, C. Consiglio leg., 1 ♀.  
KAFFA, loc. 20, Foresta di Decciò, m 2000 circa, 27-X<sup>2</sup>-1973, C. Consiglio leg., 4 ♂♂, 3 ♀♀.  
KAFFA, loc. 22, Sombo, m 1800 circa, 28-X-1973, C. Consiglio leg., 1 ♂.

**Ischnura senegalensis** (Rambur).

SHOA, loc. 4, Tafchi, piana dell'Auasc, m 2100 circa, 22-X-1973, C. Consiglio leg., 1 ♀.  
KAFFA, loc. 7, Gimma, stagno a est di Gimma, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♂ 1 ♀ in copula, 2 ♀♀.  
BALE, loc. 35, Dodola, guado del F. Uebi Scebeli, m 2500 circa, 6-XI-1973, C. Consiglio leg., 3 ♀♀; M. Mengistabe leg., 1 ♀.

**Pseudagrion acaciae** Förster.

SHOA, loc. 27, Metehara, cascate del F. Auasc, m 900 circa, 3-XI-1973, C. Consiglio leg., 5 ♂♂, 1 ♂ 1 ♀ in tandem; Mesfin Mengistabe leg., 10 ♂♂, 1 ♀.

These specimens are similar to 1 ♂ and 1 ♀ from Rhodesia, kindly sent me by Dr. Pinhey. I have to add to the description given by PINHEY (1964a) that the dorsal black bands on abdominal segments 3-6 are dilated before their posterior ends.

Colouration in life of a ♂:

Labrum orange. Face wine brown. Upper part of the eyes very bright red anteriorly, black brown posteriorly. Under part of the eyes orange anteriorly, azure posteriorly. Posterior part of the head azure. Mesepisterna wine brown, with black sutures. Mesepimera greenish. Metapleurae azure. Pterostigma brown. Abdominal segments 2-7 green with black pattern, 8-9 azure with black pattern.

**Pseudagrion guichardi** Kimmins.

KAFFA, loc. 8, Foresta di Badabuna, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♀.  
KAFFA, loc. 17, tor, Bonga, m 1800 circa, 27-X-1973, C. Consiglio leg., 5 ♂♂; Mesfin Mengistabe leg., 1 ♀♀ (general).  
KAFFA, loc. 22, Sombo, m 1800 circa, 28-X-1973, C. Consiglio leg., 1 ♂.  
BALE, loc. 44, a est di Adaba, m 2600 circa, 9-XI-1973, Mesfin Mengistabe leg., 1 ♂, 1 ♀.  
KAFFA, loc. 76, Mercato di Arò (Aggarò dintorni), Yebu river, m 1950, 27-X-1975, Mesfin Mengistabe leg., 1 ♀.

In some ♂♂ the yellow transverse band on the frons is not interrupted. The ♀♀ of loc. 8, 44 and 76, which I have attributed to this species, are a little different from that described by PINHEY (1964a). Therefore I give their description.

Total length 42-44 mm; abdomen 33-35 mm; hindwing 25-26½ mm.

Labrum and anteclypeus light green or brown. Postclypeus brown with three black spots connected with a basal transverse black band, or nearly completely black. Genae greenish. Frons brown with small black lunula. A transverse black band across the occiput, with two small brown spots in front of the lateral ocelli; these spots can be connected with the brown lateral parts of the frons through a narrow, sinuous transverse brown band. Postocular spots large, green, connected to each other through a brown occipital ridge. Underparts of the head light creamy, with two small pruinose spots behind the eyes. Labium whitish.

Prothorax: Anterior lobe large, brown with black marking extending on its median and posterior part. Intermediate lobe black except for lateral swelt parts which are greenish, two brown lateral spots continuous with the brown colour of the anterior lobe, and two very small brown twin medial spots. Posterior lobe black with a brown spot at the center of the hind edge. Stylets brown, slightly divergent, reaching as far as nearly half the length of the intermediate lobe. The posterior lobe is vertically at the points of insertion of the stylets, so that the hind edge of the prothorax is correspondently inflected and its median part is convex (fig. 7).

Lamina mesostigmalis brown or greenish, black on its medial part, with its posterior margin more or less swelt. A small bristle pad (fig. 7). Synthorax black to just below the humeral suture, with green or brown medial carina, green or brown antehumeral bands which in their anterior parts are broader than half the mesepisternum, and green lateral parts. A small black streak and a black dot on the upper part of the first lateral suture and a small black streak on the second one. Epaulette black, very small, with its anterior edge raised, distant from the lamina mesostigmalis by its full width (fig. 7). Metinfraepisternum, sternum and coxae pruinose.

Legs light brown, with external black streaks on the femora and sometimes internal black streaks on the tibiae.

Pterostigma reddish brown. Forewing with 12-14 postnodals; R<sub>3</sub> rises at 5-5½<sup>th</sup> Px, IR<sub>2</sub> at 8-9<sup>th</sup> Px.

Abdomen: Segment 1 with black dorsal band not reaching hind margin, constricted at the middle of the segment. Segment 2-7 with copper black dorsal band, connected with a black apical annulus, usually separated from the basis of the segment by a light annulus, often interrupted in the middle. Segment 8 with a black dorsal band leaving a green apical triangle with anterior apex. Segment 9 with two black basal triangles, basally connected to each other, the remaining dorsal part green. Segment 10 dorsally green or blue. Lateral parts of the abdomen greenish brown. Dorsal side of anal appendages more or less black.

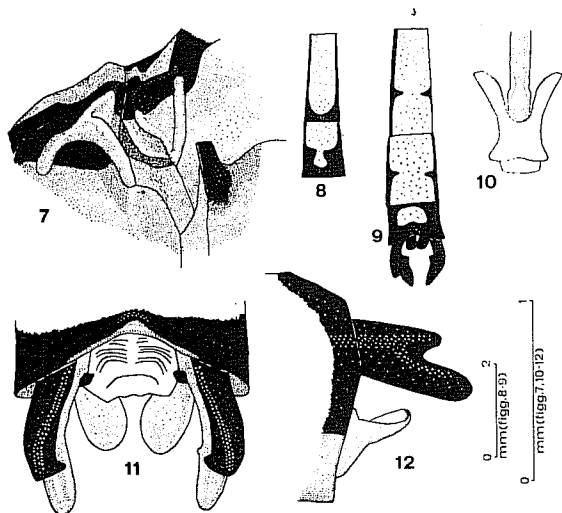
**Pseudagrion kaffinum** n.sp.

*Series typica.* Holotype 1 ♂, KAFFA, loc. 6, Asandabà, F. Piccolo Ghi-biè, m 1700 circa, 22-X-1973, C. Consiglio leg. Paratypes: 2 ♂♂, KAFFA,

loc. 23, Uncuri, cascade del Piccolo Ghibiè, m 1650 circa, 29-X-1973, C. Consiglio leg. Preserved in my collection.

**Diagnosis.** A *Pseudagrion* of the group A, related to *P. guichardi* Kimmins, from which it is distinguished in the ♂ by the different pattern of the 8<sup>th</sup> and 9<sup>th</sup> abdominal segments, by the different shape of the superior anal appendage (lower branch) and by the different shape of the penis. Female unknown.

**Description of the holotype.** Total length 38 mm, abdomen 30 mm, hindwing 22 mm.



Figg. 7, 9. - *Pseudagrion guichardi* Kimmins. 7: ♀ from Adaba, prothoracic styllets, lamina mesostigmalis and épaulette, seen from left side; 9: ♂ from Bonga, apex of abdomen, seen from above.

Figg. 8, 10-12. - *Pseudagrion kaffinim* n.sp. 8: ♂ holotype, approximate pattern of abdominal segments VIII and IX, seen from above; 10: ♂ holotype, penis, seen from under; 11: ♂ paratype from Uncuri, anal appendages, seen from above; 12: ♂ paratype from Uncuri, anal appendages, seen from left side.

Labrum, anteclypeus and genae brown. Postclypeus bronze black with brown border. Frons brown with bronze black basal lunule. A transverse bronze black band across the vertex. Postocular spots rather small, almost square, greenish, connected by a brown transverse band across the occipital margin. Rest of the occiput bronze black. Labium and underparts of the head whitish.

Prothorax: Anterior lobe bronze black except for its anterior half and lateral parts, which are light brown. Intermediate lobe bronze black with light brown lateral parts, connected with the light lateral parts of the anterior lobe. Posterior lobe bronze black with light brown lateral parts and a light brown median spot along its posterior edge. Lateral borders of the prothorax light brown, swelt.

Synthorax bronze black down to half the mesepimera, with brown median carina and light brown antehumeral stripes about 1/3 as wide as the mesepisterna. A bronze black streak on the first lateral suture, a brown spot and a faint streak on the second one. Rest of the synthorax light brown.

Legs light brown, with brown streaks on the outer part of the femora.

Wings.  $R_3$  arises at  $5\frac{1}{2}$ <sup>th</sup> Px and  $IR_2$  at 8<sup>th</sup> Px in both forewings.

Px  $\frac{12-12}{11-11}$ . Pterostigma yellowish.

Abdomen: Dorsal part of segment 1 bronze black, apex brown with black lateral streaks connected with the main black pattern. Dorsal part of segment 2 bronze black. Dorsal part of segments 3-7 bronze black with narrow basal brown annulus, interrupted in the middle. Dorsal part of segment 8 bronze black with large blue spot extending from the base to just before the apex, with rounded posterior margin. Dorsal part of segment 9 bronze black with large blue spot extending from the base to just before the apex, with sharp constriction at 2/3 of its length (fig. 8). Segment 10 with shallow excised posterior margin, without teeth, its dorsal part bronze black. Lateral parts of the abdomen light brown. Superior anal appendages of the *kersteni*-type, with basal internal black tooth, inner surface whitish, concave, superior and outer surface brown black, superior branch with inner apical tooth, inferior branch twice as long as the superior one, directed inwards and underneath, its inner margin not angulated. Inferior anal appendages light brown, directed upwards, with concave upper surface, less than 1/2 the length of the superior ones (figs. 11-12).

Penis with head deeply excised, as in fig. 10.

**Observation.** It is probable that this specimen, as well as the paratypes, was immature.

**Description of the paratypes.** Total length 35-39 mm, abdomen 28-31 mm, hindwing 20 1/2-22 mm.

The paratypes agree with the description of the holotype, except that the labrum, anteclypeus and border of the postclypeus are yellow in one specimen. Also, the frontal lunula may be fused with the black transverse band across the vertex, leaving a small brown spot in front of the anterior ocellus, and the postocular spots may be brown and are not connected with the transverse band on the occipital border.

In the forewings  $R_3$  arises at  $5-5\frac{1}{2}$ <sup>th</sup> Px,  $IR_2$  at 8-9<sup>th</sup> Px. Px 13-14 in the forewing, 11-13 in the hindwing.

One of the paratypes seems to be less immature: it has the synthorax of somewhat variable colour, the outer surface of the femora entirely black,



as well as a streak on the fore side of the tibiae; the pterostigma is reddish; the sides of the abdomen are dark brown.

In one of the specimens the inferior branch of the superior anal appendage of one side is much shorter than normal.

*Derivatio nominis.* The name of the new species is derived from Kaffa, the region where it has been discovered.

*Relationships.* This species seems strongly related to *P. guichardi* Kimmins, from which it differs mainly in the abdominal pattern, superior anal appendages, and penis. Furthermore, *P. guichardi* is densely pruinose, although the lack of pruinosity in *P. kaffinum* is perhaps due to immaturity.

In *P. guichardi* the abdominal pattern on segments 8 and 9 is somewhat different (fig. 9). Thus the blue spots on both of these segments are constricted at about  $2/3$  of their length, are not rounded posteriorly and do reach the hind margin of the segment; there is also a basal transverse blue spot on segment 10, whose posterior margin seems more deeply excavated. The inferior branch of the superior anal appendage is longer, about 3 times as long as the superior one; its inner margin is angulated. The penis has a flagellum on each side, arising at the middle of the exposed margin of the funnel, as in fig. 2 F of KIMMINS (1958).

*Distribution and ecology.* This new species is known only from the localities 6 and 23, which are only about 20 km apart. Both localities are located along the river Piccolo Ghibiè with big trees on the banks. *P. kaffinum* was never found to live along with the related species *P. guichardi*.

#### **Pseudagrion kersteni** Gerstäcker

KAFFA, loc. 8, Foresta di Badabuna, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♂.

This ♂ has the 8<sup>th</sup> and 9<sup>th</sup> abdominal segments with dorsal pruinosity. Pruinosity on these segments is not mentioned by PINHEY (1964a) for this species, but 1 ♂ from Rhodesia and 1 ♂ from Kenya sent to me by him show it to a lesser extent than in the specimen from Ethiopia.

#### **Pseudagrion spernatum spernatum** Selys.

SHOA, loc. 1, tra Addis Abeba e Holetta, m 2400 circa, 21-X-1973, C. Consiglio leg., 6 ♂♂, 8 ♀♀.

SHOA, loc. 3, tra Addis Abeba e Holetta, m 2400-2500, 21-X-1973, A. Vigna Taglianti leg., 1 ♂.

SHOA, loc. 4, Tafelhi, piana dell'Auasc, m 2100 circa, 22-X-1973, C. Consiglio leg., 1 ♀.

KAFFA, loc. 6, Asandabà, F. Piccolo Ghibiè, m 1700 circa, 22-X-1973, C. Consiglio leg., 1 ♀ teneral (?).

KAFFA, loc. 8, Foresta di Badabuna, m 1700 circa, 23-X-1973, C. Consiglio leg., 1 ♂.

KAFFA, loc. 10, tra Gimma e Cossa, Torr. Aueddu del Diddessa e pozza, m 1650 circa, 24-X-1973, C. Consiglio leg., 5 ♂♂.

KAFFA, loc. 13, Saca, m 1800 circa, 25-X-1973, C. Consiglio leg., 1 ♂ teneral; Mesfin Mengistabe leg., 1 ♂.

KAFFA, loc. 16, Baca, m 1800 circa, 25-X-1973, C. Consiglio leg., 1 ♂, 1 ♀.

KAFFA, loc. 19, Anderaccia, verso Ammaia, m 1650 circa, 26-X-1973, C. Consiglio leg., 1 ♂, 1 ♀, 1 ♀ teneral.

ARUSSI, loc. 28, Gondi, m 2200 circa, 3-XI-1973, C. Consiglio leg., 2 ♂♂, 4 ♀♀; Mesfin Mengistabe leg., 3 ♂♂, 8 ♀♀.

ARUSSI, loc. 30, tra Aselle e Bocoggi, m 2400 circa, 4-XI-1973, C. Consiglio leg., 4 ♂♂, 5 ♀♀; Mesfin Mengistabe leg., 12 ♂♂, 1 ♂ teneral, 4 ♀♀, 2 ♀♀ teneral.

BALE, loc. 35, Dodola, guado del F. Uebi Scebeli, m 2500 circa, 6-XI-1973, C. Consiglio leg., 1 ♂; Mesfin Mengistabe leg., 5 ♂♂, 1 ♀, 1 ♀ teneral.

BALE, loc. 44, a est di Adaba, m 2600 circa, 9-XI-1973, C. Consiglio leg., 2 ♂♂; Mesfin Mengistabe leg., 6 ♂♂.

BALE, loc. 45, F. Uccuma, a ovest di Dodda, presso Dodola, m 2600 circa, 9-XI-1973, C. Consiglio leg., 3 ♂♂, 14 ♀♀; Mesfin Mengistabe leg., 1 ♂, 2 ♀♀.

Since the colouration of my specimens does not always agree with the description given by PINHEY (1964a), there follows a description of their colouration.

♂. Labrum, anteclypeus and pars of the genae orange brown. Postclypeus, frons and vertex black, the frons extensively pruinose. Postocular spots small, green, not connected with the brown border of the occiput. Prothorax black, except its lateral parts, often a pair of lateral spots, and the anterior border of the anterior lobe, which are brown. Synthorax black nearly down to the first lateral suture, with narrow, sometimes interrupted, brown antehumeral stripes. A black bar on the upper part of each of the 1<sup>st</sup> and 2<sup>nd</sup> lateral sutures, the latter longer, both connected with a black stripe on the dorsal edge of the metapleurae. Ventral part of the synthorax brownish or greenish, slightly pruinose. Sometimes the whole thorax is slightly pruinose. Legs black. Pterostigma dark brown, with whitish border inside the black bordering veins. Abdomen black and pruinose on dorsum; 7<sup>th</sup> and 10<sup>th</sup> segments are less pruinose than the others.

♀. Labrum brown yellow. Anteclypeus brown, postclypeus brown or black. Frons and genae brown or green, frons often with a small central black lunula. A transverse black band across the vertex, sometimes with two small brown spots in front of the lateral ocelli. Postocular spots green, often connected through the yellow occipital band. Prothorax black, except lateral parts, a square lateral spot, the anterior part of the anterior lobe, and a central spot on the hind border, which are brown. Stylets brown, *mostly with black tips*. Synthorax black down to below the humeral suture, with green antehumeral stripes half as wide as the mesepisternum. A small stripe and a dot on the first lateral suture. A dot on the second lateral suture. Sides of the synthorax greenish. Legs brown, with black external streaks on the femora, and often black internal streaks on the tibiae. Pterostigma light brown. Abdominal segments I-VII dorsal black; VIII dorsal black with median blue band, constricted at  $2/3$  of the segment, with rounded corners; IX dorsal black with median blue triangle, with posterior base; X mostly blue. A variable number of basal segments (up to 3<sup>rd</sup>-6<sup>th</sup>) are coated with dorsal pruinosity. Sides of the abdomen brown or grey, green at the base.

The key to the females of the group A, given by PINHEY (1964a), should be modified, since, according to it, most of my specimens could fall under number 25 (page 71) and would therefore be classified as *P. kersteni*.



Colouration in life of a ♀ of loc. 28:

Eyes brown above, light green under. Postocular spots blue. Light parts of the mesopleurae blue. Metapleurae green. Sides of abdominal segments I–II medially blue, laterally green. Sides of abdominal segments III–VII green. Light parts of abdominal segments VIII–X blue. Pterostigma light brown.

**Pseudagrion sublacteum sublacteum** (Karsch).

Syn. *Pseudagrion pseudomassaicum* Pinhey (teste DUMONT, 1973).

SHOA, loc. 27, Metehara, cascade del F. Auasc, m 900 circa, 3–XI–1973. Mestiri Mengistabo leg., 1 ♂, 1 ♀.

These specimens agree well with the descriptions of *P. pseudomassaicum* given by PINHEY (1951, 1964a) except that PINHEY (1951, 1967) described the thorax of the ♂ of this species as pruinose dorsally, while in my ♂ the pruinosity on the thorax is only ventral. However, in two ♂♂ labelled *pseudomassaicum*, kindly sent to me by Dr. Pinhey and coming from Botswana, the pruinosity is also limited to the ventral part of the thorax. The mesostigmal lamina of my ♀ is identical with that of a ♀ coming from Botswana, also sent to me by Dr. Pinhey, and labelled *pseudomassaicum*.

**Pseudagrion tricornis** Pinhey (?).

GEMU GOFA, loc. 55, a nord-est di Arba Mintch, m 1350 circa, 13–XI–1973. C. Consiglio leg., 1 ♂.

This specimen is referred with some doubt to *P. tricornis* Pinhey, from whose original description (PINHEY, 1967) it differs for the intermediate (ventral) tooth of the inner flange of the superior appendage, which is shorter, and for the intermediate segments of the abdomen, which are yellow on the sides. This specimen is also very similar to *P. unisigaziense* Balinsky, from which it seems to be different because, in the descriptions of *P. unisigaziense* (BALINSKY, 1963; PINHEY, 1964a), the basal tooth of the inner flange of the superior anal appendage is not mentioned, and the head of the penis is deeper excised.

*Description.* Total length 35 mm, abdomen 28 mm, hindwing 20 mm.

Labrum, postclypeus, frons and genae green. Anteclypeus light brown. A transverse black band across the vertex, with two small green spots in front of the lateral ocelli. Postocular spots coeruleous, triangular, unconnected with a transverse green ridge across the occiput. Labium white. Underside of the head green near the eyes, posteriorly pruinose.

Prothorax: Anterior lobe largely coeruleous. Intermediate lobe black, with the following parts coeruleous: the lateral parts, two intermediate spots and twin medial spots. Posterior lobe black, spotted with green in the centre and at the sides.

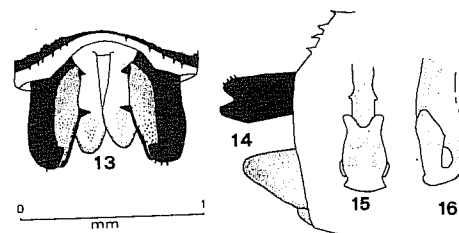
Synthorax with black stripe on the median carina; green antehumeral stripes, ventrally half as wide as the mesepisterna, narrowing dorsally;

a wide black stripe on the humeral suture; behind the last the synthoracic pleurae are coeruleous with a narrow black stripe on the upper third of the first lateral suture and a black dot on the second one.

Legs brown, with a black stripe on the outside of the femora and on the proximal part of the interior side of the tibiae.

Wings. Ac at the point where the anal vein leaves the posterior margin, much closer to 1<sup>st</sup> than to 2<sup>nd</sup> antenodal vein. Anterior side of the quadrilateral about 5 times shorter than the posterior side in the forewing and 3 times in the hindwing. In the forewing, 10–11 postnodal crossveins; origin of R<sub>3</sub> at the 5<sup>th</sup> postnodal crossvein. Pterostigma light brown, with black edging veins.

Black markings on the abdomen: Segment 1, a basal spot; segment 2, a U-shaped mark, stalked to distal end and linked to both margins; segments 3–6, a black stripe, very narrowly connected to basal end, distally widened and then constricted before terminal transverse band; segments 7 and 10, the whole dorsal surface; segments 8 and 9 without black markings. Light colour of the abdomen coeruleous on segments 1, 2, base of 3, 8, 9 and 10; yellow on the remaining part.



Figs. 13–16. — *Pseudagrion tricornis* Pinhey (?), ♂ from Arba Mintch. 13: anal appendages, seen from above; 14: anal appendages, seen from right side; 15: penis, seen from under; 16: penis, seen from left side.

Superior anal appendages a little shorter than segment 10, in side view with shallow apical excision, in dorsal view with apical internal hook of the black superior branch and a broad inner flange with two internal teeth, one basal and dorsal, the other intermediate and ventral. Inferior anal appendages a little shorter than the superior ones, rather pointed, with superior profile horizontal, superior side excavated (figs. 13–14). Posterior edge of segment 10 rather broadly excavated, with spines.

Head of the penis excised (figs. 15–16).

**Pseudagrion** sp.

5 ♀♀ belonging to 3 different species could not be classified with certainty. They were caught at localities 6, 55 and 58.

**Platygypha caligata** (Sélys).

KAFFA, loc. 18, Anderaccia, ponte naturale di Gurgutto, m 1650 circa, 26-X-1973, C. Consiglio leg., 4 ♂♂, 1 ♀; Mesfin Mengistabe leg., 1 ♂.

SHOA, loc. 27, Metchara, cascate del F. Auasc, m 900 circa, 3-XI-1973, C. Consiglio leg., 1 ♂; Mesfin Mengistabe leg., 1 ♂.

GEMU GOFA, loc. 53, tra Soddu e Arba Mintch, m 1430 circa, 13-XI-1973, C. Consiglio leg., 2 ♂♂; Mesfin Mengistabe leg., 1 ♀.

GEMU GOFA, loc. 55, a nord-est di Arba Mintch, m 1350 circa, 13-XI-1973, C. Consiglio leg., 1 ♂, 1 ♀.

Specimens, probably belonging to this species, were also observed at station 23 (KAFFA, Uncuri, cascate del Piccolo Ghibiè, m 1650 circa, 29-X-1973).

I refer my specimens to this species because of the expanded tibiae of the ♂, wide less than 1 mm, externally red, internally white; the pattern of ♂ abdominal segment II of the ♂ with 2 large and 2 small triangles, in most cases completely bordered by black, and the sides ferruginous red; the pattern of the abdominal segment II of the ♀ similar to that of the ♂. The azure areas on abdominal segments III-V of the ♂ have rather parallel lateral borders and are truncate at their posterior end, features attributed by FRASER to *P. caligata* in 1949, but to *P. lacustris* in 1950. Thus my specimens do not agree with figure 3F of FRASER (1950). Abdominal segment X of the ♀ is spotted with yellow (in one of the 3 ♀♀ it is crossed by a transverse yellow band with two submedian black points) instead of being entirely black as stated by FRASER (1949).

PINHEY (1967 a, b) gives new characters to separate this species from *P. lacustris* and, following PINHEY, my specimens are surely referable to *P. caligata*.

LONGFIELD (1959) describes the subspecies *P. caligata angolense* after a single ♂ from Angola, differing from the typical form for the labrum bright red, bordered with black. I doubt that this subspecies is not valid. Some of my ♂♂ have a black labrum, others have it reddish, bordered with black.

Colouration in life of a ♂ from loc. 27:

Eyes and face blackish brown. Upper side of the head and mesopleurae (except mesinfraepisterna) yellow and black.

Mesinfraepisterna and most of metapleurae red and black.

Abdominal segments: I red; II-IV dorsally azure and black, lateral parts red; light dorsal areas of segments V-X azure. All the tibiae expanded, externally red, internally white. Pterostigma black.

The sexual behaviour of this species was described by POULTON (1928), FRASER (1949) and myself (CONSIGLIO, 1974).

3. SYSTEMATIC LIST OF THE ZYGOPTERA HITHERTO REPORTED FOR ETHIOPIA

(with probable synonyms)

Fam. Lestidae.

*Lestes cineraceus* Martin. = *pall.*  
PINHEY, 1966: Ethiopia (with some doubt).

*Lestes pallidus* Rambur.  
MARTIN, 1910: Abyssinie.

*Lestes radiatus* Martin. = *pall.*  
MARTIN, 1910: Abyssinie.

*Lestes regulatus* Martin.  
MARTIN, 1910: Abyssinie.

*Lestes somalicus* Förster. = *pall.*  
FÖRSTER, 1906: Bucka, Manefluss. Perhaps a synonym of *L. pallidus*.

*Lestes virgatus* (Burmeister)  
CONSIGLIO (this paper).

Fam. Protoneuridae.

*Elattonceura glauca* (Sélys).  
MARTIN, 1906 (sub *Disparoneura Simba*): Abyssinie.  
FÖRSTER, 1906 (sub *Disparoneura alba*): Webbigebiet, Gorobule.

*Elattonceura pasquinii* n.sp.  
CONSIGLIO (this paper).

*Notonceura africana* Schmidt.  
SCHMIDT, 1944: Massawa, Eritrea. After PINHEY (1962) it comes from the Solomon islands.

Fam. Platycnemididae.

*Metacnemis singularis* (Karsch).  
NIELSEN, 1939 (sub *Mesocnemis*): Malca Guba.

Fam. Coenagriidae.

*Agriocnemis exilis* Sélys.  
NIELSEN, 1936: Ogaden.

*Agriocnemis pygmaea sania* Nielsen.  
PINHEY, 1974: Errer near Gota.

*Ceriagrion glabrum* (Burmeister).  
FÖRSTER, 1906: Abai-(Awala-)See.  
NIELSEN, 1936: da Dimé a Bass Narok.  
LONGFIELD, 1952: Abyssinie.  
CONSIGLIO (this paper).

- Ceriagrion suave* Ris.  
CONSIGLIO (this paper).
- Enallagma elongatum* (Martin).  
NIELSEN, 1939: Arero.  
FRASER, 1947: Djem-Djem Forest.  
CONSIGLIO (this paper).
- Enallagma nigridorsum* Sélvs.  
CONSIGLIO (this paper).
- Enallagma somalicum* Longfield.  
KIMMINS, 1958: Erer near Gota.
- Enallagma subfurcatum* Sélvs.  
SÉLYS, 1786: Abyssinie.  
SÉLYS, 1881: Mahal Uonz.  
FÖRSTER, 1906 (sub *Ischnura* (*Aficronympha*) *schoana*): Adisabeba.  
RIS, 1908: Eritrea; Asmara.  
RIS, 1909: Agama.  
SJÖSTEDT, 1917 (sub *abessinicum*): Asmara.  
RIS, 1921: Eritrea; Harrar.  
NIELSEN, 1936: Mahal Uonz; Curi; Alio Amba; Cheren.  
SCHMIDT, 1951b: Alelu (S. Ethiopia).  
CONSIGLIO (this paper).
- Enallagma subtile* Ris.  
NIELSEN, 1946 (sub *subtile*): Gondaraba.
- Thermagrion webbianum* Förster.  
FÖRSTER, 1906: Ginea bei Ginir (Webbigebiet).  
An *Enallagma* after PINHEY, 1962.
- Ischnura abyssinica* Martin.  
MARTIN, 1906, 1922: entre Dire-Daoua et Harrar.
- Ischnura hilli* Pinhey.  
PINHEY, 1964b: Dire Dawa.
- Ischnura senegalensis* (Rambur).  
FÖRSTER, 1906: Akakifluss (Schoanisches Gebiet).  
RIS, 1909: Abessinien.  
MARTIN, 1922: entre Dirré-Daoua et Harar.  
NIELSEN, 1936: Merca.  
CONSIGLIO (this paper).
- Pseudagrion acaciae* Förster.  
RIS, 1909: Abessinien.  
NIELSEN, 1946: Gondaraba; Nargi.  
CONSIGLIO (this paper).
- Pseudagrion commoniae* (Förster).  
FÖRSTER, 1902 (sub *Erythronna*): Erythraea.

- Pseudagrion gerstaeckeri* Karsch  
FÖRSTER, 1906: Addis Abeba; Akakifluss; Abai-See (the last with some doubt). After  
PINHEY (1962) a ssp. of *spernatum*.
- Pseudagrion guichardi* Kimmins.  
KIMMINS, 1958: Cencia; Moggio.  
PINHEY, 1964a: Limu Rd.  
CONSIGLIO (this paper).
- Pseudagrion kaffenum* n.sp.  
CONSIGLIO (this paper).
- Pseudagrion kersteni* (Gerstäcker).  
MARTIN, 1922 (sub *praetextatum*): Kounhi.  
RIS & SCHMIDT, 1936: Abissinia.  
NIELSEN, 1936 (sub *praetextatum*): Ghinda.  
CONSIGLIO (this paper).
- Pseudagrion lindicum* Grünberg.  
NIELSEN, 1936: Benadir, Giuba, Giumbo.
- Pseudagrion massaicum* Sjöstedt.  
NIELSEN, 1946: Foci del Sagan.
- Pseudagrion punctum* (Rambur).  
FÖRSTER, 1906: Daroli; Gorobule; Gurra (all in Webbigebiet).  
This is a Malgassian species. These reports probably refer to *P. massaicum*  
after PINHEY, 1962.
- Pseudagrion salisburyense* Ris.  
NIELSEN, 1936: Girma.
- Pseudagrion spernatum spernatum* Sélvs.  
SÉLYS, 1881 (sub *spernatum*): Mahal Uonz.  
RIS, 1908 (sub *kersteni*): Mahal Uonz.  
RIS, 1909 (sub *kersteni*): Agama.  
RIS & SCHMIDT, 1936 (sub *spernatum*): Schoa; Harrar; Mahal Uonz; Addis Abeba.  
NIELSEN, 1936 (sub *Kersteni*): Mahal Uonz; Curi.  
NIELSEN, 1946 (sub *Kersteni*): El Dire.  
SCHMIDT, 1951a (sub *spernatum*): Addis Abeba; Madir Aloaba.  
PINHEY, 1964 a: Addis Ababa.  
CONSIGLIO (this paper).
- Pseudagrion sublactevum sublactevum* (Karsch)  
CONSIGLIO (this paper).
- Pseudagrion torridum* Sélvs.  
RIS, 1909: Abessinien.  
RIS & SCHMIDT, 1936: Abissinia.
- Pseudagrion tricornis* Pinhey.  
CONSIGLIO (this paper) (with some doubt).

Fam. Calopterygidae.

*Phaon iridipennis iridipennis* (Burmeister).

FÖRSTER, 1906 (sub *Sapho*): Manefluss (Webbgebiet).

Fam. Chlorocyphidae.

*Platyocypha caligata* (Sélys).

SÉLYS, 1853 (sub *Libellago*): Sémen.

SÉLYS, 1854 (sub *Libellago*): Schoa.

FÖRSTER, 1906 (sub *Libellago*): Gorobule; Mane (all in Webbgebiet).

RIS, 1909 (sub *Libellago*): Schoa.

CONSIGLIO (this paper).

#### 4. DISCUSSION

A general discussion concerning the Odonata of Ethiopia is intended to be made in a further paper containing the results of the study of the Anisoptera collected by the expeditions of the Accademia Nazionale dei Lincei. Here only the Zygoptera will be briefly dealt with.

32 taxa of Zygoptera had been recorded previously for Ethiopia, some of which are held to be very dubious. Among the material collected by the expeditions of the Accademia, 16 species were recognized, of which 7 had not previously been recorded from Ethiopia, two of the latter being new to science. Furthermore, some specimens belong to four other species which could not be recognized. It is clear that there is still much work to be done on the Odonata of Ethiopia. As far as the explored area is concerned (south-western Ethiopia), since some species were found at a rather large number of stations, one might think that the collection is rather representative of the fauna. However, it is probable that different species could be found by visiting the same area at another time of the year.

Some species seem to be localized in certain areas or at certain heights. Thus *Lestes virgatus*, *Elatoneura pasquinii*, *Agriocnemis* sp., the two species of *Ceriagrion*, the three species of *Enallagma*, *Pseudagrion kaffinum* and *P. kersteni* were only found in the Kaffa, and not below 1650 m above sea level. *Ischnura senegalensis*, *Pseudagrion guichardi* and *P. sphenatum* were also found in other regions but, again, never under 1650 m. In contrast, *Pseudagrion acaciae*, *P. sublactum* and *P. tricornis* (the last recognized with some doubt) were not found in the Kaffa, but only in the savanna or woodland regions between 900 and 1350 m.

SUMMARY. — After an historical survey of the odonatological researches in Ethiopia, the Zygoptera collected by the Zoological Expeditions in Ethiopia of the Accademia Nazionale dei Lincei are listed. The list contains 16 species, of which two are new to science and one was recognized with some doubt. For each species, the list of the stations where it was collected by the expeditions is given. Specimens of *Enallagma elongatum*, *Pseudagrion acaciae*, *P. guichardi*, *P. kersteni*, *P. sphenatum sphenatum*, *P. sublactum sublactum*, *P. tricornis* (?) and *Platyocypha caligata* show some feature which is different from

descriptions previously given by some authors or was not recorded by them; they are, therefore, partially or totally redescribed. The colouration in life is described for specimens of *Lestes virgatus*, *Pseudagrion acaciae*, *P. sphenatum sphenatum* and *Platyocypha caligata*. Isolated ♀♀ of *Agriocnemis* and three different species of *Pseudagrion* could not be classified.

*Elatoneura pasquinii* n. sp. resembles *E. tropicalis*, from which it is distinguished by the lighter thorax, the shape of the penis (which resembles that of *E. dorsalis*) and the shape of the prothoracic processes of the ♀ (which resemble those of *E. glauca*).

*Pseudagrion kaffinum* n. sp. is related to *P. guichardi*, from which it is distinguished by the pattern on the 8<sup>th</sup> and 9<sup>th</sup> abdominal segments, by shape of the superior anal appendage and by the shape of the penis. The female is not known.

A systematic list of the Zygoptera hitherto reported for Ethiopia is given. The synonyms already stated or supposed by various authors are reported. 32 species of Zygoptera had been recorded previously for Ethiopia, some of which are to be considered as very dubious. 9 of the 32 species have been found again by our expeditions. Some considerations are made about the work still to be done in Ethiopia and the distribution of some species.

#### LITERATURE

The papers marked with an asterisk (\*) contain faunistic reports of Odonata from Ethiopia.

- AGUESSE P. (1966) — *Contribution à la faune du Congo (Brazzaville). Mission A. Villiers et A. Descarpentries*. XXI. Odonates. « Bull. Inst. Fondam. Afrique Noire », (A) 28 (2), 783-797.
- BALINSKY B. I. (1963) — *A contribution towards the systematics of dragonflies of southern Africa*. « J. Ent. Soc. S. Afr. », 26 (1), 228-255.
- \*BRAUER F. (1868) — *Verzeichnis der bisher bekannten Neuropteren in Sinne Linne's*. 2. « Verh. k.-k. zool.-bot. Ges. Wien », 18, 176-182, 359-416, 711-743.
- BRIGNOLI P. M., C. CONSIGLIO, V. COTTARELLI & A. VIGNA TAGLIANTI (1977) — *General remarks about the first and second zoological expeditions to Ethiopia, organized by the Accademia Nazionale dei Lincei*. « Accademia Nazionale dei Lincei », Quaderno n. 243.
- \*CALVERT P. P. (1896) — *On the Odonate Aeschna Rileyi*. « Ann. Mus. Civ. St. Nat. Genova », (2) 16 (36), 631-632.
- \*CALVERT P. P. (1899) — *Neuropterous insects collected by Dr. A. Donaldson Smith in north-eastern Africa*. « Proc. Acad. Nat. Sci. Philadelphia », 1899, 228-244, Plate X.
- \*CAMPION H. (1923) — *Descriptions of three species of Notogomphus (Odonata) from East Africa*. « Ann. Mag. Nat. Hist. », (9) 12, 659-669.
- \*CONSIGLIO C. (1974) — *Some observations on the sexual behaviour of Platyocypha caligata caligata (Sélys) (Zygoptera: Chlorocyphidae)*. « Odonatologica », 3 (4), 257-259.
- DUMONT H. (1973) — *The genus Pseudagrion Sélys in Israel and Egypt, with a key to the regional species (Insecta: Odonata)*. « Israel J. Zool. », 22, 169-195.
- \*FÖRSTER F. (1902) — *Ueber Palaearctische Libellen*. « Karlsruhe Mitt. bad. zool. Ver. », 15, 69-81.
- \*FÖRSTER F. (1906) — *Forschungsreise durch Südschoa, Galla und die Somaliländer von Carlo Freiherr von Erlanger. Libellen*. « Jahrbücher Nass. Vereins Naturk. », 59, 299-344, Taf. A.
- \*FRASER F. C. (1947) — *The synonymy of Enallagma elongatum (Martin) and E. pseudelongatum Longfield, and their differentiation from a new African species (Order Odonata)*. « Proc. R. Ent. Soc. », (B) 16, 143-148.
- FRASER F. C. (1949) — *A revision of the Chlorocyphidae with notes on the differentiation of the Selysian species rubida, glauca, cyanifrons and curta*. « Inst. Roy. Sci. Nat. Belgique Bull. », 25 (6), 50 pp.
- FRASER F. C. (1950) — *A revision of the Chlorocyphidae, addenda with key to the Platyocypha and Chlorocypha and descriptions of new species*. « Inst. Roy. Sci. Nat. Belgique Bull. », 26 (18), 22 pp.

- \*FRASER F. C. (1960) — *The Crenigomphines of tropical Africa (Order Odonata, family Gomphidae)*. « Rev. Zool. Bot. Afr. », 61, 205–214.
- \*KIMMINS D. E. (1958) — *New species and subspecies of Odonata*. « Bull. British Museum (Nat. Hist.) », (Entomology), 7 (7), 349–358.
- \*KIRBY W. F. (1880) — XIII. *A Revision of the subfamily Libellulinae, with descriptions of new genera and species*. « Trans. Zool. Soc. London », 12 (9), 249–348, pl. 51–57.
- \*KIRBY W. F. (1898) — *On a collection of dragonflies from the Transvaal and Nyasaland*. « Ann. Mag. Nat. Hist. », (7) 2, 229–245.
- \*KIRBY W. F. (1900) — *Report on the Neuroptera Odonata collected by Mr. E. E. Austen at Sierra Leone during August and September 1899*. « Ann. Mag. Nat. Hist. », (7) 6, 67–79, Plate II.
- \*KITCHING R. (1967) — *Some insects from Lake Tana, Ethiopia*. « Ent. Mo. Mag. », 103, 268–272.
- \*KLOTS E. B. (1944) — *Notes on the Gomphinae (Odonata) with descriptions of new species*. « Amer. Mus. Novitates », n. 1250, 11 pp.
- LONGFIELD C. (1936) — *Studies on African Odonata, with synonymy and descriptions of new species and subspecies*. « Trans. R. Ent. Soc. London », 85 (20), 467–498.
- \*LONGFIELD C. (1952) — *Two new species of African Ceriagrion (Odonata), the type of C. coralinum Campion, and notes on the genus*. « Proc. R. Ent. Soc. London », (B) 21 (3/4), 41–48.
- LONGFIELD C. (1959) — *The Odonata of N. Angola. Part II. Companhia de Diamantes de Angola*. « Publicações culturais », n. 45, pp. 13–42, Lisboa.
- \*MARTIN R. (1906) — *Collections de M. Maurice de Rothschild, recueillies dans l'Afrique orientale anglaise: Insectes: Odonates nouveaux*. « Bull. Mus. Hist. Nat. Paris », 12, 508–514.
- \*MARTIN R. (1910) — *Contribution à l'étude des Névroptères de l'Afrique. I. Les Lestes d'Afrique*. « Ann. Soc. Ent. France », 79, 82–95.
- \*MARTIN R. (1915) — *Odonata*. In: *Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale, 1911–1912*, Résultats scientifiques. Pseudoneuroptera. II, pp. 19–50. Pl. I–III, Paris.
- \*MARTIN R. (1922) — *Odonates*. In: *Voyage de M. le baron Maurice de Rothschild en Ethiopie et en Afrique Orientale Anglaise (1904–1905)*, Résultats scientifiques. Animaux articulés. Première partie, pp. 248–262, Muséum national d'histoire naturelle, Paris.
- \*NAVÁS L. (1931) — *Spedizione del barone Raimondo Franchetti in Danalia. Insetti Neurotteri ed affini*. « Ann. Mus. Civ. St. Nat. Genova », 55, 147–153.
- \*NIELSEN C. (1936) — *Odonati dell'Africa Orientale Italiana*. « Boll. Soc. Entom. It. », 68 (8), 123–131.
- \*NIELSEN C. (1939) — *Odonata*. In: *Reale Accademia d'Italia, Missione biologica nel paese dei Borana*, 3, pp. 179–183, Roma.
- \*NIELSEN C. (1946) — *Missive biologica Sagan-Onu diretta dal Prof. Edoardo Zavattari. Odonata*. « Riv. Biol. Col. », 7, 119–126.
- PINHEY E. C. G. (1951) — *The Dragonflies of southern Africa*. « Transvaal Museum Memoir », n. 5, xv+335 pp.
- PINHEY E. C. G. (1956 [1955]) — *Some dragonflies of East and Central Africa and a rarity from Mauritius*. « Occ. Papers Coryndon Mus. », 4, 17–41. Pl. II–III.
- \*PINHEY E. C. G. (1961) — *A survey of the dragonflies (Order Odonata) of eastern Africa*. Trustees of the British Museum, London, vii+214 pp.
- \*PINHEY E. (1962) — *A descriptive catalogue of the Odonata of the African continent (up to December 1959)*. Companhia de Diamantes de Angola, Publicações culturais, n. 59, Part I pp. 1–161, Part II pp. 163–322, Lisboa.
- \*PINHEY E. (1964a) — *A revision of the African members of the genus Pseudagrion Selys (Odonata)*. « Revista Entom. Moçambique », 7 (1), 5–196.
- \*PINHEY E. (1964b) — *Further records of African dragonflies (Odonata)*. « J. Ent. Soc. South Africa », 26, 324–336.
- \*PINHEY E. (1966) — *Check-list of dragonflies (Odonata) from Malawi, with description of a new Teinobasis*. « Arnoldia », 2 (33), 24 pp.

- PINHEY E. C. G. (1967a) — *Odonates Zygoptères Odonata Zygoptera*. In: J.-J. SYMOENS (publ.ed.), *Exploration hydrobiologique du bassin du Lac Bangweulu et du Luapula Hydrobiological survey of the Lake Bangweulu Luapula River basin. Résultats scientifiques [Scientific results]*, 14, 3, 43 pp., Bruxelles/Brussels.
- PINHEY E. (1967b) — *African Chlorocyphidae (Odonata)*. « J. Ent. Soc. South Africa », 29, 161–197.
- \*PINHEY E. (1970) — *A new approach to African Orthetrum (Odonata)*. « Occ. Pap. Nat. Museum Rhodesia », 4 (30B), 261–321.
- \*PINHEY E. (1974) — *A revision of the African Agriocnemis Selys and Mortonagrion Fraser (Odonata, Coenagrionidae)*. « Occ. Pap. Nat. Mus. Rhodesia », (B) 5 (4), 171–278.
- POULTON E. B. (1928) — *The epigamic display of a male dragonfly Libellago caligata Selys, observed by Dr. G. D. H. Carpenter in Toro, Uganda*. « Proc. R. Ent. Soc. London », 3 (2), 38–40.
- \*RIS F. (1908) — 1. *Odonata. Nach den Sammlungen L. Schultze's und Katalog der Odonaten von Südafrika*. In SCHULTZE, *Forschungsreise im westlichen und zentralen Südafrika*, I, 1903–1905. « Jenaische Denkschr. med. nat. Ges. », 13, 303–346 (pp. 101–144 of the separatum).
- \*RIS F. (1909) — *Abessinische Libellen, gesammelt von Dr. Eduard Rüppell*. « Ber. Senckenb. naturf. Ges. », 40 (2), 21–27.
- \*RIS F. (1909–1910) — *Libellulinen monographisch bearbeitet*. In: *Collections zoologiques du Baron Edm. de Selys Longchamps, Catalogue systématique et descriptif*, fasc. IX–XVI, 1278 pp., Pl. I–VIII, Hayez, Bruxelles.
- \*RIS F. (1911) — *Zwei neue afrikanische Arten der Libelluliden-Gattung Orthetrum*. « Rev. Zool. Afr. », 1 (1), 125–131.
- \*RIS F. (1921) — *The Odonata or Dragonflies of South Africa*. « Annals South African Museum », 18, Part III (5), 245–452. Pl. V–XII.
- \*RIS F. & E. SCHMIDT (1936) — *Die Pseudagrion-Arten des kontinentalen Afrika*. « Abh. Senckenb. naturf. Ges. », n. 433, 68 pp.
- \*SCHMIDT E. (1944) — *Die erste afrikanische Notoneura-Art (Ordn. Odonata)*. « Mitt. deutsch. ent. Ges. », 12 (2/10), 43–45.
- \*SCHMIDT E. (1951a [1949]) — *Libellen aus portugiesisch Guinea, mit Bemerkungen über andere westafrikanische Odonaten*. « Arquivos Mus. Bocage », Lisboa, 20, 125–200.
- \*SCHMIDT E. (1951b). — *The Odonata of Madagascar. Zygoptera*. « Mém. Inst. Sci. Madagascar », (A) 6 (1), 115–279.
- \*SÉLYS-LONGCHAMPS E. DE (1853) — *Synopsis des Caloptérygines*. « Bull. Acad. Belg. Cl. Sci. », 2 (1), 20, Annexe, 73 pp.
- \*SÉLYS LONGCHAMPS E. DE (1854) (avec la collaboration de H. A. HAGEN) — *Monographie des Caloptérygines*. Muquart, Bruxelles et Leipzig, et Roret, Paris, XI+291 pp., 14 pl.
- \*SÉLYS LONGCHAMPS E. DE (1858 [1857]) (avec la collaboration de M. le docteur H. A. HAGEN) — III. *Monographie des Gomphines*. « Mém. Soc. R. Sci. Liège », 11, 257–720, pl. 1–23.
- \*SÉLYS LONGCHAMPS E. DE (1876) — *Synopsis des Agrionines (suite de la 5<sup>me</sup> Légion: Agrion). Le grand genre Agrion*. « Bull. Acad. Belg. Cl. Sci », (2) 41, 247–322, 496–540, 1233–1300; (2) 42, 490–531, 952–991.
- \*SÉLYS LONGCHAMPS E. DE (1878) — *Quatrieme additions au synopsis des Gomphines*. « Bull. Acad. Belg. Cl. Sci », (2) 46, 408–471.
- \*SÉLYS LONGCHAMPS E. DE (1881) — *Spedizione italiana nell'Africa equatoriale. Risultati zoologici. Odonati*. « Ann. Mus. Civ. St. Nat. Genova », 16, 222–225.
- \*SÉLYS LONGCHAMPS E. DE (1892) — *Causeries Odonatologiques. 6. Les Gomphines d'Afrique*. « Ann. Soc. Ent. Belg. », 36, 16, 22, 86–107.
- \*SJOESTEDT Y. (1917) — *Odonaten aus Abessinien, Ost- und Westafrika*. « Ark. f. Zool. », 11 (14), 27 pp., Taf. 1–5.