

AFRICALOLAMPRA EHRMANNI NEW GENUS AND SPECIES,
AND THE MALE OF PARAPLECTA PARVA PRINCIS
(BLATTARIA: BLABERIDAE).

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ABSTRACT

A new cockroach genus and species, *Africalolampra ehrmanni* (Epilamprinae) from Kenya, and the previously unknown male of *Paraplecta parva* Shelford (Perisphaeriinae) from Uganda, are described.

A new genus and species, *Africalolampra ehrmanni*, an ovoviparous cockroach from Kenya, is described. It is related to *Calolampra* and several other genera, and is placed in the Epilamprinae. The previously unknown male of African *Paraplecta parva* Princis is described, and its female is redescribed. All of the specimens on which this paper is based are housed in the Museum of Comparative Zoology, Harvard University (MCZ).

Africalolampra new genus

Diagnosis: Tegmina and wings fully developed in both sexes; apical end of the tegmina rounded, discoidal sectors longitudinal. Cubitus vein of hind wing with many incomplete, and few complete branches, apical triangle absent (Fig. 9). Anteroventral margin of front femur Type B₂ (Fig. 7); genicular spine absent from the fore femur, present on mid and hind femora; spines present on the antero- and posteroventral margins of all femora; pulvilli on 4 proximal tarsomeres; ventral margin of first tarsal segments with 2 rows of setae; tarsal claws symmetrical, ventral margins distinctly

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serrated, arolia well developed (Fig. 8). Male: First abdominal tergum with a medial specialization (Fig. 5). Subgenital plate weakly asymmetrical, apex rounded, with only a single, small, right style, left style absent (Fig. 6). Genitalia with 3 principal phallomeres (Fig. 4): Hook on the right side, without a preapical incision; median phallomere straight, unmodified, basal end rounded slightly broadened, tapering distally, L2d absent. Female: Ovoviviparous.

Comments: Roth (1981) presented a key to distinguish several genera that resemble *Calolampra* Saussure (Australia). These are: *Juxtacalolampra* Roth (Burma); *Princisola* Gurney and Roth (Sarawak); *Calolamprodes* Bey-Bienko (Burma, India, Sri Lanka, Thailand); *Pseudocalolampra* Roth and Princis (Africa). The serrated tarsal claws and single style separate *Africalolampra* from all the above taxa.

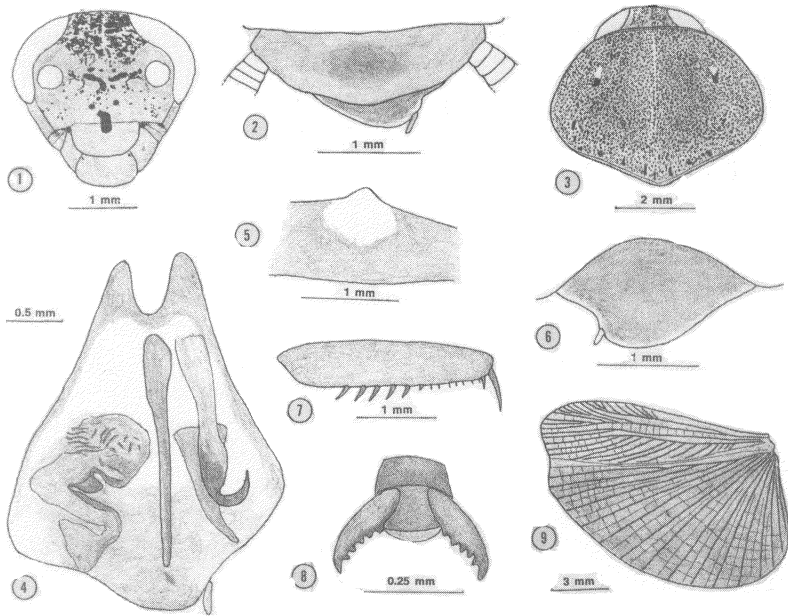
The following are the principal characters that separate the 2 *Calolampra*-like African genera, namely *Africalolampra*, and *Pseudocalolampra* (Roth and Princis, 1971):

Character	<i>Africalolampra</i>	<i>Pseudocalolampra</i>
Tegmina & wings	(♂) fully developed (♀) fully developed	(♂) fully developed (♀) apterous
Tarsal claws	serrated	simple
Median phallomere (♂)	apex unspecialized	apex specialized
No. of styles (♂)	one	two
Tergal gland (♂)	on first tergum	absent from all terga

Calolampra has been placed in the Epilamprinae (McKittrick, 1964; Roth and Princis, 1973), and I place *Africalolampra* in the same subfamily. Grandcolas (1993), using cladistic analysis, placed *Calolampra* (an ovoviviparous genus) in the Diplopterinae (which contains the only known viviparous species, *Diploptera punctata* Eschscholtz). This change requires confirmation.

Africalolampra ehrmanni new species

Material examined: Holotype, ♂, ca. 25 km north of Mombasa, Shimo la Tewa, Kenya, Africa, 13.vi.-4.vii.1987, Reinhard Ehrmann (from a culture maintained by Mr. Ingo Fritzsche, Wernigerode, Germany); in MCZ.



Figs. 1-9. *Aficalolampra ehrmanni* Roth, male paratypes from Kenya: 1. head; 2. supraanal plate, and apex of the subgenital plate showing the single style (dorsal); 3. pronotum; 4. subgenital plate and genitalia (dorsal); 5. glandular area on first abdominal tergum; 6. subgenital plate and style (ventral); 7. front femur (Type B₂ anterior view); 8. serrated tarsal claws, and arolium; 9. hind wing.

Paratypes: MCZ: same data as holotype, 4♂ (2 with terminalia slides 294 & 297), 1♀.

Description: Male: Interocular space less than the distance between antennal sockets (Fig. 1). Pronotum with hind margin produced medially (Fig. 3). Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors. Hind wing with subcosta extending well beyond the middle of the costal vein, cubitus vein with many incomplete and few complete branches, apical triangle absent (Fig. 9). Femora: Front leg, genicular spine absent; anteroventral margin with 4 to 8 large spines, succeeded by 6 to 10 piliform spinules, and terminating in 2 distal spines, the preterminal one very small,

(Type B₂; Fig. 7); posteroventral margin with 4 or 5 large spines; mid femur: genicular spine present; anteroventral margin with 5 (rarely 6) spines; posteroventral margin with 6 (rarely 5) spines; hind femur: genicular spine present; anteroventral margin with 5 (rarely 4 or 6) spines; posteroventral margin with 4 (rarely 5) spines; pulvilli apical on 4 proximal tarsomeres; hind metatarsus with 2 rows of spines the full length of the segment; tarsal claws symmetrical, ventral margins distinctly toothed, arolia well developed (Fig. 8). First abdominal tergum with a large, raised, fleshy, nonsetose, white glandular area (Fig. 5). Supraanal plate transverse, hind margin convex, entire (Fig. 2), right and left paraprocts weakly dissimilar. Subgenital plate weakly asymmetrical, the right side shallowly excavated and bearing a small cylindrical, white, fleshy style to the right of the midline (Fig. 6). Genitalia as in Fig. 4: Hook on the right side, the distal curved hook portion darkly sclerotized, without a preapical incision; also on the right side is a large trigonal sclerite; median phallomere a tapering rod, apex unspecialized, L2d absent; left phallomere with a distinct protruberance at the base of the cleft, and with the surface of its upper part wrinkled suggesting the convolutions of a brain.

Color: Head white, occiput and region of face above the clypeus speckled with small and large black dots and blotches (Fig. 1); maxillary palpomeres partly infuscated; antennae light brown. Pronotum densely covered with black dots (Fig. 3). Tegmina mottled with different sized reddish maculae. Hind wing with anterior field yellowish, posterior field weakly infuscated. Abdomen yellowish, the sterna covered with small dark spots. Legs pale. Cerci pale on both surfaces, apical segment black.

Female: Distinctly larger than male. Interocular space less than the distance between antennal sockets. Tegmina and wings fully developed. Spines on the ventral margins of the femora essentially as in male. Supraanal plate hind margin convex, shallowly indented medially.

Color: Differs strikingly from male as follows: Head with more dark spots on face (extending into the cheeks). Hind wings with some yellow extending into the apical region of the posterior field. Abdominal terga yellowish with broad black lateral bands, and a broad brown mediolongitudinal stripe, supraanal plate black. Abdominal sterna white, sprinkled with small and large black dots;

subgenital plate with a large dark brown macula anteromedially. Legs pale, coxae, femora, tibiae, and tarsi with small dark dots. Cerci white, apical segment black.

Measurements (mm) (♀ in parentheses). Length, 16.0–16.5 (18.0); pronotum length × width, 3.8–4.1 × 5.2–5.4 (4.7 × 6.6); tegmen length, 13.3–14.2 (17.0); interocular width, 0.9–1.0 (1.3).

Comments: The original specimens were collected in dense undergrowth in a damp *Galeria* woods. According to Mr. Ingo Fritzsche, the species is a good flyer.

Etymology: The species name is dedicated to the late Mr. Reinhard Ehrmann who originally collected and cultured the specimens.

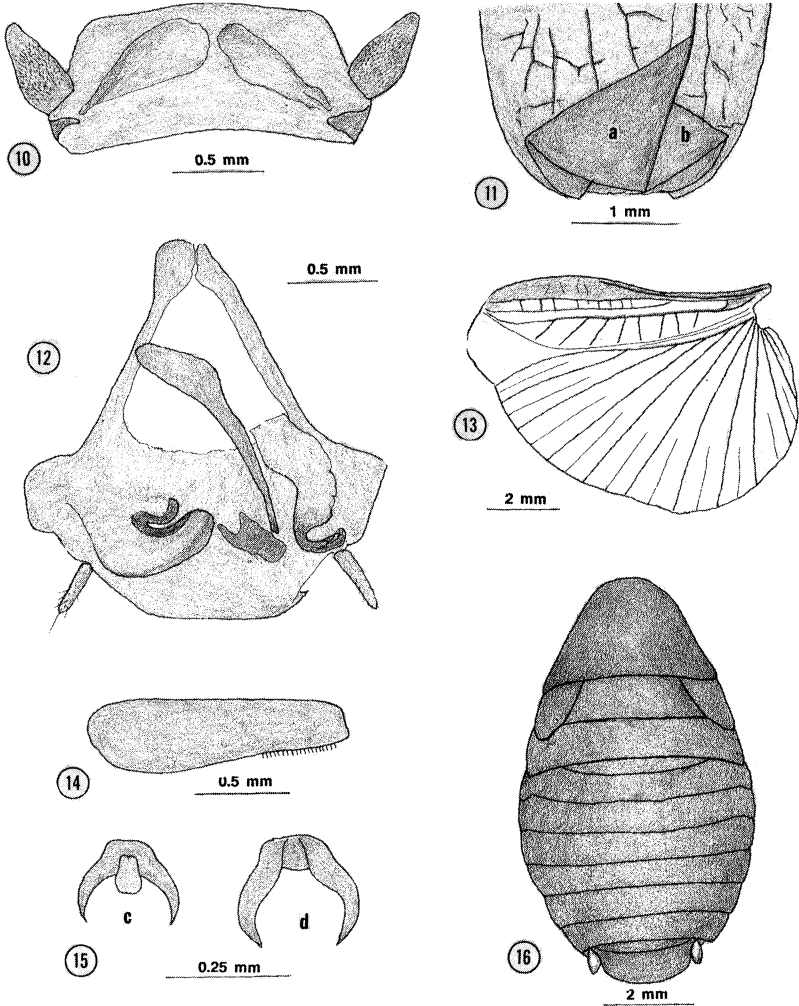
Paraplecta Shelford

Paraplecta Shelford, 1907; Princis, 1954, 1963a, 1964. Type species: *P. pallipes* (Stål) (= *Cirphis pallipes* Stål), by monotypy (for *Cirphis*).

Cirphis Stål, 1876 (nec Walker, 1865): Kirby, 1904.

Diagnosis (after Princis, 1963b; my additions in brackets, based on the male of *parva*): Male: Tegmina and wings fully developed [or tegmina reduced, wings vestigial]. Hind wing with strongly asymmetrical apical triangle [the apical triangle of *parva* is symmetrical when spread (Fig. 13) but is asymmetrically reflexed when at rest (Fig. 11)]. Anteroventral margin of front femur with “prickle-shaped” spines and without distal spines [the anteroventral margin of the front femur has a row of minute piliform spinules only without large proximal or terminal spines (Fig. 14)]; ventral margins of mid and hind femora completely unarmed; outer side of tibiae with 3 rows of spines; tarsal claws symmetrical, simple, with small arolia (Fig. 15c). Subgenital plate perispheroid type [i.e., with the right side of the hind margin excavated and with a pair of similar cylindrical styli (Fig. 12)]. [Genitalia with hook on the right side, median phallomere (L2vm) with a sclerite at its apex (L2d), left phallomere a cleft sclerite (Fig. 12)]. Female: Tegmina reduced to lateral pads, hind wings absent (Fig. 16). Arolia absent (Fig. 15d).

Comments: Princis (1964) listed 7 species of *Paraplecta*, a genus restricted to Africa. Earlier (1963b) he had presented a



Figs. 10–16. *Paraplecta parva* Princis, from Uganda. 10–14. males: 10. supraanal plate and paraprocts (ventral); 11. apical end of both hind wings folded in the resting position (dorsal; a and b = left and right wings respectively); 12. subgenital plate and genitalia (dorsal); 13. left hind wing; 14. front femur (anterior surface); 15. tarsal claws (c = male, with arolium; d = female, arolium absent); 16. female habitus.

female key to 6 of the species, and (1963b) described *P. parva* from a female only. The previously unknown male is described below.

Paraplecta parva Princis

Paraplecta parva Princis, 1963b (female).

Holotype (not examined). ♀, Nimba, Yalanzou [Guinea], in the Paris Museum.

Material examined: Uganda. MCZ: no exact locality, 6♂♂ (1 with terminalia slide 277), 1♀, 7.xii.1967, Barbara Stay (specimens determined by Princis, 1967).

Description: Male (previously unknown): Head slightly exposed, eyes wide apart, the interocular width greater than the space between the round ocellar spots, but about the same as the distance between antennal sockets, face smoothly rounded to the occiput. Pronotum subparabolic, widest behind the middle, sides deflexed, minutely punctulate. Tegmina and wings usually fully developed extending well beyond end of abdomen, the former reticulate, its anal field punctate. Hind wing with indistinct costal veins, the region very narrow; radial and media veins straight, simple, cubitus vein straight except apically where it curves anteriorly, with 8 veins that look like large cross veins reaching to the posterior cubitus, apical triangle well developed, symmetrical when spread, reflexed asymmetrically when at rest (Figs. 11, 13). One male had reduced tegmina that reached to the fifth segment, and its wings were vestigial. Anteroventral margin of front femur with a row of minute piliform spinules on about the distal third, no large spines present proximally or terminally (Type C₀; Fig. 14); spines absent from ventral margins of mid and hind femora; metatarsus of hind leg longer than the other tarsomeres combined; pulvilli present on 4 proximal tarsomeres, tarsal claws simple, symmetrical, arolia present but small (Fig. 15c). Abdominal terga unspecialized; supraanal plate transverse, trapezoidal; paraprocts weakly dissimilar (Fig. 10). Cerci short, not reaching beyond hind margin of the supraanal plate, segmentation absent but the lateral edges are weakly indented suggesting that at one time segments were present, surface covered with minute setae (Fig. 10). Subgenital plate asymmetrical, the right side weakly excavated and forming a small

spine at the distal margin of the excavation, apodemes distinctly oblique; styli similar, cylindrical, widely separated (Fig. 12). Genitalia as in Fig. 12: Hook on the right side, robust, with a preapical incision; median phallomere (L2vm) broad basad, tapering towards the apex where a separated sclerite (L2d) occurs; left phallomere a distinct cleft sclerite.

Color: Reddish brown. Pronotum has a lighter area along the anterior and part of the lateral margins.

Redescription: Female: Strongly convex, dorsal surface very finely punctulate. Head hidden, eyes wide apart, interocular space about the same as distance between antennal sockets, face smoothly rounded to the occiput. Pronotum convex, parabolic (Fig. 16). Tegmina reduced to lateral pads reaching beyond hind margin of the mesonotum, intertegmenal width more than twice the distance of the width of a tegmen, surface more coarsely punctulate. Hind wings absent (Fig. 16). Front femur Type C_0 (as in Fig. 14), pulvilli on 4 proximal tarsomeres, tarsal claws simple, arolia absent (Fig. 15d). Abdominal terga unspecialized (Fig. 16). Supraanal plate transverse, hind margin convexly rounded. Cerci short not reaching beyond hind margin of supraanal plate (Fig. 16). The terminal segments are slightly separated and an ootheca can be seen in the brood sac.

Color: Reddish brown, ventral surface and legs lighter. Cerci yellow dorsad, brown ventrad.

Measurements (mm) (brachypterous male in brackets; ♀ in parentheses). Length, 9.0–9.5 [7.8] (8.4); pronotum length × width, 2.0–2.3 × 2.9–3.1 [2.0 × 3.0] (2.3 × 3.8); tegmen length, 8.2–8.6 [4.3] (1.0); interocular width, 0.7–0.8 [0.8] (1.2).

Comments: Princis' type female was mainly black, somewhat broader, with longer tegmina than the above specimen (length, 8.5; pronotum length × width, 2.6 × 3.6; tegmen length, 1.6).

Females can be distinguished from five of their congeners by their body and tegmen sizes. *Paraplecta parva* and *P. minutissima* (Shelford) are smaller (body length 8–9 mm or less, pronotum 2.5–2.8 mm or less) than the other four species. In *parva* the intertegmenal width is greater than two times the width of a tegmen, and in *minutissima*, it is less than twice the width (Princis, 1963b).

The males of four species of *Paraplecta* are known and these can be separated by the following key (in part from Princis, 1963a):

1. Tegmina and wings reduced2
 - Tegmina and wings fully developed3
2. Tegmina almost reaching the end of the abdomen, the hind wing about one third its length (taken with ants; Princis, 1949)*minuta* (Shelford)
 - Tegmina reaching only to the fifth segment, wings vestigial*parva* Princis
3. Face strongly flattened, the margin between the eyes blending into the occiput*pallipes* (Stål)
 - Face not flattened, uniformly rounded to the occiput . . .4
4. Ocellar spots elliptical. Pronotum hexagonal, length \times width (mm), 2.6×4.5 *latiusmarginata* Princis
 - Ocellar spots round. Pronotum subparabolic, length \times width (mm) $2.0\text{--}2.3 \times 2.9\text{--}3.1$ *parva* Princis

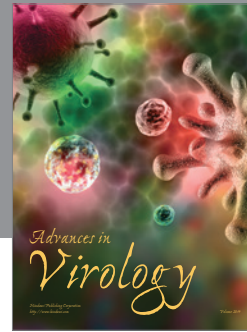
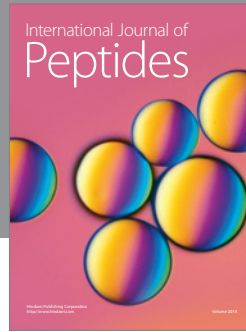
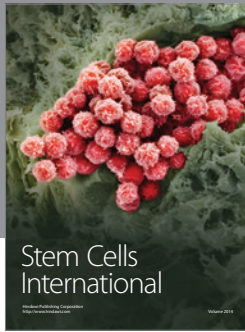
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