

## A new tribe, genus and species of clearwing moths from the Afrotropical Region

(Lepidoptera, Sesiidae, Sesiinae)

von

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**Summary:** In this paper a new genus of clearwing moths, *Afrokona* gen. nov. is erected in a new tribe *Euthrenini* trib. nov. and its type species *Afrokona aerea* sp. nov. from the Afrotropical region (Congo) is described and illustrated. The new tribe is closely related to *Paranthrenini* NICULESCU, 1964 and *Cissuvorini* DUCKWORTH & EICHLIN, 1977 and belongs to the subfamily *Sesiinae* BOISDUVAL, 1828. *Afrokona* gen. nov. is related to the genera *Nokona* MATSUMURA, 1931, *Scoliokona* KALLIES & ARITA, 1998 and *Adixoa* HAMPSON, 1893 but differs in some basical characters, described below.

**Zusammenfassung:** Aus der afrotropischen Region (Kongo) wird eine neue Gattung der Glasflügler, *Afrokona* gen. nov. in einer neuen Tribus *Euthrenini* trib. nov. und deren Typusart *Afrokona aerea* sp. nov. beschrieben und abgebildet. Die neue Tribus steht den *Paranthrenini* NICULESCU, 1964 und *Cissuvorini* DUCKWORTH & EICHLIN, 1977 sehr nahe und gehört zur Unterfamilie *Sesiinae* BOISDUVAL, 1828. *Afrokona* gen. nov. steht den orientalischen Gattungen *Nokona* MATSUMURA, 1931, *Scoliokona* KALLIES & ARITA, 1998 und *Adixoa* HAMPSON, 1893 am nächsten. Sie unterscheiden sich jedoch deutlich in einigen grundlegenden Merkmalen, die hier vorgestellt werden, von diesen.

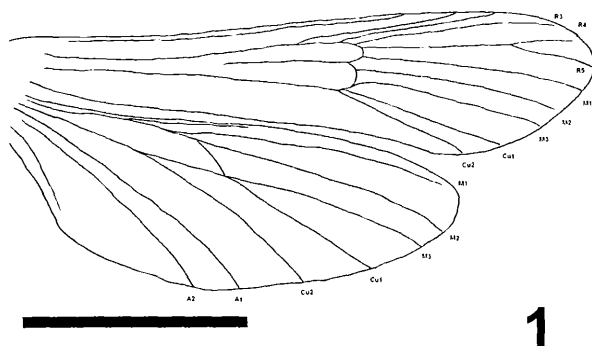
**Introduction:** In the first half of the 20<sup>th</sup> century an African insect collection was laid out in Belgish Congo under Belgian colonism. Today the collection is contained in the Royal Museum for Central Africa, Tervuren (Belgium). The sesiid moth collection has not been completely evaluated until today. In 2003 the author started to investigate parts of this collection and took a loan on some material. He has come across some highly interesting specimens showing morphological characters not known so far for genera of the Afrotropical region. Examinations have shown that two specimens belong to a new species representing a new genus and even a new tribe in the subfamily *Sesiinae* BOISDUVAL, 1828. The author describes the new tribe, the new genus and its type species herein.

*Euthrenini* trib. nov.

Type genus: *Afrokona* gen. nov.

**Description:** Medium to large sized clearwing moths. Antenna clavate with apical tuft of scales, ciliate only in male. Proboscis well developed, surely functional. Labial palpus long, covered with tufted scales. Abdomen long, giving a stout impression in comparison to the wings. Tibiae with hair-like scales in some parts, specialized scales longer and more developed in male than in female. Forewing narrow,  $R_4$  and  $R_5$  long stalked, all other veins separate,

Cu1 and Cu2 arising almost at the same point. Cu1 of hindwing arising at crossvein which completes cell in an acute angle; crossvein relatively long. (See Fig 1).



**Fig. 1.** Forewing and hindwing venation of *Afrokona aerea* gen. et spec. nov. (Holotype ♂). Scalebar 5 mm.

♂ genitalia. Tegumen and uncus well developed; tegumen long; gnathos elongated with a long sclerotized tongue-shaped process below the uncus; valva relatively short, of a quadratic form, possibly covered with multifurcate, specialized setae in addition to simple setae on parts of inner surface, crista sacculi well developed; aedoeagus reaching length of valva. with a few backpointing tooth-formed spines dorso-apically.

♀ genitalia. Papilla analis well developed possibly with simple hairs; 8th sternite strong sclerotized; anterior apophysis and posterior apophysis almost equal in length; antrum relatively short, ductus bursae long; corpus bursae with signum present.

**Differential Diagnosis:** The new tribe is closely related to *Paranthrenini* NICULESCU, 1964 and *Cissuvorini* DUCKWORTH & EICHLIN, 1977. From both it differs in the short quadratic form of the valva, in aedoeagus (not more than one spine dorso-apically in the genera compared). From *Paranthrenini* NICULESCU, 1964 it differs also in Cu<sub>1</sub> of hindwing (arising before crossvein in *Paranthrenini*). From *Cissuvorini* DUCKWORTH & EICHLIN, 1977 it differs also in structure of antenna (unipectinate in *Cissuvorini*), in venation (R<sub>3</sub> also stalked in *Cissuvorini*) and in form of elongate gnathos (not tongue-shaped in *Cissuvorini*).

**Constitution:** Presently this tribe consists of only the type genus *Afrokona* gen. nov.

#### *A f r o k o n a* gen. nov.

Type species: *Afrokona aerea* sp. nov.

**Description:** Medium to large sized clearwing moths with alar expanse about 33 mm. Antenna clavate with apical tuft of scales, ciliate only in male. Proboscis well developed, surely functional. Maximum wide of thorax somewhat more than head. Labial palpus about 2,3 mm long, covered with tufted scales. Abdomen long, covered throughout with simple scales and giving a stout impression in comparison to the wings. Tibiae with hair-like scales in

some parts, specialized scales longer and more developed in ♂ than in ♀. Forewing narrow, opaque, no transparent area developed;  $R_1$  and  $R_5$  long stalked, all other veins separate,  $Cu_1$  and  $Cu_2$  arising almost at the same point. Upper ATA-cell exceeding the lower one only a very little. Hindwing almost opaque in ♂, more transparent in female,  $Cu_1$  arising exactly at crossvein which completes cell in an acute angle; crossvein relatively long.

♂ genitalia. Tegumen long and well developed; uncus well developed with long hair-like setae apically; gnathos elongated and with a long sclerotized tongue-shaped process below the uncus; valva relatively short, quadratic, partly covered with strong multifurcate, hand-shaped, high specialized setae in addition to some simple setae on other parts of inner surface, crista sacculi triangular and well developed; aedoeagus reaching length of valva, with a few backpointing spines dorso-apically; saccus relatively short, vinculum thin but a few times larger than saccus.

♀ genitalia. Papilla analis long and well developed with short simple hairs apically; 8th sternite very extensive and strong sclerotized; anterior apophysis and posterior apophysis almost equal in length; antrum relatively short, ductus bursae long, most narrow basally; corpus bursae smoothly shaped, signum present.

**Differential Diagnosis:** The new genus is related to the genera *Nokona* MATSUMURA, 1931, *Scoliokona* KALLIES & ARITA, 1998 and *Adixoa* HAMPSON, 1893 of the tribe *Paranthrenini* (based on the hand-shaped setae of the valvae). From *Scoliokona* KALLIES & ARITA it differs in habitus (not long and slender but entirely stout abdomen in *Afrokona* **gen. nov.**) and the tip of the aedoeagus (sclerotized plate or plates instead of spines in *Scoliokona* KALLIES & ARITA). Furthermore *Afrokona* **gen. nov.** differs from all genera compared in venation of hindwing ( $Cu_1$  arising before crossvein in all (SPATENKA et al., 1999), but arising at the same point as  $M_3$  in *Afrokona* **gen. nov.**), in the conformation of tegumen and gnathos (much more larger and with tongue-shaped process in *Afrokona* **gen. nov.**), in the tip of the aedoeagus (without tooth-formed spines in the genera compared) and the very broad but short and quadratic valva (longer than broad in the genera compared). Gender is feminine.

**Constitution:** Presently this genus consists of only the type species *Afrokona aerea* **sp. nov.**

*Afrokona aerea* **sp. nov.** (Figs. 1–7)

Holotype ♂ (colour plate 7, fig. 2): Musée du Congo, Kafakumba, IX. 1933, leg. G. F. OVERLAET; coll. Royal Museum for Central Africa, Tervuren, Belgium.

Paratype ♀ (colour plate 7, fig. 3): Musée du Congo, Kafakumba, IX. 1933, leg. G. F. OVERLAET; coll. Royal Museum for Central Africa, Tervuren, Belgium.

**Derivatio nominis:** The name of the species is taken from the latin word “aereus”, in agreement with the bronze coloured scales of the wings.

**Description:** Alar expanse 34 mm in holotype ♂, 32 mm in paratype ♀; body length 19 mm in holotype, 17 mm in paratype; length of forewing 14 mm in holotype, 13 mm in paratype. Head. Antenna reddish-brown with metallic sheen, softly clavate; frons covered with brownish-grey scales, more bright ventrally. Labial palpus covered with straw coloured scales

dorsally and bright brown scales ventrally changing more dark brown laterally, apically with long tufted scales exceeding the head only a little.

Thorax. Patagia narrow and un conspicuous, coloured like labial palpus. Tegula brownish-grey with a bronze metallic sheen. Mesothorax brownish-grey, metathorax changing to reddish-grey. Legs bronze to brownish-grey, mid and hind tibia entirely tufted with long hair-like and brownish-black scales ventro-laterally (in male more developed than in female), tarsi without specialized scales. Hind tibia of all legs dorsally with straw coloured simple scales and long darker scales ventrally (especially hind legs). Mid tibia of hind legs a few bright straw coloured scales in the upper part internally.

Abdomen. Densely covered with brown scales, all sternites with a narrow straw-yellow stripe medially. First and second tergite with long straw coloured hair-like scales dorso-laterally. Segments 3 and 4 with straw coloured simple scales laterally, segment 5 laterally mixed with a few simple straw coloured scales, segments 6 to 8 dorsally without straw coloured scales. Anal tuft darker brown, dorsally developed only.

Wings. Forewings narrow in comparison to abdomen, densely covered with bronze to reddish-brown scales, almost unicoloured, opaque throughout, no transparent area developed, with a bright blue to violet sheen especially on underside, discal spot not perceptible. Hindwing sparsely (outer margin densely) covered with reddish-brown scales in male, in ♀ all cells almost transparent (outer margin also densely covered with reddish-brown scales like in ♂), with a bright blue to violet sheen on both upper- and underside, even single scales reflecting blue light under microscope. Anal area transparent in both sexes. Discal spot strongly reduced.

♂ genitalia (fig. 4-7). Tegumen long and well developed, strong sclerotized throughout; uncus well developed with long but simple setae dorsally and a few even longer hair-like setae ventro-apically; gnathos elongated, even more sclerotized, with a tongue-shaped process below the uncus that reaches more than half of its length; valva relatively short (broader than long), dorsal half of inner surface densely covered with strong multifurcate, hand-shaped, high specialized setae, all pointing to direction of anellus, less and simple setae on inner margin, crista sacculi triangular almost without setae; aedoeagus as long as valva, less sclerotized basally, with a few strong and backpointing tooth-formed spines dorso-apically; saccus very short and rounded, vinculum thin but of large expanse.

♀ genitalia (fig. 2, 3). Papilla analis long, thin and well developed with short simple hairs; 8th sternite very long and strong sclerotized; anterior apophysis and posterior apophysis almost equal in length, anterior apophysis remarkably strong basally; antrum short with a little ring, ductus bursae long, very narrow basally; corpus bursae smoothly shaped, signum well perceptible, forming a concave area with numerous spinules.

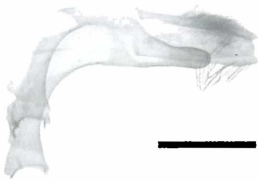
**Diagnosis.** Based on the presented features *Afrokona aerea* gen. et sp. nov. cannot be confused with any other species belonging to the compared and related genera. Furthermore, some of its genitalmorphological characters are new for science. Most likely there will appear more congeners of the new species in the Afrotropical region in future.



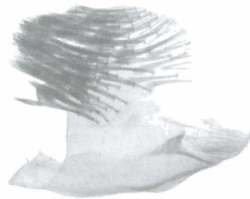
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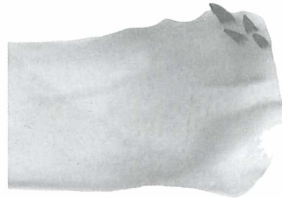
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Fig. 2: *Afrokona aerea* gen. et spec. nov., Paratype ♀, genitalia. Scalebar 1 mm.

Figs. 3 - 7: *Afrokona aerea* gen. et spec. nov., Holotype ♂, genitalia. 3: Vinculum and saccus; 4: Tegumen, uncus and gnathos; 5: Valva; 6: Aedoeagus and anellus; Scalebar 1 mm. 7: Tip of aedoeagus.

Habitat and bionomics: The host plant is unknown. The moths were collected in September 1933, in the time of Belgian colonism.

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Colour plate 7/ Farbtafel 7, p. 287

Fig. 2: *Afrokona aerea* gen. et spec. nov., Holotype. ♂, Musée du Congo, Kafakumba, IX. 1933, leg. G. F. OVERLAET.

Fig. 3: *Afrokona aerea* gen. et spec. nov., Paratype ♀, Musée du Congo, Kafakumba, IX. 1933, leg. G. F. OVERLAET.

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