

Cymothales annisancti Navás, 1926 is a valid species (Neuroptera: Myrmeleontidae)

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ÁBRAHÁM, L.: *Cymothales annisancti* Navás, 1926 is a valid species (Neuroptera: Myrmeleontidae).

Abstract: *Cymothales annisancti* Navás, 1926, formerly kept as a synonym. On the basis of a *Cymothales* specimen from Republic of Guinea we concluded, it is conspecific with the type of *Cymothales annisancti* Navás, 1926. The valid taxon is compared to *Cymothales liberiensis* van der Weele, 1904. With 8 figures.

Keywords: antlion, *Cymothales*, new status, Africa

Introduction

Myrmeleontidae (antlions) is the richest family in species (more than 1500 described species) of the order Neuroptera (STANGE 2004, OSWALD 2019). Most of them are associated with arid habitats: deserts, semi-deserts, savannahs but many species also occur in tropical and subtropical forests.

The antlion fauna of Africa is lesser known. MANSELL (2010) mentioned the occurrence of 58 valid genera 447 valid species based on 273 publications. The number of synonymous taxa is also high (102 generic synonyms and 230 species synonyms). It is likely that descriptions of new species and new synonym taxa will be found in significant numbers in the future.

Only a small part of the African antlion fauna has been revised (eg. MANSELL 1985, 1987, 1990, 1992, 1996, 2018a,b, MICHEL & MANSELL 2010).

One of the most imposing genera of medium to large sized species is *Cymothales* Gerstaecker, 1894, whose distribution extends from the savannahs to the tropical forests of Africa (MANSELL 1987). Its species have significantly different lifestyles than those found in large numbers in dry habitats, as its larva develops in caves of trees (MANSELL 1987, STANGE 2004). During the revision (MANSELL 1987) of the genus *Cymothales*, 17 species from Africa were listed. Later, HÖLZEL (2001) described a new species from the Southwestern Arabian Peninsula (Yemen) where the vegetation is drought deciduous thorn woodlands and shrublands. The fauna of this area has a strong African influence and it is a transitional area between the Tropical and the Palearctic zone.

Recently, I received a few antlion specimens from Guinea, in which I found a *Cymothales* specimen with strange colour pattern. After a thorough examination, I found my specimen from Guinea is morphologically conspecific with *Cymothales annisancti* Navás, 1926, which was considered as synonym name (MANSELL 1987).

Material and methods

Cymothales annisancti Navás, 1926

The type is preserved in Musée Royal de l'Afrique Centrale, Tervuren, Belgium (MRAC) (Fig. 1).

1♂ "/ TYPE [red label with double black margins] // Typus [red label with Navás's handwriting] // Musée du Congo / Barumbu / 11-XII-1920, / L. Ghesquière [blue label in printed letters] // Cymothales / rex Nav. [with Navás's handwriting] / P. Navás S. J. det. [printed] [blue label] // R. DÉT / O / 1203 [white label] // MRAC - Tervuren / data-base No / MRAC00008 [white label] // CYMOTHALES / LIBERIENSIS / V.D. WHEELLE / Det. M. W. Mansell, 1986 [white label with Mansell's handwriting] /"

In Navás (1926a): "Congo belgicus Barumbu 11.XII.1920, L. Ghesquière" Mus. Congo belg."

The type specimen is labelled as "*Cymothales rex*" by Navás but in Navás (1926a), the name associated with the type of *Cymothales annisancti* in his paper. The name is attributed by MANSELL (1987) to NAVÁS (1926a) (OSWALD 2019).

The type condition is poor, tip of abdomen, several legs and antennae lost, left forewing glued.

The second specimen is preserved in the entomological collection of Rippl-Rónai Museum, Kaposvár (SCMK):

"/ 1♂ // NeuMyr931 // WEST AFRICA / Republic of GUINEA / N'Zerekoré Region Mt. Nimba / Ziela SSMN / 535m N7.71559° W8.35710° / 2017.03.12-04.09. / Leg: Gergely Petrányi [white label] // Cymothales annisancti / Navás, 1926 / Det. Ábrahám L. [white label] /" (Fig. 3).

Cymothales liberiensis van der Weele, 1904 (Fig. 2)

New records in the entomological collection of Rippl-Rónai Museum, Kaposvár (SCMK) (Fig. 4).

"/ 1♀ // NeuMyr928 // Ghana /Eastern Region / Bunso Arboretum / 12-20.X.2009/ Leg: Sáfián Sz., Walker A., Davey S., Onstein R. /"

"/ ♀ // NeuMyr929 // Ghana WLI Volta Region / Agumatsa Hohoe District / N:07°06,909' E:00°35,346' / 2005.04.13-15. / Leg: Sáfián Sz., Csontos G., Kormos B. /"

"/ 1♂ // NeuMyr930 / Ghana Central Region / Abrafo Kakum Forest / 5°21'26.28"N 1°22'16,61"W / 2009.03.08-11. / Leg: Sáfián Sz. /"

"/ 1♀ // NeuMyr931 // Cameroon Southwest Region / Mt. Cameroon Fako District / Bamboo Camp / 14-23.II.2016 / Leg: Sáfián Sz., Tropek R., Maicher V. /"

"/ 1♀ // NeuMyr931 // WEST AFRICA / Republic of GUINEA / N'Zerekoré Region Mt. Nimba / Ziela SSMN / 535m N7.71559° W8.35710° / 2017.03.12-04.09. / Leg: Gergely Petrányi [white label] // Cymothales liberiensis / van der Weele, 1904/ Det. Ábrahám L. [white label] /"

in USMB – Upper Silesian Museum Bytom Poland

"1♀ Burkina Faso, Diabo, 24 VII 1997, leg. D. Skibiński (USMB 5858/1048)"

"1♀ Cameroon, Ebogo, 15 km S of Mbalmayo, 90 km S of Yaunde, 4-16 IV 2013, at light, leg. G. Kowalska".

The habitus photos were taken by Canon EOS 400 digital camera equipped with flash light system (Sigma EM140 DM). The layers of photos were processed with Adobe Photoshop software.

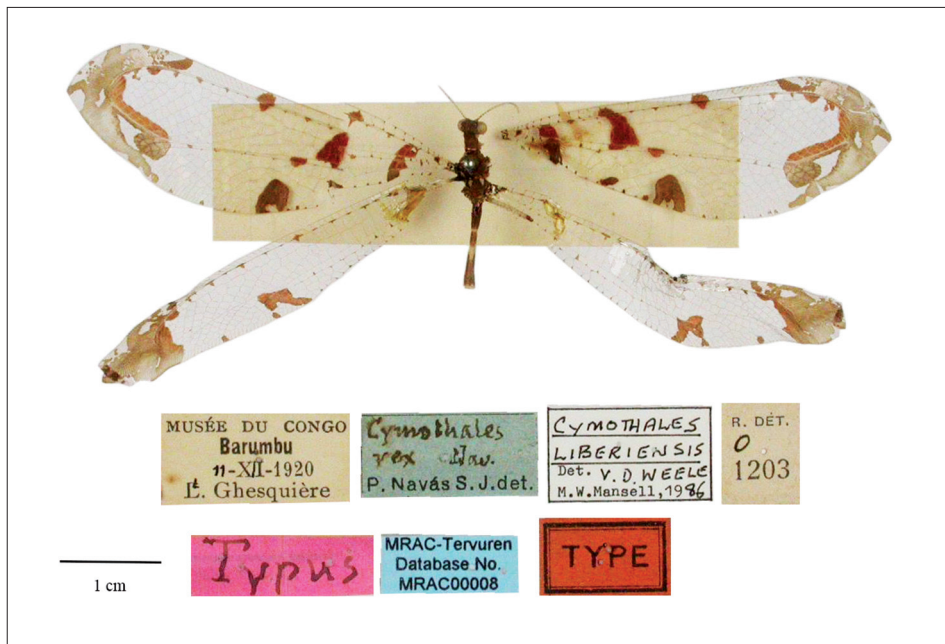


Fig.1: Type of *Cymothales annisancti* Navás, 1926 preserved in MRAC, Tervuren

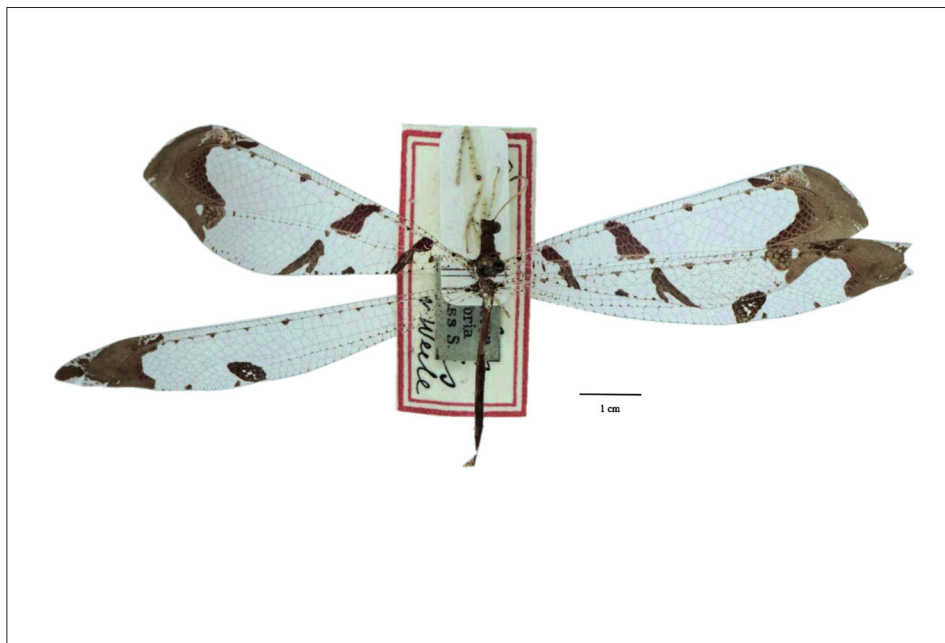


Fig. 2: Type of *Cymothales liberiensis* van der Weele, 1904 preserved in ZMHB, Berlin

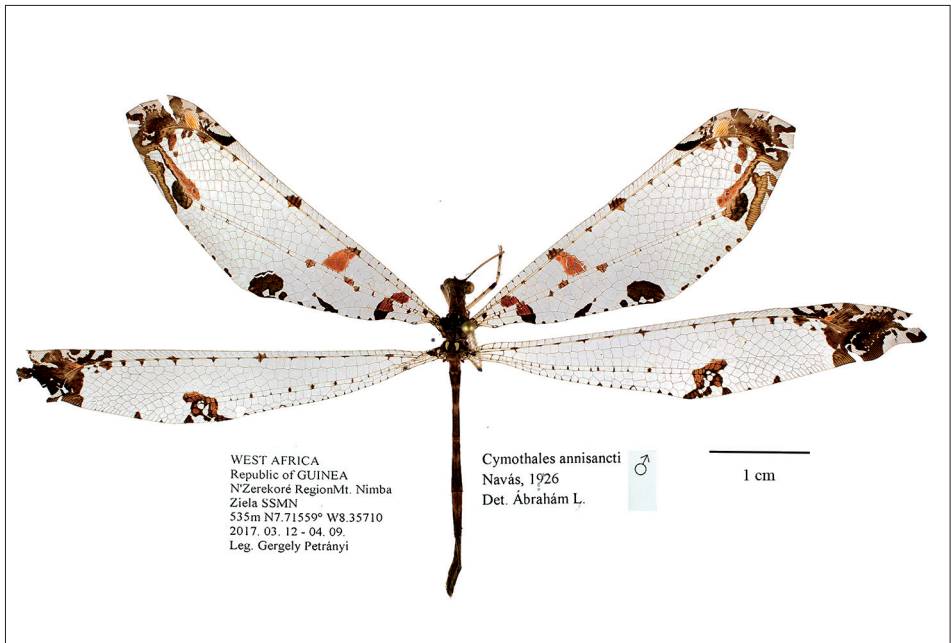


Fig. 3: Habitus of the second specimen of *Cymothales annisancti*

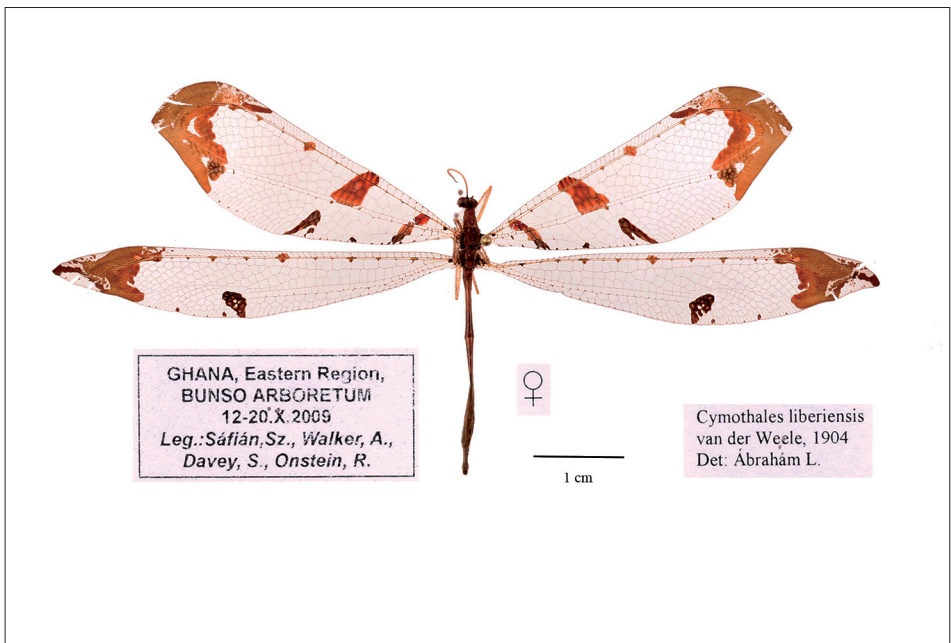


Fig. 4: Habitus of *Cymothales liberiensis*

Results and discussion

From Guinea, in the specimens of the identified material were greater morphological differences between the two *Cymothales* specimens. Based on MANSELL'S (1987) paper, one of them proved to be *Cymothales liberiensis* van der Weele, 1904 but the other one was different. Later I also checked the synonymous type specimens and found *Cymothales annisancti* Navás, 1926 in the collection of Musée Royal de l'Afrique Centrale, Tervuren, Belgium (MRAC) to be the same with my specimen. The type specimen is in poor condition, antennae most of the legs and the end of the abdomen are missing but it could still be found that the specimen collected in Guinea was conspecific with the type specimen of *Cymothales annisancti* Navás, 1926 and taxonomic status is valid.

Therefore, I give a more detailed characterization and illustrations of the second known specimen of this species, in order to make it easier to distinguish between the two species in the future.

Characters for *Cymothales annisancti* Navás, 1926

Head. Vertex square shaped in frontal view, dull brown and hairless; frons, clypeus and labrum shiny brown entirely, clypeus margins with sparse shiny brown hairs, labrum with sparse shiny ocher-brown hairs directed ventrally. Gena brown with small yellow spot above arising mandibula, hairless (Fig. 5). Antenna clavate. Scape, pedicel brown, distal part of pedicel with narrow yellow ring. Flagellomeres (1-5) brown dorsally, others yellow dorsally and ventrally. Mandible shiny brown with black inner margin. Maxillar and labial palps brownish yellow. Eyes large and shiny bronze brown. Goitre shiny brown (only on male) present, sclerotized sac-like structure on the postmentum. (Fig. 6).

Thorax: Pronotum at least twice longer than wide, light brown, with two small yellow stripes dorso-laterally and with narrow yellow lateral margin on prescutum. Pronotum with sparse outstanding pale hairs laterally. Mesonotum and metanotum dark brown with two distinct yellow stripes on mesoprescutum and metascutum. Pubescence on mesonotum and metanotum sparse very short pale. Pleurites dark brown with distinct yellow margins along suturae and with sparse short pale hairs.

Legs: (Fig. 6) coxae brown; trochanters, femora, tibiae slender, yellow with a few dark brown spots and sparse short outstanding black bristles in two rows ventrally. Narrow brown ring on distal parts of femora and tibiae. Femora as long as tibiae. Tarsal segments yellow with short pale bristles. Basitarsi as long as tarsal segment 5 on fore and middle legs. Tarsal segment 1 slightly longer than tarsal segment 5 on hind leg. Tibial spurs as long as tarsal segment 1-2 combined.

Wings. Narrow hindwing is longer than broad forewing, tip of wings subacute but not falcate, pattern on wing bicoloured dark brown and dark burgundy (Fig. 7). In forewing complete basal band oblique bicoloured, sectoral band divided out, long oval shaped in originating of radial sector, slightly oval shaped on hind margin. Pattern in apical area strongly fragmented. Pterostigma yellow with 4-5 forked pinkish veins. Presectoral area with 2 crossveins and 6 irregular double cells. Rs with 8-12 branches.

Tip of hindwing subacute and falcate, pattern in apical area and on hind margin also fragmented. Pterostigma small brown with 3 pinkish veins. Presectoral area with 1 crossvein. Rs with 12-14 branches.

Abdomen. Shorter than wings. Tergites brown with indistinct oval yellow spot on tergite 2-5 dorso-medially. Sternites yellowish-brown. Pubescence short, pale.



Fig. 5: Head of the second specimen of *Cymothales annisancti* in frontal view



Fig. 6: Legs and goitre of *Cymothales annisancti* in lateral view, red arrow shows the goitre



Fig. 7: Wings of the second specimen of *Cymothales annisancti*

Table 1: Differncial characters between *Cymothales annisancti* and *Cymothales liberiensis*

Differencial characters	<i>C. annisancti</i>	<i>C. liberiensis</i>
Submentum	brown	pale
Pronotum	brown with 2 yellow spots	unicolour brown
Goitre (male)	present	absent
Sectoral band pattern on hind margin	oval shaped mark	rectangle shaped mark
Pattern in apical area in forewing	strongly fragmented bicolour	less fragmented uniformly brown
leg pattern on distal parts of femora and tibiae	narrow brown ring	without any patterns, pale
Tergites	brown with larger indistinct yellow spots	unicoloured brown
Sternite 9 in ventral view	distal edge incised	distal edge arched

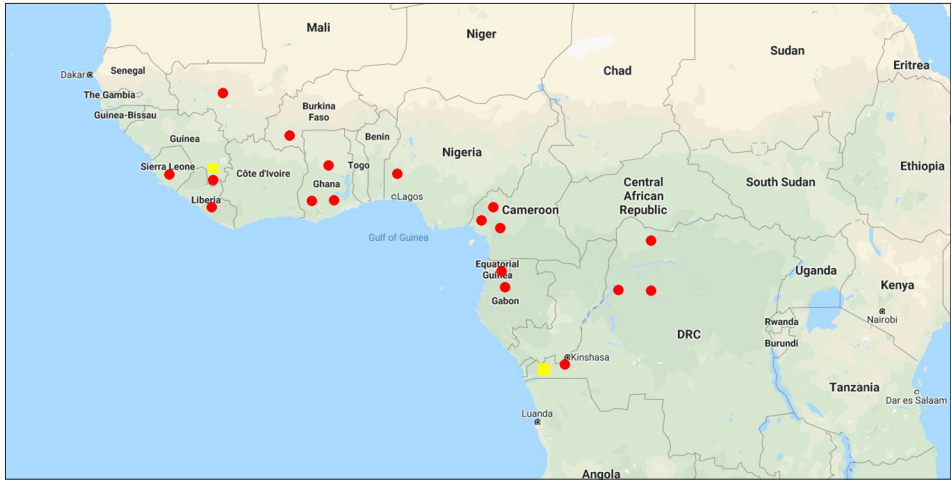


Fig. 8: Distribution of *Cymothales liberiensis* (red circle) and *C. annisancti* (yellow quadrat)

Distribution: Both species spread from tropical West Africa to tropical central Africa. (Fig. 9)

Cymothales annisancti Navás, 1926

Zaire (NAVÁS 1926a, 1926b), Guinea (a new record for the fauna in coll. SCMK).

Cymothales liberiensis van der Weele, 1904

Distribution in Africa: Burkina Faso (PROST 2015), Cameroon (VAN DER WEELE 1905, BANKS 1911, MANSELL 1987, PROST 2015), Ghana (a new record for the fauna in coll. SCMK), Guinea (KLAPÁLEK 1906, PROST 2015), Gabon (AUBER 1956, PROST 2015), Ivory Coast (AUBER 1956, PROST 2015), Liberia (VAN DER WEELE 1904, type), Mali, Nigeria (MANSELL 1987, PROST 2015), Sierra Leone (BANKS 1911), Zaire (NAVÁS 1911, 1919 [1921], 1925, 1929, 1936, MANSELL 1987, PROST 2015).

Species of the genus *Cymothales* occur only in the Afrotropical zone. *Cymothales vanharteni* Hölzel, 2001, found in the southern Arabian Peninsula, proves that this area is also heavily influenced by African fauna. According to MANSELL's (1987) revision, most species in the genus can be divided into two groups: the *illustris*-group and the *mirabilis*-group, *Cymothales liberiensis* and *Cymothales annisancti* belong to the *mirabilis*-group.

MANSELL (1987) did not mention of the goitre. The functional role and potential taxonomic significance of goitre is unknown (STANGE, 2004, KRIVOTHATSKY 2011), it is present in several tribes eg. Dendroleontini, Myrmecaelurini, Brachynemurini.

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