A Kaposvári Rippl-Rónai Múzeum Közleményei 10: 59-64 Kaposvár, 2026 https://doi.org/10.26080/krrmkozl.2026.10.59
ISSN 2064-1966 (Print); ISSN 2631-0376 (Online) http://www.smmi.hu/kiadvanyok/KRRMK.htm

Redescription of *Pseudopalpares campanai* (Navás, 1915) comb. n. (Neuroptera: Myrmeleontidae) from Angola

LEVENTE ÁBRAHÁM[1] & ZOLTÁN PAPP[2]

[1]Rippl-Rónai Museum H-7400 Kaposvár, Hungary, email: labraham@smmi.hu; https://orcid.org/0000-0002-8007-7117
[2]Budapest, Hungary, e-mail: zoltanpapp1956@gmail.com

Abstract: The taxonomic status of the species, *Palpares campanai* Navás, 1915 was uncertain in the literature. Based on a recently collected male specimen in Angola, the morphological features were studied. The species moved to a new combination as *Pseudopalpares campanai* (Navás, 1915) (**comb. n.),** and the lectotype specimen is designated (**present designation**). The authors have checked the type specimen and provided a redescription. Furthermore, the characteristic features are illustrated with colour photographs, and a distribution map is also given.

Keywords: taxonomy, new combination, redescription, Angola

Introduction

The Neuroptera fauna of Angola is among the least studied on the African continent. Mansell (2023) provided a brief overview comparing the lacewing fauna of Angola with that of Namibia. In neighboring Namibia, there are 148 species in ten neuropteran families, whereas Angola has only 36 species in five families. In both countries, the antlions show the highest diversity among the lacewings. Stange's (2004) worldwide catalog listed 32 antlions from Angola, but *Palpares campanai* Navás, 1915 is missing from his catalog; otherwise, the type locality of the species is in Angola.

The paper by Handschin & Markl (1955) significantly contributed to the study of the Neuroptera fauna of Angola; they reported the occurrence of 32 species, 19 of which were antlions.

Prior to this, the literature contains only descriptions of new species by Gerstaecker 1888, Navás 1912, 1915, 1936, Esben-Petersen 1931, 1933, Banks 1941, Prost 2018. In the case of antlions, the following species were described from Angola: *Palpares aegrotes* Gerstaecker, 1888, *Palpares ertli* Navás, 1912, *Palpares campanai* Navás, 1915, *Parapalpares dalmeidarum* Prost, 2018, *Myrmeleon orestes* Banks, 1941, *Creoleon tarsalis* Navás, 1936, *Distoleon crampeli* (Esben-Petersen, 1933), *Distoleon guttata* (Navás, 1931), *Distoleon monardi* (Esben-Petersen, 1931), *Neuroleon inspersus* (Navás, 1926).

P. campanai is documented very rarely in the literature; no illustration of the species has been published. Esben-Petersen (1928) considered it a synonym, therefore its species status remained uncertain. Recently, two Palparini species, *P. dalmeidarum* and *P. parvopunctatus*, were documented by Prost (2018) and Papp (2025) in the modestly studied fauna of Angola.

Based on a fresh specimen of *P. campanai* collected in Angola, the authors were able to reexamine the morphological characteristics of the specimen and prepared a new diagnosis and description.

Material and methods

This morphological study is based on specimens from two collections. The female type specimen is preserved in the Museu de Ciències Naturals de Barcelona (MCNB), Spain, and the recently collected male specimen comes from the second author's private collection (Budapest, Hungary). In addition, all information for the species in the relevant literature is checked.

The habitus photos were taken by Canon EOS 6DM2 digital camera equipped with a Canon macro lens 100 mm and a flashlight system (Godox MS 300). Later, the layers of photos were processed with stacking and Adobe Photoshop software.

According to traditional methods, the caudal part of the abdomen was removed, treated with a 10% KOH solution, and heated for 15 minutes. After cooling, it was rinsed in distilled water. For taking photos, the genitalia was placed in glycerine in a Petri dish. Finally, each genitalia was transferred into glycerine in a microvial for preservation.

The terminology for male genitalia follows Aspöck et al. (1980), Aspöck & Aspöck (2008), and Badano et al. (2017), and the terminology and homology of wing venation follow Breitkreuz et al. (2017). The distribution map was made using the SimpleMappr software (Shorthouse 2010).

Abbreviations: Dist – Distribution; AList –Annotated list; Odescr – Original description; Syn – Synonym; Type – Type material; Sys, Biog – Systematics, Biogeography.

Taxonomy

Tribus **Palparini** Banks, 1911
Genus ***Pseudopalpares*** Insom & Carfi, 1988

Pseudopalpares campanai (Navás, 1915) **comb.n**.

Palpares campanai Navás, 1915: 9 (Odescr), Esben-Petersen 1928: 207 (Syn), Monserrat 1985: 242 (Type), Mansell & Aspöck 1990: 292 (Dist), Mansell 2000: 174 (Dist), Ábrahám 2023: 46 (AList), Hévin et al. 2023: 6 (Sys, Biog).

Type material: / Typus // Palpares / campanai Nav. / Navás S. J. det. // Paris Museum / Angola / Huilla / P. Campana 1886 /. Lectotype ♀ Palpares campanai Navás, 1915 is designated by L. Ábrahám 2026 (Fig. 1) (**Present designation**). Preserved in the Museu de Ciències Naturals de Barcelona (MCNB), Spain (Monserrat 1985).

Fig. 1. Habitus of lectotype female Palpares campanai Navás, 1915, preserved in MCNB

Additional material examined: 1♂ ANGOLA, Huila Prov. NW Lubango, Tundavala Restaurant 14°50,339S, 13°24,225E, 2078m, 27.02.2024, P. und V. Schüle leg. (Fig. 2A).

Preserved in Z. Papp's private collection, Budapest, Hungary.

Diagnosis. A large antlion species with a wing length of more than 45 mm. The general colour of the head and thorax is yellow with black patterns, and the abdomen is dominantly black with a narrow yellow line on the dorsal surface of the tergites. The frons and labrum are black. Wing membranes are transparent, yellowish, with many small brown dots. The dots do not form apical streaks on the wings.

P. campanai shows a high degree of similarity with *P. parvopunctatus*, *Pseudopalpares sobrinus* (Péringuey, 1911), *Pseudopalpares sparsus* (McLachlan, 1867), and *Pseudopalpares nyicanus* (Kolbe, 1897), which occur in the southern African region. However, this species can be easily distinguished from them by a black labrum, only small dots alongside the longitudinal veins, the absence of larger spots, no apical streak on the wings, and dense black stetae on gonocoxites 11 in caudal view.

Redescription.

Measurements: (n=3) male body: 44–45 mm, fore wing: 47–55 mm, hind wing: 46–54.5 mm; female (n=1) body: 46 mm, fore wing: 56 mm, hind wing: 54.5 mm.

Head (Fig. 2B–C): Vertex slightly vaulted in frontal view, and yellow with wide, dull black band above antennae. Top of vertex dominantly yellow with wide, black median band along epicranial suture with two lateral extensions. Short, sparse, and black hairs on yellow marks. Frons shiny, black just below scapus with yellow rings and narrow, black line between scapus, otherwise hairless. Gena yellow, hairless. Upper part of clypeus also shiny, black with long, black hairs directed ventrally, lower part yellow, hairless. Labrum shiny, black with short, black hairs directed to apex of mandibles. Mandible yellow basally and dark brown to black apically. Maxillary and labial palps yellow basally, but last segments become completely brown to black (Fig. 2B). Sensory pit drop-shaped. Scape yellowish brown with shiny, black hairs; pedicel reddish brown, hairless; flagellar segments black with short, black setae.

Thorax (Fig. 2C): Pronotum considerably shorter than wide, rhomboid-shaped in dorsal view, yellow with black lateral stripes, and wide, dull, and black median band. Both margins of pronotum flexed upward with long, dense, upstanding, brown hairs. Mesonotum and metanotum yellow with wide, black median band and lateral stripes, and with dense, long, brown and white hairs. Margins of median band not parallel. Metascutum with orange velvety spots. Sides dull, black with large yellow spots and long, dense, white hairs.

Legs: Strong. Coxae and trochanters black. Femora and tibiae reddish brown with black hairs and stiff, black bristles. Tibiae somewhat shorter than femora. Tibial spurs reddish brown and slightly longer than tarsal segments 1–2 combined. Tarsal segments completely shiny black and with short, stiff, black bristles. Segments 1–4 equal, segment 5 as long as segments 1–4 combined. Claws shiny, reddish brown, as long as half length of segment 5.

Wings (Fig. 2D): Fore wing membrane transparent, pale with many small, brown dots along longitudinal veins, but larger marks missing. Punctation as in Fig. 2D. Apical brown streak absent. Longitudinal veins yellow, interrupted with brown sections at cross-veins. Most of cross-veins have brown dots on both ends. Cubital and anal veins dominantly yellow. Pterostigma small, bright yellow with 3–4 cross-veins.

Hind wing membrane transparent, pale with many small brown dots. Only small, separate spots in the apical area. Pterostigma distinct, yellow, with 3–4 cross-veins. C yellow, Sc yellow, interrupted with brown sections at

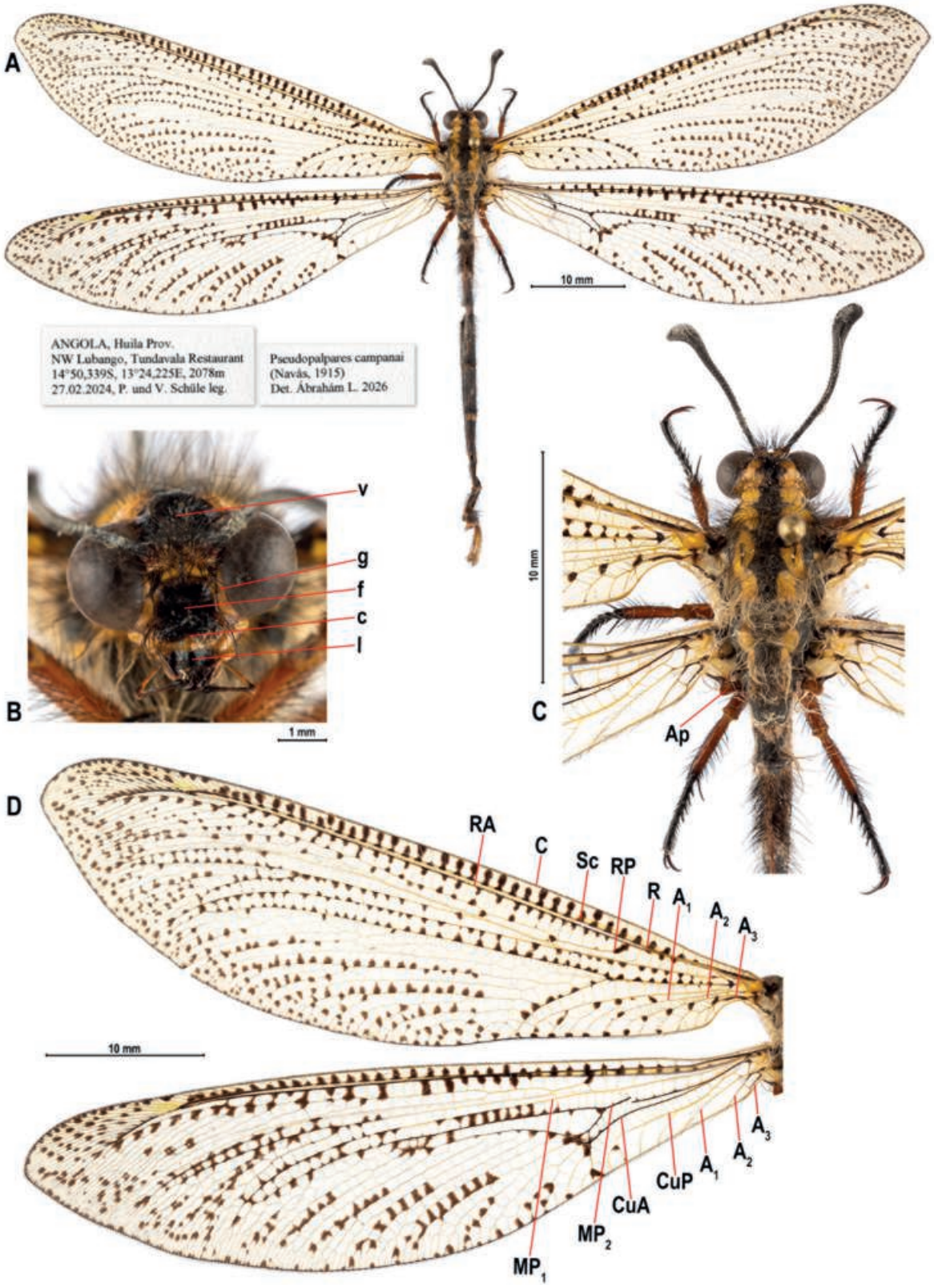

Fig. 2. Male Pseudopalpares campanai (Navás, 1915) comb. n. A – habitus in dorsal view, B – head in frontal view; C – head, thorax, and legs in dorsal view; D – Wings. Abbreviations: Head, v – Vertex, f – Frons, g – Gena, c – Clypeus, l – Labrum; Wings, C – Costa, Sc – Subcosta, RA – Radius anterior, RP – Radius posterior, MP_1 and MP_2 – Media posterior 1 and 2, CuA – Cubitus anterior, CuP – Cubitus posterior, A_1, A_2 and A_3 – Anal veins 1, 2 and 3, Ap – Axillary pelote

crossveins. MP2 and Cubital veins yellow basally and brown distally. A1, A2 brown basally and yellow distally, A3 yellow. Axillary pelote oval shaped with short, dense, and brown basal setae and reddish brown distal setae.

Abdomen: Slightly shorter than hind wing. Tergites black with narrow yellow median stripe dorsally. Intersegmental membrane yellow. Sternites completely black. Hairs on segments 1–4 long, dense, and black, distal segments with short, sparse, and black.

Terminalia and genitalia (Fig. 3): Ectoproct oval plate with curved caudo-ventral processus, which slightly longer than distance between caudal margin and anterior margin of segment 8. Ectoproct brown with black hairs, basal part of processus with two sharp, short, black spines in ventral view. Setose on ectoproct as in Fig. 3A. Shape of gonocoxites 9 and 11 as in Fig. 3B–D. Gonocoxites 11 with long, dense, and black sensoral setae in caudal view.

Distribution: Known only in Angola (Huila Prov.) (Navás 1915) and Namibia (Khamos region) (Mansell & Aspöck 1990). (Fig. 4).

Habitat: The species is found in Angola and Namibia on an extensive mountainous plateau (1500–2400 m). Climatically, it forms a transition between the hot Namib Desert and the somewhat cooler, inland steppes (Strohbach 2021). In Angola, the plateau is more wet where the dominant vegetation is open woodland (Chisingui et al. 2018).

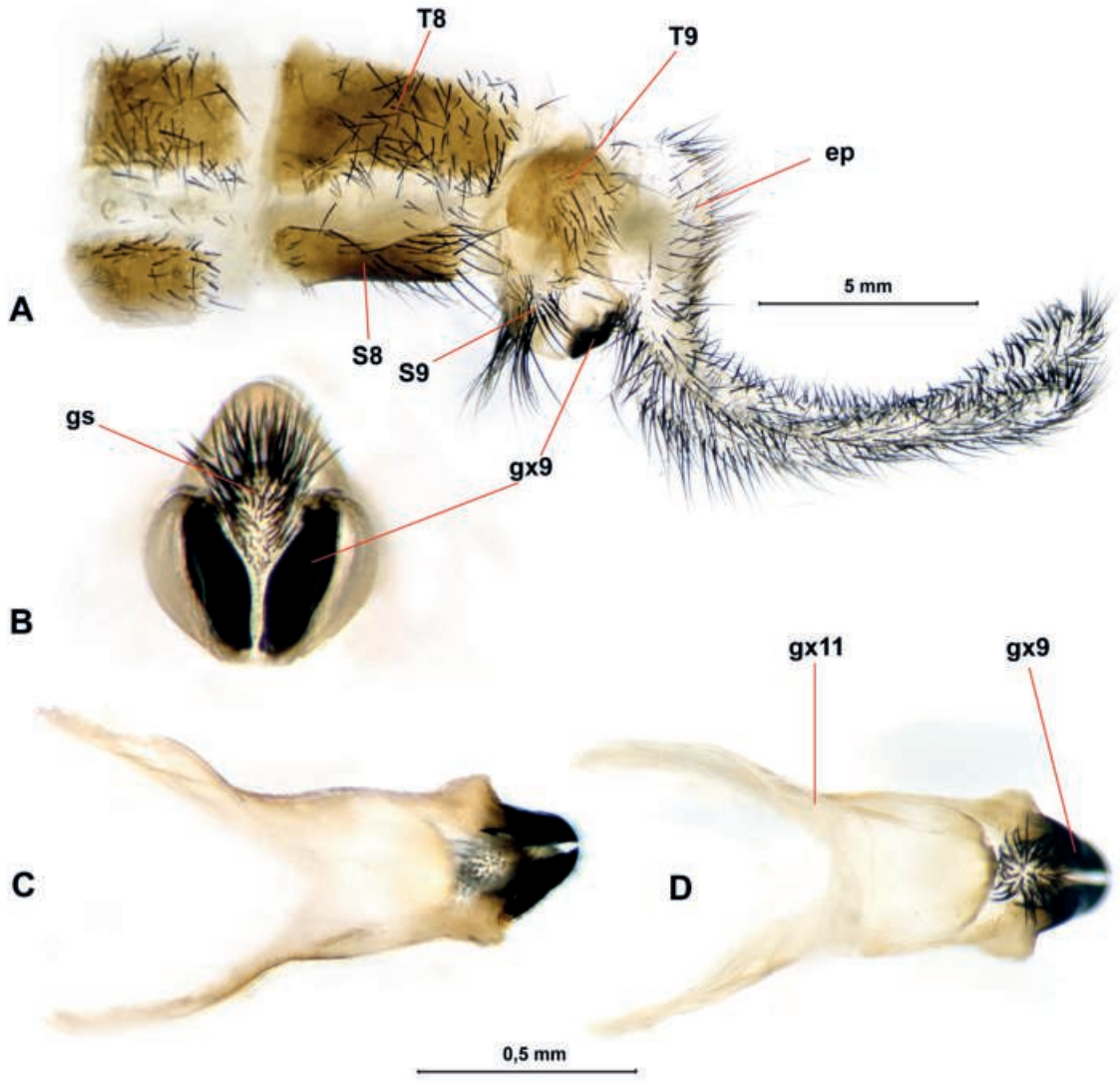

Fig. 3. Male terminalia A – in lateral view, B – male genitalia in caudal view, C – the same in ventral view, D – the same in dorsal view
Abbreviations: ep – ectoproct, T8, T9 – tergites 8 and 9, S8, S9 – Sternites 8 and 9, gx – gonocoxites, gx9, gx11, gs – gonatal setae

Fig. 4. Distribution of Pseudopalpares campanai (Navás, 1915) in southwestern Africa
Legend: red dot – lectotype, blue dots – nontype specimens.

Discussion

The origin of the genus *Palpares* Rambur, 1842 is polyphyletic (Hévin et al. 2023), which includes species described from the Afrotropical, Oriental, and Southern Palaearctic regions belonging to the tribe Palparini. A common characteristic of these species are their large size; wingspans range from 45 mm to 170 mm, and the wings of all species are characteristically marked with dark spots (Mansell 1985).

The first species, *Palpares speciosus* (Linnaeus, 1758), described in the genus, originates from the southeastern part of South Africa. The description of the genus *Palpares* Rambur, 1842, however, assigned a century later. The type species, *Hemerobius libelluloides* Linnaeus, 1764 was designated by Banks (1911) based on European specimens. With the extensive investigation of the faunas of Africa and Asia over the past centuries, an increasing number of species with diverse morphologies have been placed in the genus *Palpares*. First, Hagen (1866) separated the genera *Pamexis, Stenares*, and *Tomatares*; McLachlan (1867) *Crambomorphus*; Navás (1911, 1912, 1913, 1926) *Golafrus, Lachlathetes, Nosa, Palparellus*, and *Valignatus*; Insom & Carfi (1988) *Indopalpares, Goniocerus, Parapalpares*, and *Pseudopalpares*; Mansell (1990, 2004) *Pamares* and *Annulares* from the genus *Palpares*.

Seven species have been classified in the genus *Pseudopalpares* (Oswald 2026). The combination of *Pseudopalpares digitatus* (Gerstaecker, 1894) and *Pseudopalpares torridus* (Navás, 1912) (Insom & Carfi 2024) requires revision. These species exhibit significant morphological differences not only from the genus *Palpares* but also *P. campanai, P. nyicanus, P. parvopunctatus, P. sobrinus, P. sparsus*.

The uncertain taxonomic status of *P. campanai* was caused by: *i*) shortly after the species was described, Esben-Petersen (1928) synonymized it. *ii*) Very few specimens were collected in the Angolan highlands and the surrounding regions. *iii*) The revision of the numerous taxa described by Navás was severely hampered by the partial destruction of his private collection, which contained many type specimens (Monserrat 1985).

Fortunately, the type specimen of *P. campanai* has been preserved. So, the species could be redescribed based on a specimen from near the type locality. The new genus combination of the species is confirmed not only by the characteristics of species with similar morphology (Ábrahám 2023) but also by the evolutionary, systematic, and historical biogeographical studies of Hévin et al. (2023).

Acknowledgements

The authors are sincerely grateful to Irene Lobato-Vila, curator in Museu de Ciències Naturals de Barcelona (MCNB), Spain) for providing photos of the type specimen and information on the collection material.

Special thanks to the first author's colleagues, namely Bálint Csernák and Péter Horváth, for taking the excellent photos and editing the figure plates.

References

Aspöck, H., Aspöck, U. & Hölzel, H. 1980. Die Neuropteren Europas, Eine zusammenfassende Darstellung der Systematik, Ökologie und Chorologie der Neuropteroidea (Megaloptera, Raphidioptera, Planipennia) Europas. Vols. 1 & 2. Goecke & Evers, Krefeld, 495 & 355 pp.

Aspöck, U. & Aspöck, H. 2008. Phylogenetic relevance of the genital sclerites of Neuropterida (Insecta: Holometabola). Systematic Entomology 33: 97–127. https://doi.org/10.1111/j.1365- 3113.2007.00396.x

Ábrahám, L. 2023. Description of a new Pseudopalpares species from southern Africa (Neuroptera: Myrmeleontidae). Natura Somogyiensis 41: 39–56. https://doi.org/10.24394/NatSom.2023.41.39

Badano, D., Aspöck, H. & Aspöck, U. 2017. Taxonomy and phylogeny of the genera Gymnocnemia Schneider, 1845, and Megistopus Rambur, 1842, with remarks on the systematization of the tribe Nemoleontini (Neuroptera, Myrmeleontidae). Deutsche Entomologische Zeitschrift, Berlin, 64: 43–60. https://doi.org/10.3897/dez.64.11704.

Banks N. 1913. The neuropterous genus Palpares. Annals of the Entomological Society of America 6: 171–[195].

Banks, N. 1941. Some new and interesting Neuroptera in the American Museum of Natural History. American Museum Novitates 1143: 1–5.

Breitkreuz, L. C. V., Winterton, S. L. & Engel, M. S. 2017. Wing tracheation in Chrysopidae and Other Neuropterida (Insecta): A resolution of the confusion about vein fusion. American Museum Novitates 3890(3890): 1–44. https://doi.org/10.1206/3890.1

Chisingui, A.V., Gonçalves, F.M.P., Tchamba, J.J., Camôngua Luís, J., Rafael, M.F.F. & Alexandre, J.L.M. 2018. Vegetation survey of the woodlands of Huíla Province. In: Climate change and adaptive land management in southern Africa – assessments, changes, challenges, and solutions (ed. by Revermann, R., Krewenka, K.M., Schmiedel, U., Olwoch, J.M., Helmschrot, J. & Jürgens, N.), pp. 426–437, Biodiversity & Ecology, 6, Klaus Hess Publishers, Göttingen & Windhoek. https://doi:10.7809/b-e.00355

Esben-Petersen, P. 1928. Neuroptera Planipennia. Pp. 203-221. – In: Michaelsen, J. W. (editor). Beiträge zur Kenntnis der Land- und Süsswasserfauna Deutsch-Südwestafrikas, Ergebnisse der Hamburger Deutsch-Südwestafrikanischen Studienreise 1911. Vol. 2. Friederichsen and Co., Hamburg.

Esben-Petersen, P. 1931. Neue und wenig bekannte Neuropteren aus Süd-Angola. Revue Suisse de Zoologie 38: 89–95. https://doi.org/10.5962/bhl.part.117649

Esben-Petersen, P. 1933. New and little-known Neuroptera. Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening, Kobenhaven 94: 109–123.

Gerstaecker, [C. E.] A. 1887. Weitere Beiträge zur artenkenntniss der Neuroptera Megaloptera. Mitt[h]eilungen aus dem Naturwissenschaftlichen Verein für Neu-Vorpommern und Rugen 19: 89–130.

Handschin, E.; Markl, W. 1955. Neuropteren aus Angola. Companhia de Diamantes de Angola, Publicaçoes Culturais, - Lisboa 27: 65–82.

Hévin, N. M.-C.; Kergoat, G. J.; Clamens, A.-L.; Le Ru, B.; Mansell, M. W.; Michel, B. 2023. Evolution, systematics and historical biogeography of Palparini and Palparidiini antlions (Neuroptera: Myrmeleontidae): old origin and in situ diversification in Southern Africa. Systematic Entomology [prevolume: 1–18].

Insom E., Carfì S. 1988. Taxonomic studies on Palparini (sensu Markl, 1954). I: The genus Palpares Rambur, 1842 partim (Neuroptera: Myrmeleontidae) with the proposal of its division and description of new genera. Neuroptera International 5: 57–78.

Mansell M.W. 1990. The Myrmeleontidae of southern Africa: tribe Palparini. Introduction and description of Pamares gen. nov., with four new species (Insecta: Neuroptera). Journal of the Entomological Society of Southern Africa 53: 165–189.

Mansell, M. W. 1996. The antlions of southern Africa (Neuroptera: Myrmeleontidae): genus Palparellus Navás, including extralimital species. African Entomology 4: 239–267.

Mansell, M. W. 2000. Neuroptera (Insecta). in Kirk-Spriggs, A. H.; Marais, M. (eds.). Dâures-biodiversity of the Brandenberg Massif, Namibia. Cimbebasia Memoir 9: 163–176.

Mansell M.W. 2004. Antlions of southern Africa: Annulares nov. gen. (Neuroptera, Myrmeleontidae, Palparini) including two new species, with comments on the tribe Palparini. Aspöck U. (Ed.). Entomologie und Parasitologie. Festschrift zum 65. Geburtstag von Horst Aspöck. Denisia 13: 201–208.

Mansell M. W. 2023. The Neuroptera of the highlands and escarpments of Angola and Namibia. Namibian Journal of Environment 8: 193–196. https://doi.org/10.5962/bhl.part.117649

Mansell, M. W.; Aspöck, H. (editors). 1990. Advances in Neuropterology. Proceedings of the Third International Symposium on Neuropterology. Meeting: 3-4 February 1988, Berg en Dal, Kruger National Park, South Africa. South African Department of Agricultural Development, Pretoria. vi + 298 pp.

McLachlan R. 1868. New genera and species, &c., of neuropterous insects; and a revision of Mr. F. Walker's British Museum Catalogue of Neuroptera, part II (1853), as far as the end of the genus Myrmeleon. Journal of the Linnean Society of London, Zoology 9: 230–281 [Errata: 9: 281].

Monserrat, V. J. 1985. Lista de los tipos de Mecoptera y Neuroptera (Insecta) de la colección L. Navás, depositados en el Museo de Zoología de Barcelona. Miscellània Zoològica 9: 233–243.

Navás, L. 1912. Bemerkungen über die Neuropteren der Zoologischen Staatssammlung in München. III. Mitteilungen der Münchener Entomologischen Gesellschaft 3: 55–59.

Navás, L. 1926. Insectes du Congo Belge. Série II. Revue de Zoologie Africaines, Bruxelles 14: 85 –90.

Navás, L. 1931. Insectes du Congo Belge (Série V). Revue de Zoologie et de Botanique Africaines 20: 257–279.

Navás, L. 1936. Insectes du Congo Belge. Série IX. Revue de Zoologie et de Botanique Africaines 28: 333–368.

Oswald, J. D. 2023. Neuropterida Species of the World. Lacewing Digital Library, Research Publication No. 1. Available from: http://lacewing.tamu.edu/SpeciesCatalog/Main (accessed 24. April 2026)

Papp, Z. 2025. Pseudopalpares parvopunctatus Ábrahám, 2023 – a new record for the Angolan antlion fauna (Neuroptera: Myrmeleontidae). Natura Somogyiensis 45: 45–46. https://doi.org/10.24394/NatSom.2025.45.45

Prost, A. 2018. Révision du taxon Parapalpares latipennis (Rambur, 1842) et description d'une espèce nouvelle d'Angola (Neuroptera, Myrmeleontidae, Palparinae). Bulletin de la Société Entomologique de France 123: 65–71.

Shorthouse, D. P. 2010: SimpleMappr, an online tool to produce publication-quality point maps. [Retrieved from https://www.simplemappr.net. Accessed April 10, 2026].

Stange, L. A. 2004. A systematic catalog, bibliography and classification of the world antlions (Insecta: Neuroptera: Myrmeleontidae). Memoirs of the American Entomological Institute 74, iv+ 1–565.

Strohbach, B., 2021. 'Vegetation survey of the Khomas Hochland in central-western Namibia:syntaxonomical descriptions'. Bothalia 51(2): 4. http://dx.doi.org/10.38201/btha.abc.v51.i2.4