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## SUPPLEMENTARY ONLINE MATERIAL FOR

### **Identifying the oldest larva of a myrmeleontiform lacewing—a morphometric approach**

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#### **Supplementary Online Material**

**SOM: table 1.** Results for the discriminant function analysis (DFA). Given are the probabilities for the new specimen to belong to the respective group of Myrmeleontiformia and a misclassification rate for the model. For model 1, Ascalaphidae was considered as one group, for model 2, Ascalaphidae was split into two groups according to the separation in the visual analysis.

Available at [http://app.pan.pl/SOM/app65-Herrera-Florez\\_etal\\_SOM/SOM\\_table1.xls](http://app.pan.pl/SOM/app65-Herrera-Florez_etal_SOM/SOM_table1.xls)

**SOM: table 2.** Measurements (mm), specimens measured and literature references.

Available at [http://app.pan.pl/SOM/app65-Herrera-Florez\\_etal\\_SOM/SOM\\_table2.xlsx](http://app.pan.pl/SOM/app65-Herrera-Florez_etal_SOM/SOM_table2.xlsx)

**References** Source measurements not cited in text

## References

- Aspöck U. and H. Aspöck 1999. Kamelhälse, Schlamm-fliegen, Ameisenlöwen...Wer sind sie? (Insecta: Neuropterida: Raphidoptera, Megaloptera, Neuroptera). *Stapfia* 60: 1–34.
- Bakkes, D. K., Mansell, M. W., and Sole, C. 2018. Phylogeny and historical biogeography of silky lacewings (Neuroptera: Psychopsidae). *Systematic Entomology* 43:43-55.
- Engel, M. S. and Grimaldi, D. A. 2008. Diverse Neuropterida in Cretaceous amber, with particular reference to the paleofauna of Myanmar (Insecta). *Nova Supplementa Entomologica* 20:1-86.
- Gepp, J. 1984. Erforschungsstand der Neuropteren-Larven der Erde (mit einem Schlüssel zur larvaldiagnose der Familien, einer Übersicht von 340 beschriebenen Larven und 600 Literaturzitaten). Pp. 183–239. In: Gepp, J.; Aspöck, H.; Hözel, H. (eds.). Progress in World's Neuropterology. *Proceedings of the 1st International Symposium on Neuropterology* (22-26 September 1980, Graz, Austria). Privately printed, Graz, Austria.
- Grimaldi, D. and Engel, M.S. 2005. *Evolution of the insects*. New York: Cambridge University Press.
- Mansell, M. W. 1980. The Crocinae of southern Africa (Neuroptera: Nemopteridae). 1. The genera *Laurhervasias* Navás and *Thysanocroce* Withycombe. *Journal of the Entomological Society of Southern Africa* 43:341-365.
- Mansell, M. W. 1981a. The Crocinae of southern Africa (Neuroptera: Nemopteridae). 2. The genus *Concroce* Tjeder. *Journal of the Entomological Society of Southern Africa* 44: 91-106.
- Mansell, M. W. 1981b. The Crocinae of southern Africa (Neuroptera: Nemopteridae). 3. The genus *Tjederia* Mansell, with keys to the southern African Crocinae. *Journal of the Entomological Society of Southern Africa* 44:245-257.
- Mansell, M. W. 1983a. A revision of the Australian Crocinae (Neuroptera: Nemopteridae). *Australian Journal of Zoology* 31: 607-627.
- Mansell, M. W. 1983b. New Crocinae (Neuroptera: Nemopteridae) from South America, with descriptions of larvae. *Journal of the Entomological Society of Southern Africa* 46: 115-130.
- Miller, R. B. and Stange, L. A. 1989. A new species of *Moranida* Mansell from Venezuela (Neuroptera: Nemopteridae). *Insecta Mundi* 3:65-70.
- Monserrat, V. J. 1983. Estudios larvarios de los neurópteros ibéricos I: *Josandreva sazi* (Neur. Plan., Nemopteridae). *Speleon* 26:39-51.

Monserrat, V. J. 1996. Larval stages of European Nemopterinae, with systematic considerations on the family Nemopteridae (Insecta, Neuroptera). *Deutsche Entomologische Zeitschrift*, Berlin 43:99-121.

New, T. R. 1982. The larva of *Nymphes* Leach (Neuroptera, Nymphidae). *Neuroptera International* 2:79–84.

New, T. R. 1983. Some early stages of *Osmylops* (Neuroptera: Nymphidae). *Systematic Entomology* 8:121–126.

New, T. R. 1991. Neuroptera (lacewings). Pp. 525–542. In: Naumann, I. D. (chief ed.). *The Insects of Australia*. 2nd Edition. Vol. 1. Melbourne University Press, Melbourne.

New, T. R. and Lambkin, K. J. 1989. The larva of *Norfolius* (Neuroptera: Nymphidae). *Systematic Entomology* 14:93–98.

Pierre, F. 1950. Morphologie, milieu biologique et comportement de trois Crocini nouveaux du Sahara Nord-Occidental (Planipennes Nemopteridae). *Annales de la Société Entomologique de France* 119:1-22.

Roux, P. 1833. Lettre relative à divers Coquilles, Crustacés, Insectes, Reptiles et Oiseaux, observés en Égypte; adressée par M. Roux à M. le baron de Féruccac. *Annales des Sciences Naturelles, Zoologie et Biologie Animale* 28:72-78.

Satar, A., Suludere, Z., Candan, S., and Canbulat, S. 2007. Morphology and surface structure of eggs and first instar larvae of *Croce schmidti* (Navás, 1927) (Neuroptera: Nemopteridae). *Zootaxa* 1554:49-55.

Suludere, Z., Satar, A., Candan, S., and Canbulat, S. 2006. Morphology and surface structure of eggs and first instar larvae of *Dielocroce baudii* (Neuroptera: Nemopteridae) from Turkey. *Entomological News*, Philadelphia 117:521-530.

Tauber, C.A., Tauber, M.J., and Albuquerque, G.S. 2003. Neuroptera. In: Resh, V.H., Cardé, R.T. (Eds.), *Encyclopedia of Insects*. Academic Press, San Diego, CA, pp. 785–798.

Tillyard, R. J. 1918. Studies in Australian Neuroptera. No. 7. The life-history of *Psychopsis elegans* (Guérin). *Proceedings of the Linnean Society of New South Wales* 43:787-818.

Tillyard, R. J. 1926. *The Insects of Australia and New Zealand*. [1st edition.] Angus and Robertson, Sydney.

Tjeder, B. 1967. Neuroptera-Planipennia. The Lace-wings of Southern Africa. 6. Family Nemopteridae. In: B. Hanström, P. Brinck, and G. Rudebec (eds.). *South African Animal Life*. Swedish Natural Science Research Council, Stockholm 13: 290-501.