



<http://dx.doi.org/10.11646/zootaxa.3948.3.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:E349818A-165B-4CA8-BA29-0E345AFDF6C6>

## The presence of *Notanisis* Walker (Hymenoptera: Pteromalidae) in North America and revision of the *oulmesiensis* species group

GARY A. P. GIBSON

Agriculture and Agri-Food Canada, Canadian National Collection of Insects, Arachnids and Nematodes, K. W. Neatby Bldg., 960 Carling Avenue, Ottawa, Ontario, CANADA, K1A 0C6. E-mail: Gary.Gibson@agr.gc.ca

### Abstract

The presence and distribution of two species of *Notanisis* Walker (Hymenoptera: Pteromalidae) in North America is reported. *Notanisis sexramosus* (Erdős), originally described from Hungary and previously reported from Maryland, USA, is recorded also from Massachusetts and Pennsylvania based on a male and macropterous and brachypterous females. Males of *Notanisis* are shown to have two types of flagellar structure, ramose and pedicellate, and diagnostic features are given for the previously unknown males of *N. clavatus* Bouček to differentiate these from those of *N. sexramosus* and *N. versicolor* Walker. Five other species are newly described, *Notanisis kansensis* n. sp. based on a female from Nebraska, USA, and four species from Sub-Saharan Africa and the Arabian Peninsula—*Notanisis brevipetiolus* n. sp. based on two females from Uganda and Zambia, *Notanisis longipetiolus* n. sp. based on a female from Zimbabwe and a female and two males from Mozambique, *Notanisis vanharteni* n. sp. based on a female and several males from United Arab Emirates, and *Notanisis yemenensis* n. sp. based on a female and male from Yemen. The latter five species are included with the Palaearctic species *N. oulmesiensis* (Delucchi) and *N. gracilis* (Yang) in the *oulmesiensis* species group, defined by the presence of reduced stigmal and postmarginal veins in both sexes. The seven *oulmesiensis*-group species are differentiated in a key and all treated species are illustrated through macrophotography. Monophyly and relationships of *Notanisis* within Cleonymini are discussed, including features that indicate it could be paraphyletic relative to *Callocleonymus* Masi.

**Key words:** Chalcidoidea, Cleonyminae, *Cleonymus*, *Callocleonymus*, *Dasycleonymus*, *Zolotarewskyia*

### Introduction

Walker (1837) described *Notanisis* (Hymenoptera: Pteromalidae: Cleonyminae: Cleonymini) for *N. versicolor* Walker from England. The genus has five junior synonyms (Noyes 2014), including *Pannonica* Erdős (1946), established for *P. sexramosa* Erdős from Hungary, and *Amarisca* Delucchi (1962), established for *A. oulmesiensis* Delucchi from Morocco. *Pannonica* was subsequently discovered to be a junior homonym by Erdős (1960a) and then proposed as a junior synonym of *Notanisis* by Bouček (1991), who synonymized it and its replacement name, *Pannoniella* Erdős (1960a), as well as *Amarisca* under *Notanisis*. Currently, there are 11 valid described species of *Notanisis*, including two from the Afrotropical, three from the Australasian, and six from the Palaearctic region. Mitroiu and Andriescu (2008) differentiated and illustrated the four species from Europe, not including *N. gracilis* (Yang 1996) or *N. grandis* Senatos (1996), which were described from China and Tajikistan, respectively.

Bouček and Heydon (1997) first recorded *Notanisis* in the Nearctic region, including the genus in their key to the genera of Nearctic Pteromalidae based on brachypterous females of *N. sexramosus* from Maryland, USA. Gibson (2003) subsequently reported a male of an unidentified species collected in Massachusetts, USA, and more recently [BugGuide](#) included images of what appeared to be [brachypterous](#) and [macropterous](#) females of *N. sexramosus* collected in Pennsylvania, USA. The Canadian National Collection held another unreported female of what was obviously a second species of *Notanisis* collected in Nebraska, USA. Comparison of this female with species keyed in Mitroiu and Andriescu (2008) revealed that it was similar to *N. oulmesiensis*, but that it differed in some respects. In order to more confidently determine whether the differences represented infra- or interspecific variation, *N. oulmesiensis* and other undescribed species similar to it were studied. This resulted in the discovery of

*Callocleonimus* is demonstrably monophyletic among the five genera recognized in Cleonymini. Consequently, the recognition of *Notanisus* + *Callocleonimus* as a single genus might well render at least *Cleonymus* paraphyletic.

## Acknowledgements

Thanks are given to the curators of the collections listed under Materials and methods for the loan of specimens on which this study is based. I am also indebted to Dr. Zhong-Qi Yang for the English translations he provided for *N. gracilis* and the images of the fore wing and antenna of the holotype. Ms Lisa Bearss and Caroline Boudreault (Agriculture & Agri-Food Canada, Ottawa, Canada) photographed the specimens and Ms. Bearss prepared the plates of figures that illustrate this study.

## References

- Baur, H. (2001) The Hymenoptera (Chalcidoidea, Ichneumonoidea, Platygastridae) described by Vittorio Delucchi: an annotated catalogue. *Journal of Natural History*, 35, 55–125.  
<http://dx.doi.org/10.1080/002229301447899>
- Bouček, Z. (1958) Eine Cleonyminen-Studie; Bestimmungstabelle der Gattungen mit Beschreibungen und Notizen, eingeschlossen einige Eupelmidae (Hym. Chalcidoidea). *Sborník Entomologického Oddělení Národního Muzea v Praze*, 32, 353–386.
- Bouček, Z. (1961) A new species of *Notanisus* Walk from Georgia, USSR (Hym. Pteromalidae). *Sborník Entomologického Oddělení Národního Muzea v Praze*, 34, 471–474.
- Bouček, Z. (1991) Four new genera of European Pteromalidae (Hymenoptera), with some taxonomic changes. *Bollettino di Zoologia Agraria e Bachicoltura, Milano* (2), 22 (2), 195–206.
- Bouček, Z. & Heydon, S.L. (1997) Chapter 17. Pteromalidae. In: Gibson, G.A.P., Huber, J.T. & Woolley, J.B. (Eds.), *Annotated keys to the genera of Nearctic Chalcidoidea (Hymenoptera)*. National Research Council of Canada, NRC Research Press, Ottawa, pp. 541–692.
- Bouček, Z. & Rasplus, J.-Y. (1991) *Illustrated key to West-Palaearctic genera of Pteromalidae (Hymenoptera: Chalcidoidea)*. Institut National de la Recherche Agronomique, Paris, 140 pp.
- Delucchi, V. (1962) Hyménoptères chalcidiens du Maroc. II. Pteromalidae (suite). *Al Awamia*, 4, 7–25.
- Erdős, J. (1946) Genere nova et species novae chalcidoidarum (Hym.). *Annales Historico-Naturales Musei Nationalis Hungarici*, 39, 131–165.
- Erdős, J. (1957) Miscellanea chalcidologica hungarica. *Annales Historico-Naturales Musei Nationalis Hungarici (Series Nova)*, 8, 347–374.
- Erdős, J. (1960a) Synonymiae novae Eurytomidarum et Cleonymidarum, nec non species novae Encyrtidarum, praesertim in territorio reservato Batorliget collectarum. *Acta Zoologica Hungarica*, 6 (3–4), 305–313.
- Erdős, J. (1960b) Magyarország Allatvilága. XII. Kötet. Hymenoptera II. 3. Füzet. Fémfűrkészek II. Chalcidoidea II. Torymidae, Eurytomidae, Agaonidae, Cleonymidae, Eupelmidae. *Fauna Hungariae*, 52, 1–230 + 6 pp.
- Gibson, G.A.P. (2003) Phylogenetics and classification of Cleonyminae (Hymenoptera: Chalcidoidea: Pteromalidae). *Memoirs on Entomology, International*, 16, 1–v + 339.
- Graham, M.W.R. de V. (1969) The Pteromalidae of north-western Europe (Hymenoptera: Chalcidoidea). *Bulletin of the British Museum (Natural History) (Entomology)*, Supplement 16, 1–908.
- Mitroiu, M.-D. & Andreescu, I. (2008) A faunistic review of *Notanisus* Walker (Hymenoptera: Pteromalidae) in Romania, with a key to European species. *North-Western Journal of Zoology*, 4 (2), 311–319.
- Noyes, J.S. (2014) Universal Chalcidoidea Database. World Wide Web electronic publication. Available from: <http://www.nhm.ac.uk/chalcidoids> (accessed 4 March 2015)
- Risbec, J. (1952) Contribution à l'étude des chalcidoïdes de Madagascar. *Mémoires de l'Institut Scientifique de Madagascar (E)*, 2, 1–449.
- Senatos, A. (1996) A new species of the genus *Notanisus* (Hymenoptera, Pteromalidae) from Tadjikistan. *Vestnik Zoologii, Kiev*, 1996 (4–5), 93–94.
- Walker, F. (1837) Monographia Chalciditum. (Continued.) *Entomological Magazine*, 4 (4), 349–364.
- Yang, Z.Q. (1996) *Parasitic wasps on bark beetles in China (Hymenoptera)*. Science Press, Beijing, iv + 363 pp.