



<http://dx.doi.org/10.11646/zootaxa.3869.2.10>

<http://zoobank.org/urn:lsid:zoobank.org:pub:652E7B4D-9998-4E36-88B4-860045D4B1C3>

On the identity of *Thespis disparilis* Westwood, 1889 (Mantodea: Mantidae: Mantinae)

GRAHAM A. MILLEDGE¹ & REINHARD EHRMANN²

¹Australian Museum, 6 College Street, Sydney, NSW 2010, Australia. E-mail: graham.milledge@austmus.gov.au

²Staatliches Museum für Naturkunde Karlsruhe (SMNK), Erbprinzenstrasse 13, D-76133 Karlsruhe, Germany

Thespis disparilis was described by Westwood (1889) from a male and a female specimen collected from Swan River in Australia. Swan River was the colony that eventually became Perth, the capital city of the state of Western Australia. Westwood's description was brief, in Latin and no illustrations were provided. The type specimens are deposited in The Hope Entomological collections, University Museum, Oxford, England.

The first comprehensive catalogue listing the described species of mantids published subsequent to Westwood's description, that of Kirby (1904), overlooked this species. Later cataloguers, probably following Kirby, also omitted this species (Giglio-Tos 1927; Tindale 1923, 1924; Beier 1935). The first catalogue to list *T. disparilis* was that of Balderson (1984). Balderson presumably had not examined the type specimens and listed the species under the subfamily Thespiinae (within Mantidae). However, he commented that it was doubtful this subfamily occurred in Australia due to lack of any subsequent records. Subsequent authors (Balderson *et al.* 1998; Ehrmann 2002; Otte & Spearman 2005) also listed *T. disparilis*.

Recent morphological (Yager & Svenson 2008) and genetic evidence (Svenson & Whiting 2009) suggests that the majority of taxa, including *Thespis*, currently contained in the family Thespidae are part of a distinct Neotropical clade which diverged relatively early in the evolution of the Mantodea. This clade was dubbed "the earless mantises" by Svenson & Whiting due to the lack of auditory apparatus. Other diagnostic characters of the Thespidae are apterous females and distinct pubescence of the body and wings in males (J. Rivera, pers. comm.).

The Australian genus *Rhodomantis* Giglio-Tos, 1917 was recently revised by Milledge (2014) resulting in the description of several new species. After this manuscript was accepted for publication, images of the type specimens of *Thespis disparilis* Westwood were sent to the author by Reinhard Ehrmann, who believed they may in fact be *Rhodomantis*. Upon examination of these images (Fig. 1), Milledge agreed that these specimens did indeed belong in *Rhodomantis*. Genetic evidence (Svenson & Whiting 2009) suggests that *Rhodomantis* is not closely related to the Thespidae. Morphological evidence is congruent with this, as males of *Rhodomantis* are not particularly hirsute (Milledge 2014) and males of several species of *Rhodomantis* examined for this study (*helenae*, *kimberley*, *queenslandica* and *pulchella*) all had well-developed mantis ears of the 'DK' type as described by Yager & Svenson (2008).

As can be seen in the photographs, the type specimens of *Thespis disparilis* are damaged. The male (Fig. 1a), hereby designated as the lectotype (ICZN 1999, Art. 74), has the hind legs and the tip of the abdomen missing. The female (Fig. 1b), hereby designated as a paralectotype, has the head and all but one of the legs missing but the 'digging' hooks on the tip of the ovipositor, found in many *Rhodomantis* species, are clearly visible. The missing tip of the male's abdomen, and the consequent lack of genitalia, makes certain identification of the species problematic within the current state of knowledge of the genus *Rhodomantis*, as most species are distinguished by the morphology of the male genitalia (Milledge 2014). However, if we assume that the collection locality is correct, then there is a high probability it is the same species as *Rhodomantis pulchella* (Tepper, 1904), since this is the only species of *Rhodomantis* recorded from south Western Australia (Milledge 2014).

In conclusion, we transfer *Thespis disparilis* to *Rhodomantis* and recognize *Rhodomantis disparilis* (Westwood, 1889) **n. comb.** as the valid name for this species, with *Rhodomantis pulchella* (Tepper, 1904) as its new synonym.

Acknowledgements

The authors would like to thank Amoret Spooner for supplying the images of the type specimens of *Thespis diparilis* and Julio Rivera for comments on the Thespididae.

References

- Balderson, J. (1984) *Catalogue of Australian Mantodea*. CSIRO Technical Paper, 17 pp. [no. 23]
- Balderson, J., Rentz, D.C.F. & Roach, A.M.E. (1998) Zoological Catalogue of Australia. 23. Mantodea. Technical Paper, CSIRO Australia, Division of Entomology, 23, 251–277. 438–442. [3 fig. Canberra]
- Beier, M. (1935) Genera Insectorum. Mantodea. Subfamilie: Thespiniae. Wytzman, (Nachtr. zu Lfg. 200 von 1937), Lfg. 200, 32 S., 2 Farbtaf.; Tervueren.
- Ehrmann, R. (2002) *Mantodea: Gottesanbeterinnen der Welt*. Natur und Tier Verlag GmbH, Münster, 519 pp.
- Giglio-Tos, E. (1927) Das Tierreich. Mantidae. Lief. 50. Walter de Gruyter & Co., Berlin, 707 pp.
- International Commission of Zoological Nomenclature (1999) *International Code of Zoological Nomenclature, 4th edition*. International Trust for Zoological Nomenclature London, xxix+306 pp.
- Kirby, W.F. (1904) *A Synonymic Catalogue of Orthoptera. Volume 1*. British Museum (Natural History): London, 501 pp. [Mantodea: 207–316]
- Milledge, G. (2014) A revision of *Rhodomantis* Giglio-Tos, 1917 (Mantodea: Mantidae: Mantinae). *Zootaxa*, 3797 (1), 39–64.
<http://dx.doi.org/10.11646/zootaxa.3797.1.7>
- Otte, D. & Spearman, L. (2005) *Mantida species file. Catalog of the mantids of the world*. Vol. 1. Insect Diversity Association Publication, Louisville-USA, 489 pp.
- Svenson, G.J. & Whiting, M.F. (2009) Reconstructing the Origins of Praying Mantises (Dictyoptera, Mantodea): the roles of Gondwanan vicariance and morphological convergence. *Cladistics*, 25, 468–514.
<http://dx.doi.org/10.1111/j.1096-0031.2009.00263.x>
- Tepper, J.G.O. (1904) Descriptions of some new species of Orthoptera from north-western South Australia. No. 1. *Transactions of the Royal Society of South Australia*, 28, 162–167.
- Tindale, N.B. (1923) Review of Australian Mantidae. *Records of the South Australian Museum*, 2, 425–457.
- Tindale, N.B. (1924) Review of Australian Mantidae. Part 2. *Records of the South Australian Museum*, 2, 547–552.
- Westwood, J.O. (1889) Revisio Insectorum familiae Mantidarum, speciebus novis aut minus cognitis descriptis et delineatis. – Revisio Mantidarum, Gurney and Jackson, London, 55 pp. [14 pl]
- Yager, D.D. & Svenson, G.J. (2008) Patterns of praying mantis auditory system evolution based on morphological, molecular, neurophysiological, and behavioural data. *Biological Journal of the Linnean Society*, 94, 541–568.
<http://dx.doi.org/10.1111/j.1095-8312.2008.00996.x>