

LECH BOROWIEC<sup>1</sup> , SEBASTIAN SALATA<sup>2</sup> 

## Next step in the invasion: *Trichomyrmex mayri* (FOREL, 1902) new to the Philippines (Hymenoptera: Formicidae)

<http://doi.org/10.5281/zenodo.2644912>

<sup>1</sup> Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Przybyszewskiego 65,  
51-148 Wrocław, Poland

<sup>2</sup> Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Bukowska 19,  
60-809 Poznań, Poland

e-mail: <sup>1</sup>lech.borowiec@uwr.edu.pl, <sup>2</sup>sdsalata@gmail.com

**Abstract:** *Trichomyrmex mayri* (FOREL, 1902), an invasive species of ant is recorded from the Philippines for the first time.

**Key words:** ants, invasive species, new country record.

## INTRODUCTION AND RESULTS

*Trichomyrmex mayri* was described as trinome *Monomorium* (*Parholcomyrmex*) *gracillimum* var. *mayri* FOREL, 1902 from the whole India (“Inde entière”) (FOREL 1902). Later, FOREL (1911) considered it as a subspecies of *Monomorium destructor* (JERDON, 1851). BOLTON (1987) raised this taxon to a species rank and noted that *Monomorium destructor* r. *gracillimum* var. *karawajewi*, described from Sudan and Israel by FOREL (1913), is its junior synonym. Finally, the species was transferred by WARD *et al.* (2015) to the genus *Trichomyrmex* MAYR, 1865.

BOLTON (1987) noted *T. mayri* as a species widespread in the Paleotropics and suggested an Indian subcontinent as a place of its origin. He confirmed also its records from Africa: Egypt, Mali, Niger, Sudan and Asia: India, Iraq, Israel, Malaysia, Oman, Saudi Arabia, Sri Lanka, Syria, Thailand and Yemen. From Asia it was also recorded from southern China, Indonesia, Iran, Myanmar, and Vietnam (FOREL 1913, SANTSCHI 1924, TAK 2010, GUÉNARD & DUNN 2012, SHIRAN *et al.* 2012). Recently, *T. mayri* was noted from Qatar and United Arab Emirates and confirmed from other countries of the Arabian Peninsula (SHARAF *et al.* 2016). First record from Europe was based on three workers collected in southern Spain (AntWeb resources). BOLTON (1987) and SHARAF *et al.* (2016) suggested that in the regions west of India this is an invasive species with westward spread more successful than eastward. The latest data, however, also suggest effective expansion to the east and northeast of the Indian subcontinent and Indochina. It was noted from three localities in Western Australia, Northern

Territory and Queensland of northern Australia (CROSS *et al* 2016, ANDERSEN *et al.* 2018, ATLAS OF LIVING AUSTRALIA, web data). We have found this species in materials from the Philippines studied recently by us:

**PHILIPPINES**, Luzon, Morong Bataan, BTPI Park, 14.71138 N/120.28832 E, IV 2018, 80 m, leg. P. & G. Kowalski. Numerous workers were collected in the whole area.

BTPI Park (The Bataan Technology Park) is a part of The Philippine Refugee Processing Center (PRPC), which was established and funded by the United Nations as home to many refugees from Vietnam, Laos and Cambodia as well as ethnic minorities (Chinese). Also, tourist resorts were founded on the border of BTPI. Areas in the park are mainly covered with secondary forest, bushes and flowers. Plants are mostly of exotic origin or invasive for the Philippines. It is not surprising, therefore, that there are also many invasive and widely-distributed Asian ant species in BTPI. Apart of *Trichomyrmex mayri* we have also found the following ant taxa in the material collected within the park: *Anoplolepis gracilipes* (SMITH, 1857), *Camponotus* cf. *maculatus*, *Cardiocondyla mauritanica* FOREL, 1890, *Colobopsis leonardi* (EMERY, 1889), *Dolichoderus thoracicus* (SMITH, 1860), *Odontoponera denticulata* (SMITH, 1858), *Oecophylla smaragdina* (FABRICIUS, 1775), *Solenopsis geminata* (FABRICIUS, 1804), *Tapinoma melanocephalum* (FABRICIUS, 1793), *Tetramorium languinosum* MAYR, 1870, *Tetramorium simillimum* (SMITH, 1851), *Tetramorium smithi* MAYR, 1879, *Tetramorium walshi* (FOREL, 1890), and *Trichomyrmex destructor* (JERDON, 1851).

## ACKNOWLEDGEMENTS

We are thankful to Grażyna and Piotr KOWALSKI (Ciemne, Poland) for sending us interesting material collected in the Philippines to study.

## REFERENCES

- ANDERSEN A.N., HOFFMANN B.D., OBERPRIELER S. 2018. Diversity and biogeography of a species-rich ant fauna of the Australian seasonal tropics. *Insect Science* 25: 519–526.
- ANTWEB: <https://www.antweb.org/browse.do?genus=trichomyrmex&species=mayri&rank=species>.
- ATLAS OF LIVING AUSTRALIA. Web page: [https://bie.ala.org.au/species/ALA\\_Trichomyrmex\\_mayri#tab\\_mapView](https://bie.ala.org.au/species/ALA_Trichomyrmex_mayri#tab_mapView).
- BOLTON B. 1987. A review of the *Solenopsis* genus-group and revision of Afrotropical *Monomorium* MAYR (Hymenoptera: Formicidae). *Bulletin of the British Museum (Natural History). Entomology* 54: 263–452.
- CROSS A.T., MYERS C., MITCHELL C.N., CROSS S.L., JACKSON C., WAINA R., MUCINA L., DIXON K.W., ANDERSEN A.N. 2016. Ant biodiversity and its environmental predictors in the North Kimberley region of Australia's seasonal tropics. *Biodiversity and Conservation* 25: 1727–1759.
- FOREL A. 1902. Myrmicinae nouveaux de l'Inde et de Ceylan. *Revue Suisse de Zoologie* 10: 165–249.
- FOREL A. 1911. Fourmis de Bornéo, Singapore, Ceylan, etc. récoltées par MM. Haviland, Green, Winkler, Will, Hose, Roepke et Waldo. *Revue Suisse de Zoologie* 19: 23–62.
- FOREL A. 1913. Wissenschaftliche Ergebnisse einer Forschungsreise nach Ostindien ausgeführt im Auftrage der Kgl. Preuss. Akademie der Wissenschaften zu Berlin von H. v. Buttel-Reepen. II. Ameisen aus Sumatra, Java, Malacca und Ceylon. Gesammelt von Herrn Prof. Dr. v. Buttel-Reepen in den Jahren 1911-1912. *Zoologische Jahrbücher. Abteilung für Systematik, Geographie und Biologie der Tiere* 36: 1–148.
- GUÉNARD B., DUNN R.R. 2012. A checklist of the ants of China. *Zootaxa* 3558: 1–77.
- SANTSCHI F. 1920. Fourmis d'Indo-Chine. *Annales de la Société Entomologique de Belgique* 60: 158–176.
- SHARAF M.R., SALMAN S., AL DHAFER H.M., AKBAR S.A., ABDEL-DAYEM M.S. 2016. Taxonomy and distribution of the genus *Trichomyrmex* MAYR, 1865 (Hymenoptera: Formicidae) in the Arabian Peninsula, with the description of two new species. *European Journal of Taxonomy* 246: 1–36.
- SHIRAN E., MOSSADEGH M.S., ESFANDIARI M. 2013. Mutualistic ants (Hymenoptera: Formicidae) associated with aphids in central and southwestern parts of Iran. *Journal of Crop Protection* 2: 1–12.
- TAK N. 2010. Insecta: Hymenoptera: Formicidae. *Zoological Survey of India, Fauna of Ranthambore National Park, Conservation Area Series* 43: 133–144.
- WARD P.S., BRADY S.G., FISHER B.L., SCHULTZ T.R. 2015. The evolution of myrmicine ants: phylogeny and biogeography of a hyperdiverse ant clade (Hymenoptera: Formicidae). *Systematic Entomology* 40: 61–81.



Figs. 1–2. *Trichomyrmex mayri* (FOREL) major worker from BTPI Park (scale bar = 0.5 mm): 1. dorsal view, 2. lateral view (photo L. Borowiec).

Accepted: 12 February 2019; published: 18 April 2019

Licensed under a Creative Commons Attribution License <http://creativecommons.org/licenses/by/4.0/>