



SHORT NOTE

All Across North Africa: The Non-Native Longhorn Crazy Ant *Paratrechina longicornis* (Hymenoptera, Formicidae) in Libya and Tunisia

WALA OUESLATI¹, ANTONIO ALICATA², MATTIA MENCHETTI^{3,4}, SAÏD NOUIRA¹, ENRICO SCHIFANI⁵

1 - Department of Biological Sciences, University of Tunis El Manar, Tunis, Tunisia

2 - Department of Biological, Geological and Environmental Sciences, University of Catania, Catania, Italy

3 - Museum für Naturkunde, Leibniz Institute for Evolution and Biodiversity Science, Center for Integrative Biodiversity Discovery, Berlin, Germany

4 - Institut de Biologia Evolutiva (CSIC-Univ. Pompeu-Fabra), Barcelona, Spain

5 - Department of Chemistry, Life Sciences, and Environmental Sustainability, University of Parma, Parma, Italy

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Corresponding author

Enrico Schifani

Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma, Parma, Italy.

E-Mail: enrsc8@gmail.com

Abstract

The longhorn crazy ant *Paratrechina longicornis* (Latreille, 1802) is one of the most widespread ant species worldwide due to human-mediated introductions. It is particularly successful in tropical and subtropical regions across all continents and has become widespread in the Mediterranean, where it is usually detected in heavily disturbed sites. Southern Europe seemingly represents the northern limit for outdoor populations in this region. Here we report the first data from Libya and Tunisia, bridging the only major distribution gap in North Africa. Specimens were collected from one Libyan and 15 Tunisian sites from 2003 to 2025. The range of *P. longicornis* is virtually continuous from Morocco to China. Despite its cosmopolitan range, very little is known about the interactions with native ants or other organisms.

By the end of the 19th century, while very little was known about the world's ant fauna and its distribution, the longhorn crazy ant *Paratrechina longicornis* (Latreille, 1802) had already been recorded from much of the world: Africa (including Madagascar), America (from Brazil to Cuba and New York), Asia (from Indonesia to the Levant), Australia, and Europe (France, UK), and even isolated archipelagos such as the Hawaii or the Seychelles (Wetterer, 2008). Today, among the several ant species that benefited from human-mediated introductions, *P. longicornis* is arguably the most widespread (Wetterer, 2008; Janicki et al., 2016). At the same time, its native range, perhaps located in the Indian subcontinent, has not been clearly defined (Wetterer, 2008; Janicki et al., 2016). This species has also attained the status of model organisms for various laboratory studies on ant behaviour (e.g., Witte et al., 2007; Czaczkes et al., 2013; Dreyer et al., 2025).

In the Mediterranean, *P. longicornis* has been recorded as established outdoors mostly in the southern regions (e.g., Cyprus: Demetriou et al. 2023a; Egypt: Guénard et al., 2017; Greece: Demetriou et al., 2023b; Sicily: Schifani & Alicata, 2018; Türkiye: Karaman & Kiran, 2018) and north to Barcelona (Spain) (Espadaler et al., 2021). It is usually an indoor only introduced species at higher latitudes in the European-Mediterranean region (e.g., Northern Italy, France, etc.; see Süß, 1979; Janicki et al., 2016; Blatrix et al., 2018; Schifani, 2019). Nevertheless, climate change may allow outdoor populations to expand further northwards (Schifani et al., 2024).

In North Africa, *P. longicornis* was first recorded from Egypt in 1880 (André, 1881; Emery, 1881). Next, it was reported from Morocco in 1929 (Santschi, 1929), and its earliest documented presence in Algeria dates to 1962 (Wetterer, 2008). Taheri & Reyes-López (2018) recently



published several new localities testifying to an extensive presence along the Moroccan Atlantic and Mediterranean coasts.

Here we present new records from the only major North African gap: *Paratrechina longicornis* was collected by the authors from a single Libyan locality in 2003 and in 15 Tunisian localities from 2014 to 2025 (Table 1, Fig 1). Specimens were collected and stored in ethanol in the authors' personal collections. Identification followed the keys of LaPolla & Fisher (2014). The new records make the distribution of *P. longicornis* virtually continuous from the Atlantic coast of Morocco to the Pacific coast in China. While our records from Tunisia originate from an extensive collecting effort across the country, the Libyan record is the fruit of a single visit, and the distribution of the species in Libya is probably more extensive.

The ecological effects of *P. longicornis* in the invaded regions have rarely been investigated in depth. A rare exception comes from the “Biosphere 2” project of artificial biomes in the Arizona desert, where *P. longicornis* became very abundant, replacing most other ants and impoverishing arthropod communities (Wetterer et al., 1999; 2008). In the Galápagos Islands, *P. longicornis* became one of the most common prey for the endemic lava lizards (Moreno-Buitrón et al., 2024).

Within its native region, it has been observed contributing to the biological control of agricultural pests alongside other predatory ants (Way et al., 1989). In Mediterranean climates, it has never been reported as a serious environmental concern, and it is usually limited to disturbed areas, as in the case of most of our records – yet some exceptions have been reported (e.g., in the south of Tenerife, Canary Islands, see Schifani et al. 2018). As with most other introduced ants, despite the frequent absence from natural habitats, ecological impacts in urban or agricultural habitats deserve some attention (Wong et al., 2023). Even though they are often abundant in anthropogenic environments, biosurveillance systems often fail to detect introduced ants (Wong et al., 2023; Menchetti et al., 2024). New records frequently originate from scientists or amateurs, as has occurred even for highly invasive species in Europe, such as the little fire ant *Wasmannia auropunctata* in Cyprus (Demetriou et al., 2022), Spain (Espadaler et al., 2018), and France (Blight et al., 2024), the Asian needle ant *Brachyponera chinensis*, and the red imported fire ant *Solenopsis invicta* in Italy (Menchetti et al., 2022, 2023). This is also the case for *P. longicornis*, for which further monitoring and studies should define its actual distribution and understand the interactions with native organisms in the Mediterranean.

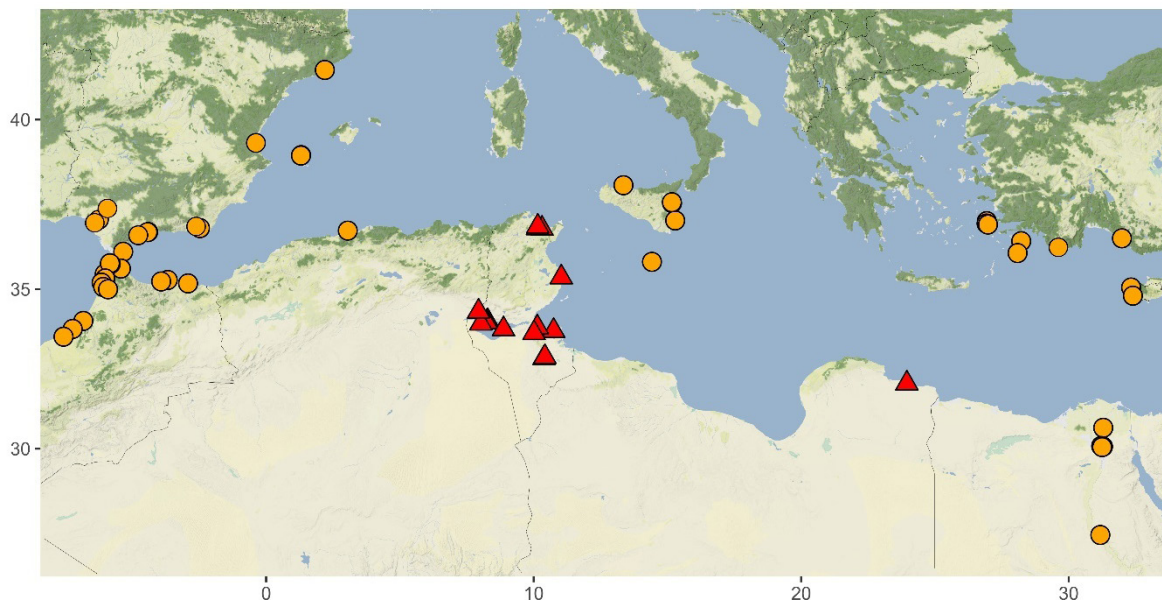


Fig 1. Distribution of *Paratrechina longicornis* in the Mediterranean. Red triangles indicate new localities from this study (Libya, Tunisia), while orange circles indicate literature data from antmaps.org (Janicki et al., 2016), Karaman & Kiran (2018), Schifani & Alicata (2018), Taheri & Reyes-López (2018), Luna-Santamaría et al. (2022), Prieto-Lillo et al. (2024), and one Turkish record from iNaturalist.org (<https://www.inaturalist.org/observations/286320794>). Map from Stadia Maps-stadiamaps.com and Stamen Design (stamen.com), plotted using the R package “ggmap” (Kahle & Wickham, 2013).

Authors' Contribution

W.O.: Investigation, writing-review & editing.
A.A.: Investigation, writing-review & editing.

M.M.: Investigation, writing-review & editing.
S.N.: Supervision, writing-review & editing.
E.S.: Investigation, visualization, writing-original draft, writing-review & editing.

Table 1. The first records of the longhorn crazy ant *Paratrechina longicornis* in Libya and Tunisia.

Country	Latitude	Longitude	Site	Habitat	Coll. date	Collector
Libya			Butnan District: Tobruk	Urban environment	28.VIII.2003	A.A.
Tunisia	36.886918	10.152032	Ariana: Djebel Ennahli	Degraded forest	21.IV.2014	W.O.
Tunisia	33.872931	10.858119	Djerba: Houmet souk	Urban environment	05.X.2015	W.O.
Tunisia	36.835754	10.143319	Tunis: Faculty of Sciences	Urban environment	07.XI.2015	W.O.
Tunisia	33.990605	8.232042	Tozeur: Degueche	Oasis	04.X.2016	W.O.
Tunisia	33.947040	8.026340	Tozeur: Ibnou Chabbat	Oasis	04.X.2016	W.O.
Tunisia	32.910003	10.418588	Tataouine: Rogba: Djebel Hadj Smida	Desert environment	06.X.2016	W.O.
Tunisia	34.020036	8.279313	Tozeur: Bouhlel Sdada	Oasis	06.X.2016	W.O.
Tunisia	33.770698	8.871245	Kebili: Jaziret Louhichi	Oasis	06.X.2016	W.O.
Tunisia	33.828187	10.135187	Gabes: Oasis Teboulbou	Oasis	07.X.2016	W.O.
Tunisia	32.878704	10.389043	Tataouine: Ksar Ouled Dabeb	Agricultural environment	07.X.2016	W.O.
Tunisia	34.316182	7.939682	Tozeur: Chebika	Oasis	09.X.2016	W.O.
Tunisia	33.653645	10.013200	Gabes: Matmata	Village edge/desert steppe	03.XI.2016	W.O.
Tunisia	33.722722	10.745324	Djerba: Ajim	Urban environment	01.V.2017	W.O.
Tunisia	35.360939	11.031046	Mahdia: Salakta	Beach	13.VII.2017	W.O.
Tunisia	36.823495	10.309005	Tunis: La goulette	Urban environment	25.III.2019	W.O.
Tunisia	36.809810	10.303735	Tunis: La goulette	Urban environment	05.V.2025	M.M., E.S., A.A.

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