

ANTONIO SCUPOLA

Museo Civico di Storia Naturale di Verona,
Lungadige Porta Vittoria 9, 37129 - Verona
scupolant@outlook.it

FIRST RECORDS OF THE ANTS GENUS *FORMICA* LINNAEUS 1758 (HYMENOPTERA FORMICIDAE) FROM THE COASTAL PINE WOODS OF SALENTO PENINSULA (APULIA, SOUTHERN ITALY)

RIASSUNTO

Il genere *Formica* L. è rappresentato in Italia da 23 specie diffuse per la maggior parte sulle Alpi e Appennini centrosetentrionali (BARONI URBANI, 1971; POLDI *et. al.* 1995; RIGATO, 2016). Nel sud Italia e nelle isole le conoscenze sono molto scarse, come risulta peraltro dall'elenco di specie qui aggiornato. È sorprendente la mancanza di dati per tutta la regione Puglia con l'unica eccezione della vecchia citazione di *F. gagates* Latr. per il Gargano (EMERY, 1914). Nuove segnalazioni sono quindi di particolare interesse per la Regione. In questa sede si segnala per la prima volta la presenza di *Formica* L. nel Salento (Laghi Alimini e Litorale di Ugento). La specie, trovata sui terreni sabbiosi nelle pinete costiere, è molto simile a *F. clara* For. una specie diffusa dal Pakistan all'Europa centrale (recentemente segnalata in Sardegna da RIGATO and TONI, 2011) ma dallo status tassonomico ancora incerto vista la notevole variabilità morfologica riscontrata in tutto il suo areale (SEIFERT, *com. pers.*). Per prudenza in questa sede gli esemplari salentini sono determinati come *Formica* sp. (prope *clara* For.). La presenza di questa popolazione non è chiara. Si può ipotizzare l'eventuale origine trans-adriatica o trans-ionica durante i collegamenti terrestri dai Balcani nel periodo Quaternario. Più plausibile è l'introduzione accidentale causata dall'uomo a partire dal XVIII secolo, epoca in cui furono piantate le prime pinete di *Pinus halepensis*, proseguite peraltro fino agli anni 1950-60 ed aventi lo scopo di bonificare le coste paludose salentine, tantè che tutte le pinete del Salento hanno origine artificiale (MEDAGLI and MARCHIORI, *com. pers.*). Da notare che il pino d'Aleppo ha invece un'origine naturale in altre zone del sud Italia (Gargano, Calabria ecc.) ed in tali zone è possibile che vi siano popolazioni autoctone di *Formica* sp. (prope *clara* For.). Tale specie è da considerarsi vulnerabile

(VU) stante la notevole pressione antropica che le pinete costiere salentine stanno subendo da alcuni anni. È auspicabile quindi l'inserimento del taxon nella lista rossa delle specie minacciate della Regione Puglia.

INTRODUCTION

In Italy there are 23 species of the genus *Formica* L. (BARONI URBANI, 1971; POLDI *et al.*, 1995; RIGATO, 2016). Most species occur in northern Italy, especially in the Alpine and pre-Alpine areas. In central and southern Italy *Formica* species distribution is poorly known, but usually they prefer the mountain areas and are rare in the lowlands. On the basis of BARONI URBANI's catalogue (1971) and more recent (see below), the genus *Formica* in southern Italian regions (Campania, Molise, Apulia, Basilicata, Calabria, Sicilia, Sardinia) is represented by the following taxa:

***F. lugubris* Zetterstedt, 1840:** Sicily (introduced by man), Sardinia (introduced by man). In Baroni Urbani's catalogue the doubtful citation for Campania of *F. nigricans* Bondroit (a synonym of *F. pratensis* Retzius), must actually be referred to *F. lugubris*. MAYR (1855) mentioned *F. congerens* Nylander from Naples, a synonym of *F. lugubris*, not of *F. pratensis*. Moreover, no *Formica* records from Campania have been recently confirmed.

***F. sanguinea* Latreille, 1798:** Campania, Basilicata, Calabria, Sicily.

***F. cinerea* Mayr, 1853:** Campania, Basilicata, Calabria.

***F. fuscocinerea* Forel, 1874:** Campania (as *F. cinerea* v. *lefrancoisi* Bondroit). BARONI URBANI (1971) cited Pompeii only, on the basis of SANTSCHI's (1934) paper. This record has never been confirmed.

***F. cunicularia* Latreille, 1798:** Campania, Basilicata, Calabria, Sicily, Sardinia.

***F. rufibarbis* Fabricius, 1793:** Campania, Basilicata, Sardinia. Possibly all of the literature records of *F. rufibarbis* from Sardinia should be referred to *F. clara* (RIGATO and TONI, 2011).

***F. clara* Forel, 1886:** Sardinia. Recently, identified by RIGATO and TONI (2011).

***F. fusca* Linnaeus, 1758:** Campania, Calabria, Sardinia.

***F. gagates* Latreille, 1798:** Molise, Apulia, Campania, Basilicata, Calabria.

The genus *Formica* in Apulia was mentioned by EMERY (1914) from Gargano only. A unique record of the same species exists for Molise. For these reasons any new record of *Formica* from southern Italy looks very interesting.

Since the 1970s I noticed an unidentified bicoloured *Formica* (*Serviformica*) from Salento peninsula (southern Apulia, Lecce province) living in coastal pine woods along the Adriatic coast (San Cataldo, Torre Sant'Andrea). In 2000 I also collected some specimens inside the coastal pine woods near the

town of Otranto. I provisionally considered those specimens as *Formica* sp. near *glauca* Ruzsky, and Fabrizio Rigato identified them as *Formica lusatica* Seifert. More recently SEIFERT and SCHULTZ (2009) synonymised *F. lusatica* with the euroasiatic *F. clara* Forel, the former being a clinal variation of *clara*. Bernhardt Seifert and Roland Schultz examined three specimens of mine through numerical analysis, but the results did not confirm any identification. Seifert himself suggested to, wait for a future taxonomic revision (Seifert pers. comm.) to define the exact distribution and morphological limits of *F. clara*. For that reason I name my Salento specimens as *Formica* sp. (prope *clara*). More recently I found other, seemingly conspecific, specimens along Salento's Ionian coast.

MATERIALS

- Lakes Alimini, near Otranto (Lecce), VI. 2000, (in pine wood), leg. A. Scupola., 4 operaie (Seifert and Scupola collections).
- Coastal pine wood, Loc. Lido Pineta between Torre San Giovanni and Torre Mozza, Regional Natural Park "Litorale di Ugento" (Ugento, Lecce province), 25-29.VII.2015 leg., A. Scupola 11 operaie (Scupola collection).

DISCUSSION

The Salento *Formica* specimens (figs.1, 2) belongs to the *F. rufibarbis* species-group and are similar to *F. cunicularia*. Yet, the latter is mostly dark brown, including clypeus and frontal triangle, with paler genae, and has larger eyes. The Salento specimens recall *F. clara* as well, but have partially infuscated clypeus, less extensively ferruginous genae and mesosoma, the latter with a weakly darker dorsal patch, and a more angled propodeum.

The origin of Salento *Formica* is unclear. Possibly this population is a trans-Adriatic or trans-Ionian species coming from Balkans, was connected with the Salento peninsula during the Quaternary. Otherwise it could be an accidental introduction by man, starting from the XVIII century when *Pinus halepensis*, was planted along the coasts. All Salento pine woods have an artificial origin (FRANCINI, 1953; MEDAGLI and MARCHIORI, pers. comm.), and now they constitute the only wooded area of the region. On the contrary, pine woods of neighbouring Basilicata, Calabria and Gargano (northern Apulia) have an old natural origin. The occurrence of *Formica* sp. (prope *clara*) in these regions is possible as well. In Salento *Pinus halepensis* woods are spreading because of climatic changes (MEDAGLI pers. comm.), however the future of the pine



Figs. 1-2 – *Formica* sp. (prope *F. clara* For.): head (1), body (2) (specimen from Litorale di Ugento).

woods appears uncertain. In fact the Salento coasts are constantly subject to a strong human pressure. yet pine woods are only partially protected by law, and, consequently, *Formica* populations could quickly become extinct. For that reason it would be desirable to add that ant species, with a vulnerable (VU) status, to a “red list” of Apulian protected fauna.

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