



<http://dx.doi.org/10.11646/zootaxa.3709.6.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:10D447D5-D5C0-409F-85FC-6E3E4619C487>

The ants (Hymenoptera:formicidae) of Rawdhat Khorim Nature Preserve, Saudi Arabia, with description of a new species of the genus *Tetramorium* Mayr

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Abstract

Rawdhat Khorim, a densely vegetated alluvial basin supporting a distinctive floral community in the hyper-arid desert of central Saudi Arabia, is one of the most important protected nature sanctuaries of the country. The ant fauna (Formicidae) of Rawdhat Khorim was sampled and 14 species, including one new species were collected using a variety of sampling methods. The new species, *Tetramorium saudicum* sp. n., a member of the *T. caespitum*-group, is described based on the worker caste. *Cataglyphis viaticoides* (André) is recorded for the first time from Saudi Arabia. The information in this paper will allow natural resource managers to establish long-term ecological studies, using sentinel taxa such as ants to evaluate present and future impacts on Rawdhats.

Key words: Saudi Arabia, Formicidae, ant communities, *Tetramorium*, new species, new records

Introduction

In many regions of the world nature reserves, sanctuaries, and wildlife parks are often the last refuges of biological diversity. Increasing human populations and associated impacts are usually at the expense of natural ecosystems and biological resources. These perturbations often impact even protected or managed landscapes (Likens, 1991; Hobbs and Huenneke, 1992; NCWDC, 2005).

The Arabian Peninsula, a region of a unique mixture of Palaearctic, Afrotropical, and Oriental faunal elements is being impacted by rapid population growth and development (Roudi-Fahimi and Kent 2007). As Al Omari (2011) pointed out, protected areas of the Peninsula do not fully reflect the diversity of habitats and species. In the largest country of the Arabian Peninsula, the Kingdom of Saudi Arabia, the central region comprising Riyadh Province includes remarkable ecosystems such as the Al-Dahna Desert and the Towaik Mountains (Zoghet and Al Alsheikh, 1999). Another unique ecosystem of Riyadh Province and environs is known as Rawdhats, the Arabic word for “gardens”. About 130 Rawdhats have been identified in Riyadh Province (Al Mobdel, 2001). These “gardens” are usually densely vegetated alluvial basins or plains that often include vernal ponds and lakes, supporting a distinctive floral community in the hyper-arid deserts of the region (Vesey-Fizberald 1957, Tag El-Din *et al.* 1994, Shaltout and Mady 1993, Al-Farraj *et al.* 1997, Alfarhan 2001). However, cities of the region—Riyadh, Buraida, and Al Kharj are rapidly expanding into vast surrounding areas. Overgrazing, woodcutting, motorized vehicle traffic, and even day use activities such as picnicking have recently threatened these Rawdhats (Al-Farraj *et al.* 1997). One of the largest of these Rawdhats, approximately 95 km northeast of Riyadh, is Rawdhat Khorim (Alfarhan 2001).

The insect fauna of these Rawdhats is poorly studied. Usually the dominant insects of these areas are ants. No large-scale ant study has been conducted in any of the Rawdhat areas in Saudi Arabia. The purpose of this paper is to report on the ants of Rawdhat Khorim including the description of a new species.