

## New occurrence of the hygrobiotic mite family Homocaligidae (Acari, Raphignathoidea) in Turkey: *Homocaligus crassipus* Fan

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### Abstract

Most raphignathoid mites are characteristic of the drier edaphic microhabitats such as litter, soil, bark and moss. A few are fresh-water aquatic to sub-aquatic: species of the family Homocaligidae; and some species of *Caligohomus* Habeeb, 1966, *Cheyllostigmaeus* Willmann, 1951 and *Eustigmaeus* Berlese, 1910 of the family Stigmaeidae. Homocaligidae has occasionally been reported from Asia, Australia, Europe, North America and South Africa. This rarely collected family has not been previously reported from Turkey, but now is known to be a part of the mite fauna of Turkey, with herein the re-description of *Homocaligus crassipus* Fan based on adults, protonymphs and deutonymphs found on hydrous grassy soil and moss wetland area, Ekşisu Marsh, eastern part of Turkey. The male of *H. crassipus* is newly discovered and described here. Also, an identification key to the known species of the genus *Homocaligus* is presented.

**Key words:** Acari, Homocaligidae, *Homocaligus*, new record, re-description, Turkey

### Introduction

The superfamily Raphignathoidea (Acari: Trombidiformes) comprises 11 families, seven of which have been recorded from Turkey: Barbutiidae, Caligonellidae, Camerobiidae, Cryptognathidae, Eupalopsellidae, Raphignathidae and Stigmaeidae (Doğan 2007, Erman *et al.* 2007). This paper reports the presence of an eighth family, Homocaligidae.

Homocaligidae is a small family of infrequently collected species inhabiting wet vegetation and detritus at the margin of ponds. These mites are thought to be aquatic or sub-aquatic, and may venture beneath the water surface, aided by accessory respiratory sacs and tubes. Tolstikov (2001) has made some observations on direct sperm transfer of *Homocaligus amphibius*, but the behaviour, ecology and feeding habits of these mites remain unknown. They are thought to be predaceous as in the majority of the Raphignathoidea (Fan & Zhang 2005, Walter *et al.* 2009, Smith *et al.* 2010).

This family is characterised by: idiosoma hemispherical, covered by a dorsal shield and a pair of lateroventral humeral shields; prodorsum with a transversal groove leading internally to one pair of sacs (female) or tubes (male); 10 pairs of dorsal body setae, postocular pair minute; a pair of eyes; intercoxal setae present; suranal and aggenital shield fused, bearing two pairs of suranal and three pairs of aggenital setae; anogenital shields with one pair of genital and three pairs of pseudanal setae; cheliceral bases fused, but not forming a stylophore, movable digits stylet-like; palp 5 segmented, tibial claw strong, palpal terminal eupathidium basally fused, trident; leg tarsi with two claws,