

***Kaloterme flavicollis* (Fabricius, 1793) (Isoptera: Kalotermitidae), the yellow-necked dry-wood termite new for South Tyrol**

Introduction

There are two genera of termites occurring naturally in Western Europe, *Reticulitermes* and *Kaloterme*. The first is an inhabitant of soil and “moist” wood, while *Kaloterme* inhabits dry woods mostly aboveground (SCICCHITANO et al. 2018). This genus is represented in Europe by two species: *Kaloterme flavicollis* and the recently described *K. italicus* (GHESINI & MARINI 2013). The first one has recently been split by means of genetic approaches into further several subgroups (SCICCHITANO et al. 2018).

Kaloterme flavicollis is a dry wood termite species that is restricted to the Mediterranean basin from Greece to Spain (GHESINI & MARINI 2013). This termite has a hidden life form within timber of different kind (BUCHELOS et al. 2017), where it forages and constructs its nest. Only for the swarming of winged animals they emerge, also in great numbers. Their hidden and lucifugous way of life makes it easy to overlook them. Finally, *K. flavicollis* has the potential to become a pest (living in wood-floors, painting frames or other wooden objects) threatening cultural buildings and artefacts (NOBRE & NUNES 2001; DOMENICO & MAISTRELLO 2014) and causing problems also in vineyards (LÓPEZ et al. 2003).

Finding

Kaloterme flavicollis was found for the first time in South Tyrol in Bozen/Bolzano (WGS83: 46.503580°N 11.356094°E, 300 m a.s.l.; Fig. 1) on 9th October 2017 in the afternoon. The record consisted in one living individual of a winged female observed on a window inside a student home. The climate conditions were: 19.3°C air temperature and 39.1% relative air humidity and 1015.3 hPa atmospheric pressure (Climatic data extracted from meteobrowser.eurac.edu; GENOVA et al. 2019).

Despite regular controls for over one and a half years by the second author, there were no further findings of the species that would have given evidence of the presence of a colony. The specimen in question was determined and pictured using a microscope (LEICA M205 C) with 160x magnification and connected to a camera (Moticam 5 5.0MP). The record was also posted on iNaturalist.org (<https://www.inaturalist.org/observations/13856511>).

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Fig. 1. The winged female termite found in Bolzano on 9th October 2017 (staged picture by E. Guariento).

Discussion

The record of the termite species *Kaloterмес flavicollis* in South Tyrol remains difficult to interpret. It is unclear if the colony from which the queen originated is local (probably since it was found alive) or if the specimen was introduced from a population south of the Alps. The time of discovery matches the known period of swarming, that is between September and November (LÓPEZ et al. 2003). Considering the mild sub-Mediterranean climate of the city of Bozen/Bolzano, persistence of this species in the city and surrounding is possible (especially within buildings).

Despite an increased search for further records (by means of personal contacts with experts and social media records and consulting previous checklists such as HELLRIGL 1996 and SBRENNNA & MICCIARELLI 2008) for this species in South Tyrol, Northern Italy and the whole Alps, no other occurrences could be determined in the whole region. The closest confirmed record comes from the coast around Venice (SBRENNNA & MICCIARELLI 2008). The species also occurs regularly in Slovenia and in southern France (SCICCHITANO 2018). Both termites in general (EVANS et al. 2013; SCICCHITANO et al. 2017) and *K. flavicollis* in particular (FERREIRA et al. 2013) are known to have a high potential of becoming invasive species. The invasiveness is favoured by the fact that these organisms are easily translocated through anthropogenic activities (EVANS et al. 2013). *K. flavicollis* which nests in dry wood is especially well suited to be transported in new habitats and regions by means of both potted trees and woods. In face of the ongoing climate change, BUCZKOWSKI & BERTELSMEIER (2017) already warned against the spread of termites, which can realistically be expected also for our region. It is therefore important to further monitor and record the development of termite distribution even in locations where their presence would not be expected at first.

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