

## Short notes

## The first record and occurrence of the ornate cow tick *Dermacentor reticulatus* (Fabricius, 1794) in south-western Poland

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**ABSTRACT.** The following report concerns the first record and occurrence of an ornate cow tick (*Dermacentor reticulatus*) in the Silesian province. One female and one male were collected from a dog in the veterinary clinic in Racibórz, while in the vicinity of Żywiec one female tick was found also on a dog. Ticks collected in Racibórz are most probably part of the local fauna, while the specimen from Żywiec may have come from the Warsaw area, the source of the host. These findings confirm changes of European distribution recorded lately for this species and the role of humans in this process. However, they need to be supported by more thorough research involving collection by flagging and/or other hosts such as wild animals.

**Key words:** *Dermacentor reticulatus*, new location, dog infestation

### Introduction

Until now, the presence of 19 species of ticks has been confirmed in Poland, 8 of which were found in the Silesian province: *Argas reflexus*, *Hyalomma aegyptium*, *Ixodes ricinus*, *I. hexagonus*, *I. crenulatus*, *I. vespertilionis*, *I. trianguliceps* and *I. lividus* [1]. Furthermore, the presence of some other species in this area is very likely: *Carios vespertilionis*, *Dermacentor reticulatus*, *D. marginatus*, *Ixodes rugicollis*, *I. persulcatus*, *I. arboricola*, *I. simplex*, *I. apronophorus*, *Hyalomma marginatum*, *Rhipicephalus sanguineus* and *R. rossicus* [2,3]. This prognosis is based on an analysis of distribution maps for these species included in a paper by Siuda [1]. It is probable that these ticks have not yet been discovered in the Silesian province only because no research has been carried in this direction, or if so it

was conducted in a manner that did not allow for it.

The ornate cow tick also called the marsh tick (*D. reticulatus*) is a partly exophilic species. Larvae and nymphs of this tick lead a life similar to endophilic species, and the adult forms behave like exophilic ticks [2]. The first record and occurrence of this species in the Silesian province and at the same time in the whole of Upper Silesia region is particularly interesting.

### Results and Discussion

A total number of 3 specimens (2 females and 1 male) were collected from dogs at veterinary clinics in Racibórz and Żywiec (Fig. 1). The record from Racibórz is more certain, because ticks were collected there only from animals that had not left the area. The female in Żywiec was collected from



Fig. 1. The distribution of the ornate cow tick (*Dermacentor reticulatus*) in the Silesian province

a dog which originally came from the vicinity of Warsaw and was there only for a holiday with its owners. For this reason, this record is not as certain, but nevertheless interesting, because this dog was ill with babesiosis. The close relationship of *Babesia canis* with this vector has been confirmed by the research performed in the area of Warsaw. None of the studied specimens of common tick (*Ixodes ricinus*) were found to be positive for *Babesia canis*, which was present in 11% of ornate cow tick specimens [4]. This fact was additionally confirmed by studies of dogs in the area of Szczecin, in which neither the ornate cow tick nor dog tick (*R. sanguineus*) were found, and nor were protozoa [5]. Both species of common and ornate cow tick transmit *B. microti*, which is much more dangerous to humans than dogs [6]. This may indicate that in the vicinity of Racibórz and Żywiec, there is a risk of infection of both dogs and humans with babesiosis, if not now then perhaps in the near future.

The ornate cow tick is widely distributed in temperate zones throughout Eurasia, from Great

Britain to the Yenisei River. However, the distribution is not continuous and divided into two parts: Western and Eastern European. The Western European part covers south-western England, Wales, France, northern Spain, western Germany, Austria, Czech Republic, western Slovakia and Hungary. The eastern part, on the other hand, begins in eastern Poland, and Slovakia, and extends through Ukraine, eastern Hungary and Romania, Belarus and Russia to Siberia. In Poland, the tick was present only in areas east of the Vistula River until 2007 [7]. In subsequent years, starting from 2007 this species began to appear on the following locations moving due west of the Vistula River. In 2009, it was found at sites in the vicinity of Wrocław and Szczecin. Additionally, in Germany, ticks from the western population began to spread eastward in the 1980's [7].

Ticks from western Poland, including individuals from the Silesian province, possibly come from the Western European population. Individuals from Racibórz most probably come from a population that arrived through the „Moravian Gate” from the Czech Republic. It is expected that both ranges of the species will soon merge together, which will take place on Polish territory. A significant role in this process is played by the development of civilization and the means of transport, as evidenced by the case of the dog from the veterinary clinic in Żywiec. The primary cause for this disruption of species distribution is not yet fully understood [7]. This tick may possibly occurs throughout the country, but due west of the Vistula River it may be far less abundant than in the east. In this region, its behaviour may be more insular and therefore more difficult to find. Another reason may be that in the west of the country, most investigators begin tick collections in May/June, and later in September/October, during activity peaks of common tick, while ornate cow tick activity peaks are in April and the first half of October [1].

These findings require confirmation through more thorough methods of tick detection, such as flagging or collecting ticks from other hosts, such as raccoon dogs shot by hunters or killed by cars. Movila et al. [8] confirm that this tick appears on raccoon dogs in very large numbers: the authors collected more than 90 individuals from only 2 host specimens.

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