

## Observations on collections of ticks from Denmark.

By

D. R. Arthur, King's College, London, England.

As a result of a visit to Denmark I had an opportunity of examining undetermined ticks in the collections of the Veterinary School (Den Kgl. Veterinær- og Landbohøjskole, Zoologisk Laboratorium, abbr. V.S.) and of the Zoological Museum (Universitetets Zoologiske Museum, Copenhagen, abbr. Z. M.). In this survey I was materially assisted by Mr. N. Haarløv, M.Sc. and Dr. S. L. Tuxen, who in addition to loaning me material also deciphered the Danish labels. I am deeply indebted to both.

Earlier reports on Danish ticks have been given by Schulze (1930a) who recorded 7 species of *Ixodes* and *Haemaphysalis punctata* Can. & Fanz. and Palle Johnsen who reported 4 species of *Ixodes* (1946), *Hyalomma ægyptium* L. (1943a) and *Hyalomma marginatum* Koch (1943b) Christiansen (1934) wrote on the occurrence of *Argas reflexus* Latr. in Denmark. To these existing records I now add the following which are recorded for the first time from Denmark: *Ixodes trianguliceps* Birula 1895, *I. canisuga* Johnston 1849, *I. arvicolae* Warburton 1926, *I. arvicolae* var. *danica* Arthur 1954, *I. caledonicus sculpturatus* Schulze 1929, *I. passericola* Schulze 1933 and *Argas pipistrellae* Audouin 1832. — Twenty species and varieties of ticks are now known from Denmark. From the collections it would appear that *Ixodes reduvius* L. (= *ricinus* L.) is the most common species; the many findings of this species also in the new material are not recorded in the present paper.

**Ixodes hexagonus** Leach 1815.

Bornholm, 9. 1918. One female from dog (*Canis familiaris*) (V. S.). Jylland, latter half of nineteenth century. 1 larva from *Mustela foina*. Conradsen leg. (Z. M.).

This species is found in Western and Central Europe, but undoubtedly confusion with other species has resulted in erroneous limits to its distribution. Its general distribution (Tambs Lyche, 1943) and a more detailed survey within a limited area (Arthur, 1953) suggest that *I. hexagonus* does not extend as far north as *I. redwivius*.

**Ixodes trianguliceps** Birula 1895.

Bregninge, Taasinge, S. of Fyen, 12. 7. 1947. Two nymphs off *Clethrionomys glareolus*. E. Ursin leg. (Z. M.).

Bregninge, Taasinge, S. of Fyen, 12. 7. 1947. Three larvae off *Apodemus flavicollis*. E. Ursin leg. (Z. M.).

Brahetrolleborg, 25. 10. 1950. Two larvae from the nest of *Mus minutus* (V. S.).

Rudehegn (North Zealand), no date. From nest of mouse. One male(?) (Z. M.).

The systematic status of this species has been discussed by Tambs Lyche (1943) but on comparing the Danish with the English specimens I must conclude that the former are *I. trianguliceps*. I have queried the identification of the male tick from Rudehegn recorded in the foregoing list as *I. trianguliceps* because of its association with *I. arvicolae* var. *danica* Arthur. Similarly Warburton (1926) found a single male which was identified as *tenuirostris* (= *trianguliceps*) associated with the females of *I. arvicolae* from Cambridge, England. Whether these males are actually *trianguliceps* or not is difficult to determine, and we may have here something analogous to the condition found in *I. canisuga* Johnston and *I. baergi* Cooley & Kohls, where the females can be separated but the males of the two species are morphologically indistinguishable. The separation of such males requires further investigation with larger supplies of material.

***Ixodes frontalis* Panzer 1795.**

No locality. Latter half of nineteenth century. Four nymphs off *Turdus merula*. A. Benzon leg. (Z. M.).

***Ixodes canisuga* Johnston 1849.**

Skovledmose, near Jonstrup Vang, Zealand. 10. 8. 1941. One female from nest of hedgehog (*Erinaceus europaeus*) (Z. M.).

Jægerspris. 27. 1. 1932. Associated with mites. One female. I. Als leg. (V. S.).

Previous writers have not reported this species from Denmark, nor indeed from any of the Scandinavian countries.

***Ixodes arvicolae* Warburton 1926.**

Holte, North Zealand. 8. 1928. One female from a living rat. J. P. Kryger leg. (Z. M.).

The occurrence of *I. arvicolae* from Denmark is of some interest as the only previous records appertain to the holotype and paratypes, which were determined by Warburton (1926). This type material has since been re-examined by the writer and the species re-described (Arthur, in press).

*Ixodes arvicolae*, *I. acuminatus* Neumann and *I. guernseyensis* Arthur have so many characters in common that they may be considered as closely related. The constant differentiating characters in the limited material available do however suggest that they are distinct species.

***Ixodes arvicolae* var. *danica* Arthur 1954.**

Rudehegn, North Zealand. From mouse nest (Z. M.).

This variety was designated on the basis of one female specimen. It is with some diffidence, due to lack of knowledge of intermediate variation and material, that I have given varietal rank to this unique specimen. However, the unequal spurs on coxa I, the shortness of the scapulae, the slight emargination of the scutum and the more broadly rounded posterior margin with its less

convex sides, the larger spiracle and the more numerous goblets as compared with *I. arvicolae* seem to justify such action. The variety has been described elsewhere (Arthur, in press). The holotype female and associated preparations will be deposited in the Zoologisk Museum, Copenhagen.

***Ixodes melicola*** P. Sch. and Schl. 1929.

Langholt, Vendsyssel, Jylland. 17. 1. 1948. One female, 44 nymphs and two larvae from *Meles meles*. Tuxen leg. (Z. M.).

Both Johnsen and Schulze have reported this species from Denmark, but it is not on record from either Norway or Sweden.

***Ixodes caledonicus sculpturatus*** P. Sch. and Schl. 1929.

Neither locality nor collector are given for this species, whose recorded host is *Cypselus apus*. The legend reads 'Af *Cypselus apus*. Tilv: 3 Juli, 1878'. Dr. Tuxen in private correspondence (1st April, 1954) informed me that it should have been given a journal number on this day, but is unable to trace any such record. He does however point out that it did come with absolute certainty from Denmark. This species is new for Denmark, and it agrees quite well with Schulze & Schlottke's description (1929). Nevertheless this giving of varietal status may prove to be erroneous when a better knowledge of the variability of the species becomes available.

***Ixodes passericola*** P. Sch. 1933.

Bellahøj, Copenhagen. 25. 9. 1915. One female from nest of *Sturnus vulgaris*. J. P. Kryger leg. (Z. M.).

Schulze (1944) reported this tick from the starling in Mecklenburg, Germany; more recently it has been collected from a starling, a robin, blue tits, great tits and nuthatches from Silwood Park, Berks, England by Arthur (1952) and from the sandmartin and little owl in England by Arthur and Thompson (1953). The occurrence of *I. passericola* from the Scandinavian countries is new.

**Haemaphysalis cinnabarina** var. **punctata** Can.  
and Fanz. 1877.

Amager, 1. 9. 1924. 1 larva from *Philomachus pugnax*. Harry Mad-  
sen leg. (Z. M.).

**Argas pipistrellae** Aud. 1832.

Helsingør, 6. 8. 1917. Large number of nymphs and larvae from  
the bat *Vespertilio pipistrellus*. R. Hørring leg. (Z. M.).

“Peter Lieps Hus”, Dyrehaven, north of Copenhagen. 6. 3. 1932.  
1 female from a beech tree. Rosenberg leg. (Z. M.).

“Peter Lieps Hus”, Dyrehaven, north of Copenhagen. 19. 4. 1937.  
1 female from a beech tree. Rosenberg leg. (Z. M.).

This is apparently the first record of *Argas pipistrellae*  
from Denmark, nor has it been reported from Norway.  
Schulze (1930) has collected the species from Sweden.

**Argas reflexus** Latreille 1796.

Copenhagen. 7. 1936. Two females on poultry which live in former  
pigeon house (V. S.).

Mimersgade, Copenhagen. 28. 9. 1936. Two females in pigeon loft.  
Schwalbe leg. (V. S.).

Kattesundet 10, Copenhagen. 27. 7. 1933. Four females from pigeon  
loft (V. S.).

Copenhagen. 19. 6. 1933. One female in pigeon house (V. S.).

This species lives chiefly in chicken coops, hiding in  
crevices of the woodwork and walls; the adults and  
nymphs attack the birds mainly at night.

**Hyalomma aegyptium** L.

Copenhagen. 14. 5. 1928. Four males and three females from a  
newly imported Testudo. Miss Henriksen leg. (Z. M.).

West coast of Amager. 30. 4. 1908. One nymph from *Aegialites can-  
titanus*. R. H. Stamm leg. (Z. M.).

Copenhagen. 27. 7. 1954. 1 male from Testudo purchased in animal  
shop. Erik Hugger leg. (Z. M.).

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