

NOTES ET INFORMATIONS

VECTORS OF *THEILERIA HIRCI* IN SOUTH AND SOUTHEAST OF IRAN

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Résumé

La transmission de la theilériose maligne des ovins et des caprins due à *Theileria hirci* (= *T. ovis*) a été attribuée à *Rhipicephalus bursa* en Serbie, en Grèce et dans le Nord et l'Ouest de l'Iran. Par contre, cette tique n'a pas été trouvée dans le Sud et le Sud-Est de l'Iran où des épidémies de theilériose ont tué plusieurs milliers d'animaux. D'après les recherches de l'auteur, certaines tiques du genre *Hyalomma* pourraient être incriminées dans cette transmission.

Summary

Transmission to Ovins and Caprins of malignant theileriasis due to *Theileria hirci* (= *T. ovis*) was referred to *Rhipicephalus bursa* in Serbia, Greece, and in the north and west of Iran.

Yet, this tick has never been found in the south and southeast of Iran, and nevertheless thousands of animals died during theileriasis epidemics.

According to the author, some ticks belonging to genus *Hyalomma* could be incriminated in the transmission.

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Since the description of ovine and caprine malignant theileriasis (OCMT) caused by *Theileria hirci* Dschunkovsky and Urodschevich, 1924 (= *T. ovis* du Toit, 1918) three reports on the vectors of the disease have been published. Dschunkovsky and Urodschevich (1924) in Serbia suggested *Rhipicephalus bursa* is the transmitter. In an outbreak of the disease in Greece, Kardassis and Margaritis (1964) recovered *R. bursa* from the diseased animals. Rafyi and Maghami (1966) found *R. bursa* and *Hyalomma* spp. on the affected animals in Iran.

OCMT has been reported mostly from the south and southeast of Iran (Rafyi and Maghami, 1966; Hooshmandrad and Fesharky, 1966). Hooshmandrad and Fesharky (1967) recorded several thousands of death due to OCMT outbreaks in Fars, south of Iran. Some cases of OCMT were also reported from other areas of this country (Rafyi and Maghami, 1966; Hooshmandrad and Fesharky, 1966) (Fig. 1).



Fig. 1. — Geographical distribution of *R. bursa* and the localities where OCMT have been reported

The purpose of this report is to record a negative finding as regards the implication of *R. bursa* tick with outbreaks of OCMT in south and southeast of Iran.

From 1963 to 1968 a survey was carried out to identify different species of ticks of veterinary importance and their geographical distribution, seasonal activity, and host implication in Iran. From sheep and goats, a total of 13,286 specimens of ticks were collected. Among these, 2,487 were *R. bursa* which were from the west, northwest, north,

and northeast of Iran (Fig. 1). From some parts of these regions a total of 50 specimens of *R. bursa* were also collected from cattle, buffalos and horses. *R. bursa* was not found among 5,948 ticks collected in different seasons from sheep and goats of south and south-east of Iran; neither was it found in samples of 4,193 ticks from other animals of the same regions.

In 1967, from two outbreaks of OCMT in Khouzistan, south of Iran, 65 ticks were received at Razi Institute for identification. These OCMT cases were diagnosed by Dr. K. Khalili, Head of Khouzistan Branch of Razi Institute, and the diagnoses were confirmed at the Department of Parasitology of Razi Institute by finding schizonts in the liver and lymph nodes smears, and also endoglobular stages of the parasite in the blood smears. The 65 ticks were identified as three species of *Hyalomma*: *H. anatolicum anatolicum* (29 ♀♀, 30 ♂♂); *H. marginatum marginatum* (2 ♀♀, 2 ♂♂); *H. detritum* (1 ♀, 1 ♂).

Considering our findings and those reported by Abbassian-Lintzen (1960, 1961) on the distributional data of *R. bursa*, it seems that the south and southeast of Iran, where OCMT is prevalent are free from *R. bursa*. Therefore, in these regions other species of ticks should be sought as the vectors. Our findings imply that *Hyalomma* spp. ticks may play a role in transmission of the disease. Although Rafyi and Maghami (1966) found *R. bursa* on the diseased animals in Iran but since the locations of such outbreaks were not mentioned it can therefore be assumed that the ticks were from Hesarak, Tehran area, where OCMT were reported and *R. bursa* and *Hyalomma* spp. ticks found. Moreover, their findings of *Hyalomma* spp. ticks on the affected animals is vague, since it is not clear whether they found *Hyalomma* spp. together with *R. bursa*, or separately.

Bibliography

- ABBASSIAN-LINTZEN (R.), 1960. — A preliminary list of ticks (Acarina: Ixodoidea) occurring in Iran and their distributional data. *Acarologia*, 2: 43-61.
- , 1961. — Records of ticks (Acarina: Ixodidae) from southeast Iran (Iranian Baluchistan and the Jiroft area). *Ibid.*, 3: 546-559.
- DCHUNKOVSKY (E.) and URODSHEVICH (V.), 1924. — Theileriosis in goats, sheep and cattle, with a description of *Theileria hirci* n. sp. from Serbia. *Parasitology*, 16: 107-110.
- HOOSHMANDRAD (P.) and FESHARKY (R.), 1966. — Reports of Protozoology Laboratory. *Ann. Rept. Razi Inst.*, pp. 177 (in Persian).
- , 1967. — *Idem. Ibid.*, pp. 138. (in Persian).
- KARDASSIS (I.) and MARGARITIS (I.), 1964. — Outbreaks of *Theileria ovis* infection in goats in Greece. *Bull. Soc. vet. hell.*, 15: 174-179. (In Greek).
- RAFYI (A.) and MAGHAMI (G.), 1966. — Contribution à l'étude de quelques parasites du sang du mouton et de la chèvre en Iran et dans les pays voisins. *Bull. Off. Int. Epiz.*, 65: 1769-1783.
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