

NATURAL FOCI OF TICK-BORNE ENCEPHALITIS IN CENTRAL EUROPE AND THE RELATIONSHIP OF THE INCIDENCE OF *Ixodes ricinus* TO ORIGINAL ECOSYSTEMS

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SUMMARY

Based on reports of the national epidemiological service on tick-borne encephalitis (TBE) morbidity in 1953-1987, data in the literature, and results of the author's own field research on the occurrence of the common tick, *Ixodes ricinus*, foci of this disease have been identified on the territory of Czechoslovakia. In Bohemia a significant focus of TBE in the Central Bohemian Region is located in the Křivoklát area with forests and in the Berounka, mid-Vltava, and lower-Sázava river basins, in the Brdy area and the Czech Karst continuing southwards via the Vltava basin to foci in the South Bohemian region in the districts of Písek and České Budějovice and west of the Berounka river basin to a focus in the central part of the West Bohemian region. In the North Bohemian and East Bohemian regions only smaller isolated foci of TBE were detected.

In Moravia foci of TBE are in the districts of Opava and Bruntál in the North Moravian region and in the central and southern areas of the South Moravian region. The foci in Bohemia are isolated from foci in neighboring countries, those of Moravia are connected with foci in Poland and Austria. On the territory of the Czech Republic foci of TBE are found in localities of pristine oakwood agglomerations. Original beechwood agglomerations even when located below the upper limit of occurrence of the common tick, i.e. less than 700 meters above sea level, do not offer favourable conditions for this arthropod and they do not harbour natural foci of TBE.

In Slovakia the major foci of TBE are in the West Slovakian region in the Záhorská Lowland, in the Váh river valley up to the district of Povážska Bystrica, in the area of Malé Karpaty (Small Carpathians), the Tribeč and Vtáčnik ridges, the Nitran, Pohron area and the Kováčov Hills, in the Central Slovakian region in the Krupina highland and in the East Slovakian region in the Slovak Karst and Slanec Hills. The occurrence of the common tick and foci of TBE is bound to original oak wood agglomerations. In Slovakia they are represented by oak-hornbeam groves, oak woods and xerophilic oak woods. Areas of original beech woods and spruce woods which grow at higher altitudes do not offer favourable conditions for the development of the common tick. Isolated mountain-type foci of TBE in Slovakia survive apparently due to extraordinarily favourable microclimatic conditions of such localities. Hygrophilic alder agglomerations, marshlands, and arid steppes, original or cultivated, are not favourable for the common tick.

Evaluation of the whole territory of former Czechoslovakia regarding the relationship of the common tick and foci of disease transmitted by it, to plant agglomerations confirms the general applicability of the finding that the occurrence of this species is linked to areas with original oakwood agglomerations. It also confirms the suitability that it is wise to base epidemiological prognoses on assessment of original ecosystems.

Key words: tick-borne encephalitis, foci, *Ixodes ricinus*, original ecosystems, territory of Czechoslovakia

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