

THE FINDING OF *PNEUMOCYSTIS CARINII* IN THE PINE VOLE *PITYMYS SUBTERRANEUS*

During our systematic investigation of free living small mammals on the presence of *Pneumocystis carinii* Delanoe, 1912, the causative agent of infantile interstitial pneumonias in the territory of Czechoslovakia, on July 13, 1967 we captured the following 19 small mammals in the bushy field boundaries near the village Výskytná, district of Pelhřimov: 6 *Sorex araneus* L., 2 *Sorex minutus* L., 6 *Apodemus sylvaticus* L., 1 *Microtus arvalis* (Pall.) and 4 *Pitymys subterraneus* (S.—L.) While examining the lung impressions stained after Ciemsa—Romanowsky we detected *Pneumocystis carinii* in one adult male specimen of *Pitymys subterraneus*. This was the case of a very mild infection. In our preparations we found typical 8-nuclear sporogonia of *P. carinii* only occasionally. As far as we know from literature (KUČERA, Ann. Parasit. Hum. Comp. 42: 465—482, 1967), *P. carinii* has not been demonstrated in *Pitymys subterraneus* de Sél.-Longch., 1836 to date. Our finding of *P. carinii* in the pine vole therefore seems to be the first and at the same time indicates a new host of this agent pathogenous to man.

Apart from the fact that this is the first direct microscopic demonstration of *P. carinii* in *P. subterraneus*, our finding is remarkable yet from other aspects: The genus *Pitymys* includes forms of voles which are very ancient in their evolution. The species *P. subterraneus* is noted for its low ecological valency and is associated with very distinct biotopes. Its way of life, habitus and development are marked by low fertility, small vagility, mosaic-like occurrence

special geographic distribution etc. and suggest that it is evolutionally an ancient form. The theriologists consider this species to be a preglacial relict (e.g. KRATOCHVÍL, Přír. sb. Ostrav. kraje, 12: 74—101, 1951). The finding of *P. carinii* in this species confirms our hypothesis on the association of *P. carinii* with evolutionally ancient mammal forms, such as shrews of the family Soricidae (ŠEBEK Z., ROSICKÝ B., Folia parasit. (Praha) 14: 263—267, 1967).

The biotope where our specimens of *P. subterraneus* infected with *P. carinii* were captured was a field boundary overgrown with hazel shrubs (*Corylus avellana*), in the close vicinity of which a small permanent stream was flowing, bordering with its other bank on an inundated meadow. Both specimens of *P. subterraneus* inhabited one system of burrows. The beeline between the locality and the nearest settlement was 2 km. At the time when our finding was made the population number of small terricolous mammals was minimal. All these facts testify again to the existence of natural foci of pneumocystis among free living small mammals independent of man. This time the natural focus was localized in a biotope which can be designated as the ecoton with remnants of original vegetation in the cultivated landscape.

Z. ŠEBEK and B. ROSICKÝ, Regional Centre of Hygiene and Epidemiology, Brno—Laboratory Jihlava and Institute of Parasitology, Czechoslovak Academy of Sciences, Prague.