

## ŤAHYŇA VIRUS IN THE DISTRICTS OF BRATISLAVA

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After early summer floods along the Danube riverside the mosquitoes became so overpopulated that they stepwise invade the closely located city districts of Bratislava. Due to their extreme density in summer 1981 the mosquitoes have got into the nearly whole city. Their number culminated in the beginning of August. The *Aedes vexans* species formed more than 98% of the total mosquito population.

Up to now no attention has been paid to virus infection of mosquitoes directly in the Bratislava city area. We concentrated our interest to trapping of mosquitoes at the end of the period of their occurrence. The mosquitoes were caught by means of a battery operated aspirator from the collector's body. Suspensions were prepared from 10–20 mosquitoes in 1 ml Eagle's basal medium containing 10% foetal calf serum and antibiotics. After centrifugation at 2000 rev/min for 10 min they were inoculated intracerebrally (i.e.) into 1–3 days old white mice (0.01 ml inoculum).

First mosquitoes were caught on August 12, 1981 in an orchard situated in a hilly suburb (Slavín) about 3 km northwest from the *A. vexans* breeding sites on the left riverside. Out of 314 collected mosquitoes 310 belonged to this species. From these 1 virus strain was isolated. Further mosquitoes were trapped on September 7 and 22, 1981 in swampy woods on the right riverside in close vicinity of the suburbs Rusovec and Starý Háj. Altogether 682 mosquitoes belonged to the *A. vexans* species. From the latter 4 virus strains were isolated. All virus reisolation attempts were positive. The five isolated strains were found by neutralization tests utilizing i.e. infected newborn white mice to represent Ťahyňa virus. The mouse immune serum to Ťahyňa virus reduced the infectious titres by 2.1 to 5.4 log LD<sub>50</sub> respectively.

Summing up, out of 992 *A. vexans* collected in the district of Bratislava from middle of August till end of September 1981, 5 Ťahyňa strains were isolated. The minimal field infection rate (MFIR) as calculated due to Sudia et al. (1) was 1 : 198. In contrast, the MFIR for *A. vexans* in south Slovakia ranged earlier from 1 : 1234 to 1 : 8574 (2, 3, 4). In south Moravia in years 1962 to 1975 the observed MFIR ranged from 1 : 753 to 1 : 6489, the average being 1 : 1685 (5). Our results point to a considerably higher infection rate occurring in a close contact with older as well as newly built suburbs and suburban recreation areas. Further studies will show whether the information from the end of summer in 1981 was an exception or whether a similarly high Ťahyňa virus infection rate will repeatedly occur in association with mosquito overpopulation.

## References

1. Sudia, W. D., Newhouse, V. F., Calisher, C. H., and Chamberlain, R. W., *Mosq. News* 31 : 576, 1971.
2. Bárdoš, V., and Danielová, V., *Čs. Epidem.* 10 : 389, 1961.
3. Danielová, V., Málková, D., Minář, J., Rehse-Küpper, B., Hájková, Z., Halgoš, J., and Jedlička, L., *Folia parasitol. (Praha)* 25 : 187, 1978.
4. Labuda, M., Kožuch, O., and Nosek, J., *Biologia (Bratislava)* 34 : 879, 1979.
5. Rosický, B., and Málková, D., *Ťahyňa virus Natural Focus in Southern Moravia*, Academia (Praha) p. 1–107, 1980.