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A CONTRIBUTION TO THE KNOWLEDGE OF HEMATOZOANS IN BATS (CHIROPTERA) FROM YUGOSLAVIA AND BULGARIA

In our previous paper we dealt with blood parasites of bats from Czechoslovakia and Bulgaria (Kučera J., Věst. čs. spol. zool. 43. 112—123, 1979). After sending the manuscript to press we organized two more expeditions to Yugoslavia and Bulgaria where we collected material from bats.

The expedition to Yugoslavia took place between 25 August and 5 September 1978. We examined a total of 52 bats belonging to 12 species (see Table 1). The captured bats originated from different localities in Dalmatia (environs of Dubrovnik, Starigrad on the island of Hvar, Shkarin Samograd near Shibenik) and in Bosnia (Zavala near the town Hum). After examining blood smears from these bats, in six of them parasites belonging to three species: *Grahamella brumpti* Ribeiro et del Aquila, 1918, *Polychromophilus melanipherus* Dionisi, 1899 and *Litomosa* sp. (microfilaria) (Table 1) were found.

A similar study was carried out in Bulgaria where 61 bats belonging to 13 species were examined between 6 to 13 August 1978, at Karlukovo near the town Cherven Bryag and in the karst district between Devin and Smolyan. The following three species of blood parasites were detected in five bats: *Grahamella* sp., *Polychromophilus* sp. and *Trypanosoma vespertilionis* Battaglia, 1904 (Table 1). The parasites of the genus *Polychromophilus* detected in *Myotis bechsteini* were the first ever reported from the given host species. From the relatively small material no great conclusions can be drawn on the prevalence of blood parasites of bats in Yugoslavia and Bulgaria. In comparison with the results of our previous study (Kučera 1979) we see that the parasites detected by us are obviously most abundant in the blood of bats from Central and South-Eastern Europe. Trypanosomes in bats were found in Bulgaria for the first time

Table 1. List of examined bats with parasites detected

	Bats	Number examined	Number infected	Parasites detected
Yugoslavia	*Rhinolophus ferrumequinum* (Schreber)	6	1	*Grahamella brumpti*
	Rh. hipposideros (Bechstein)	3		
	Rh. blasii Peters	4		
	Myotis emarginatus (M. Geoffroy)	4		
	M. nattereri (Kuhl)	2		
	M. myotis (Borkhausen)	3		
	M. blythi oxygnathus (Monticelli)	15	1	*Litomosa* sp. (microfilariae)
	M. capaccini (Bonaparte)	2		
	Pipistrellus kuhli (Kuhl)	2		
	Plecotus auritus (Linnaeus)	1		
	P. austriacus (Fischer)	1		
	Miniopterus schreibersi (Kuhl)	9	4	*Polychromophilus melanipherus*
	A total of 12 species	52	6	
Bulgaria	*Rhinolophus ferrumequinum* (Schr.)	4		
	Rh. hipposideros (Bechstein)	1		
	Rh. euryale Blasius	1		
	Myotis mystacinus (Kuhl)	4	1	*Grahamella* sp.
	M. brandti (Eversmann)	1		
	M. nattereri (Kuhl)	9	1	*Grahamella* sp.
	M. bechsteini (Kuhl)	8	1	*Polychromophilus* sp.
	M. myotis (Borkhausen)	10	1	*Polychromophilus* sp.
	M. capaccini (Bonaparte)	1		
	Pipistrellus savii (Bonaparte)	3		
	Nyctalus noctula (Schreber)	4	1	*Trypanosoma vespertilionis*
	Eptesicus serotinus (Schreber)	11		
	Plecotus austriacus (Fischer)	4		
	A total of 13 species	61	5	

and this finding confirmed our supposition on their occurrence in that country. *Polychromophilus* and *Grahamella* are the most abundant blood parasites in bats in Czechoslovakia and Bulgaria, and also in Yugoslavia, as shown by our recent results. In Bulgaria and Yugoslavia also microfilariae were found in great numbers, but they were missing in the material from Czechoslovakia.

Other finds of parasites of the genera *Trypanosoma* and *Polychromophilus* also confirm our hypothesis that these parasites are to be found primarily in bats with certain migration tendencies, while in resident bats they are very rare (Kučera 1979). All hosts ascertained by us belong to the very bats which regularly make longer or shorter migratory movements. On the other hand, *Grahamella* was also detected in a resident bat species *Rhinolophus ferrumequinum*, and this fact confirms again that parasites of this genus are an exception from the above rule and that their occurrence does not depend on the migratory tendencies of bats.

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