

Occurrence of a melanistic Common vole, *Microtus arvalis* (Pallas, 1779) in Slovakia

By L. KOCIAN and D. ŽIAK

Department of Zoology, Faculty of Natural Sciences, Comenius University,
Bratislava, Czecho-Slovakia

Receipt of Ms. 7. 11. 1991
Acceptance of Ms. 3. 2. 1992

On September 23, 1989 we succeeded in capturing a melanistic specimen of the common vole (*Microtus arvalis*) in a potato field near the village Matejovce (near Poprad, in northern Slovakia) at an elevation of 700 m a. s. l. The specimen was caught accidentally during voluntary works of students on potato fields. It is stored in deposit of the Department of Zoology, Faculty of Sciences, Comenius University, Bratislava as a skin preparation and the skull (damaged). On the basis of the body length (ŠEBEK 1959) its age is estimated at about 3 months.

Description of colouring: dorsal hair – upper part dark, lower part grey-black; ventral hair – grey. Colouring on the head partially changes from dark to dark-grey-brownish.

NIETHAMMER and KRAPP (1982) describe 10 colour mutations of *Microtus arvalis* including a melanistic one. Its description was originally given by REICHSTEIN (1957) and FRANK and ZIMMERMANN (1957) who also made a follow-up study of the progeny of melanistic voles under laboratory conditions. The latter manifested decreased reactivity, biting, vitality and growth rate and increased mortality rate in the young. A similarly coloured melanistic specimen of *Microtus arvalis* has been described lately by DOLCH and JASCHKE (1991) from Germany.

The present specimen is to our knowledge the fourth melanistic *Microtus arvalis* mentioned from Central European areas. From Czecho-Slovakia, only its albinotic anomalies have been described so far (HERÁŇ and MAZÁK 1976; ŠTUSÁK 1987) and no melanistic *Microtus arvalis* has been reported. The same is true for Poland (PUCEK pers. comm.), Hungary (CSORBA, pers. comm.), and Austria (SPITZENBERGER, pers. comm.).

Colour anomalies in small mammals are explained in connection with effects of ecological factors (particularly humidity) (e.g. SIMROTH 1905; HANÁK 1957; BLOSSOM 1942), but also as being genetically determined (e.g. REICHSTEIN 1957; FRANK and ZIMMERMANN 1957; SEARLE 1968). Here, the symbol "a" (recessive) accounts for the melanistic colouring.

References

- BLOSSOM, P. M. (1942): Total melanism in *Microtus* from Michigan. J. Mammalogy 23, 214.
DOLCH, D.; JASCHKE, M. (1991): Farbanomalien bei einigen Kleinsäugetern. Säugetierkdl. Inf. 3, 313–320.
FRANK, F.; ZIMMERMANN, K. (1957): Färbungs-Mutationen der Feldmaus. Z. Säugetierkunde 22, 87–100.
HANÁK, V. (1957): Colour anomalies in small mammals. Čas. nár. mus. 126, 144–147 (in Czech).
HERÁŇ, I.; MAZÁK, V. (1976): Proceedings – Zool. Department of the National Museum in Prague. II. Colour anomalies. Lynx 18, 109–112 (in Czech).
NIETHAMMER, J.; KRAPP, F. (1982): Handbuch der Säugetiere Europas. Bd. 2/I. Rodentia II. Wiesbaden: Akad. Verlagsges.
REICHSTEIN, H. (1957): „Schwarz“, eine neue Mutation bei *Microtus arvalis* Pall. Z. Säugetierkunde 22, 102–103.

- SEARLE, A. G. (1968): Comparative genetics of coat colour in mammals. New York, London: Academic Press.
- SIMROTH, H. (1905): Über einige Folgen des letzten Sommers für die Färbung von Tieren. Biol. Zentralblatt **26**, 334–340.
- ŠEBEK, Z. (1959): The body length. In: The Common vole, *Microtus arvalis*, Ed. by J. KRATOCHVIL. Prague: Publ. House ČSAV. Pp. 63–64 (in Czech).
- ŠTUSÁK, J. M. (1987): Flavism in *Apodemus sylvaticus*, albinism in *Microtus arvalis* and notes on colour anomalies in mammals. Lynx **23**, 105–109 (in Czech).

Authors' address: LUDOVIT KOCIAN and DAVID ŽIAK, Department of Zoology, Faculty of Natural Sciences, Comenius University, Mlynská dolina B-1, CS-842 15 Bratislava, Czecho-Slovakia