tendencies to secondary formation of an isthmus in the triangle of enamel *b* situated on the lingual side (K o w a l s k i, 1957). R u p r e c h t (1967) has described a similar variant in *Microtus oeconomus* (P a l l a s, 1776). The variation in the structure of M^2 described here for *M. nivalis* may therefore be regarded as one more manifestation of variations in the teeth of this species.

It would not therefore appear to be correct to define similar cases of individual variation in the teeth of voles by the term anomaly (S c h a e f e r, 1935; D e h n e l, 1947 and others), particularly as it is difficult to establish a dividing line between typical and »abnormal« formation of the teeth for certain populations. Usually there are a large number of intermediate forms, as in the case described here and in other voles (R u p r e c h t, 1967). It would seem that when forms deviating from the normal occur numerously they may be treated as a manifestation of population variation.

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TRAP RESPONSE IN *PEROMYSCUS POLIONOTUS**

REAKCJA NA PUŁAPKĘ U *PEROMYSCUS POLIONOTUS* *

Trappability of small mammals is dependent upon the probabality of encountering a trap and the probability of entering the trap when encountered (S m i t h *et al.*, 1974). Trap response of small mammals

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Alp (49°14'N, 20°01'E). It was found that M^2 with formation of triangle *c* to a lesser or greater degree occurred either on one side only, or both sides, in 18.3% of the voles examined (Table 1). In addition the intermediate type of M^2 (variants: $V_1 - V_3$ — Fig. 1) occurred in two populations and a distinct *agrestis*, type only in the *M. nivalis* population from the Gąsienicowa Alp (7.4%). Sex ratio for the skulls of voles distinguished by non-typical structure of M^2 was 4 : 1 for the population from the Morskie Oko area, and 1 : 1 for that from the Gąsienicowa Alp.

These facts would appear to form evidence of the hereditary origin of this far-reaching variation in the structure of M^2 in two isolated populations of *M. nivalis*. In the lowland populations of *M. oeconomus*,

Table 1

Variations in the structure of M^2 in *M. nivalis* in two study populations.

Population	Normal		Intermediate		*agrestis* type		Total
	n	%	n	%	n	%	
Morskie Oko	28	84.8	5	15.2	—	—	33
Hala Gąsienicowa	21	77.8	4	14.8	2	7.4	27

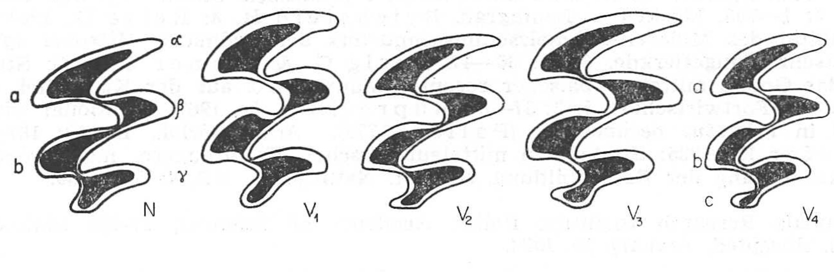

Fig. 1. Variations of the formations of the chewing surface of M^2 in *Microtus nivalis*.

isolated to a slight degree only narrowing of the triangle of enamel *b* occurred in only a small percentage of individuals (Ruprecht, 1967) whereas some populations of voles inhabiting islands have been described on the strength of their odontological characters as separate subspecies, *e.g., M. agrestis exul* Miller, 1908.

In Schaefer's opinion (1935) some vole populations may have been affected by a given type of tooth anomaly. This view is confirmed by the results obtained by Winge (1908), who found M^2 of the *agrestis* type in 95% of the individuals from a population of *M. arvalis* from the Copenhagen area (cited after Dehnel 1946).

I know of no cases of an additional triangle of enamel in M^2 in *M. nivalis* from the aboral side in the literature to which I had access. Mention was only made of the fact that in this species this tooth exhibits varies from neophobic to neophilic. However, the presence of low trap response is usually difficult to assess using short-term removal trapping techniques since it is uncertain whether the rate of capture is the result of density or trap response. The purpose of this paper is to document an instance of low trap response in the old-field mouse, *Peromyscus polionotus,* which usually has a relatively high trap response (Smith, 1968). This unusally low rate of capture occurred under conditions of relatively high density. These observations were made during the collections of mice for analysis of activity patterns in a large field in the Ocala National Forest, approximately 50 km E of Ocala, Florida, U.S.A.

Trapping was conducted on 22 and 23 January 1974. On the first night a total of 626 stations (either 1 Museum Special or 1 Victor mouse trap baited with peanut butter per station) was set approximately 12 m apart. For the second night we added 224 stations to our traplines so that we trapped 7 to 8 km of habitat on the first night and 10 to 11 km on the second. We also excavated burrows (described in Smith, 1968) in the late afternoon on 22 January and the morning of 24 January. Approximately 1 hour was spent excavating burrows on each occasion. The excavations on 22 January were made along a dirt road over an area less than 1 km in length in a portion of field not trapped. Excavations on 24 January were made along a 1 km section of trapline (80 to 85 stations) on which traps had been set both nights. Excavated burrows were within 2 to 3 m of the trapline. On 23 January, we set 75 traps near active burrows on the road shoulders along 5 km of highway to test trappability outside of the field.

Only 4 old-field mice were trapped in the field. Three of these were adult males and 1 was an adult female. Based on 1476 trap nights, our efficiency of capture was less than 0.003 mice per trap night in the field. In addition, no mice were captured along the road shoulders.

In contrast to our trapping results, we collected 73 mice from 19 active burrows. From the 9 active burrows excavated on 22 January, we removed 10 adults (3 ♂♂, 7 ♀♀), 12 trappable juveniles and 20 non--trappable juveniles. Excavation of 10 active burrows on 24 January yielded 15 adults (7 ♂♂, 8 ♀♀), 9 trappable juveniles and 7 non-trappable juveniles, although no mice were trapped along the section of trapline.

Using the estimates of adult and trappable juveniles along 1 km of trapline, there should have been approximately 150 adults or 240 trappable mice in burrows within 3 m of all traplines. The density of burrows was similar along the various lines utilized. The actual number of mice living within the area of effect of the traplines would be several times the number living within 3 m of a line based upon the home range and movements of *P. polionotus* (Caldwell, 1964; Davenport, 1964). As an absolute minimum, we would expect 500 trappable mice to have been living within the area of effect. Therefore, we caught less than 1% of the trappable mice.

The probability of encountering a trap was relatively high judging from the number of traps near burrows with soil moved, oped areas where mice dug and traps with soil tossed onto them during the night. Response of the mice to the traps was, therefore, probably the determinant of the low trappability.

The factors that affect trap response of small mammals include bait, food availability, habitat, season, weather conditions, sex and reproductive condition of the mice (see review by Smith *et al.*, 1974). Based on prior experience with *P. polionotus,* peanut butter bait and winter trapping would not account for the almost total lack of trap response. Two distinct habitat types, roadway and old-field, were sampled yielding similar results which would indicate that habitat was not a significant influence. High food availability, which reduces trap response (Smith & Blessing, 1969), might have decreased trappability on the old-field but would not account for the lack of trap response on the roadside.

Smith (1968) found that male *P. polionotus* exhibited higher trappability than females and that pregnant and lactating females had lower trap response than other adults. All but one of the 16 adult females were pregnant or lactating suggesting that the decreased female trap respone may have been due in part to the reproductive condition. This, however, does not explain the low trappability of adult males.

Weather conditions during the collection period were characterized by clear, moonless nights until early morning when heavy fog was present. Although evening conditions were not amenable to high trap respone, the trap respone should have increased with the fog reduced light conditions during early morning (Gentry, Golley & McGinnis, 1966). However, the opposite was true and no animals were captured after 0300 hours. The weather was unseasonably warm during January with maximum daily temperatures over 29°C on 22 and 23 January. In contrast, mean daily maximum January temperatures usually approximate 17° C (U. S. Weather Bureau, Ocala, Florida). It appears that the unseasonably warm winter weather with concomitant reproductive activity resulted in the unusually low trap response of the old-field mice.

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