

## ABNORMAL COLORATION OF BADGERS (*MELES MELES*) IN A CLAN FROM BISCAY (BASQUE COUNTRY)

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### Abstract

ZABALA, J., ZUBEROGOITIA, I., GARIN, I. & AIHARTZA, J. R. (2001). Abnormal coloration of badgers *Meles meles* in a clan from Biscay. *Est. Mus. Cienc. Nat. de Álava*. 16: 203-204.

We report abnormal coloration of badgers in a clan from Biscay. We cite similar phenomena observed in other European areas and, in addition, we discuss the reasons for the permanence of such abnormal patterns in some populations.

Key words: Badger, *Meles meles*, Abnormal coloration.

### Resumen

ZABALA, J., ZUBEROGOITIA, I., GARIN, I. & AIHARTZA, J. R. (2001). Coloración anormal del tejón *Meles meles* en un clan de Vizcaya. *Est. Mus. Cienc. Nat. de Álava*. 16: 203-204.

Informamos de un caso de coloración anormal en tejones en Vizcaya. Citamos fenómenos similares observados en otras zonas europeas y comentamos las posibles causas que permitan la permanencia de estos patrones de coloración en ciertas poblaciones.

Palabras clave: Tejón, *Meles meles*, Coloración anormal.

### Laburpena

ZABALA, J., ZUBEROGOITIA, I., GARIN, I. & AIHARTZA, J. R. (2001). Azkonarren *Meles meles* ez-ohiko kolorazioa Bizkaian. *Est. Mus. Cienc. Nat. de Álava*. 16: 203-204.

Bizkaian behatutako azkonarren ez-ohiko kolorazioa aipatzen dugu. Europako beste gune batzuetan behatutako antzeko fenomenoak aipatzen ditugu, eta beraien permanentzia ahalbidetzen dituzten zergatiak eztabaidatu.

Gako hitzak: Azkonarra, *Meles meles*, Ez-ohiko kolorazioa.

Badgers are widespread in Europe, occurring in all states (Griffiths & Thomas 1993). Even the species has been deeply studied in some countries, there is little information available for the Iberian Peninsula, where neither population status nor trends are known (Griffiths & Thomas 1993). Two subspecies occur in the Iberian Peninsula: *Meles meles meles* Linnaeus, 1758 present in the most part of Europe, and *Meles meles marianensis* Graells, 1897 endemic for the South of the Iberian Peninsula (Neal & Cheeseman 1996, García-Perea & Gisbert 1997). The last one tends to be smaller and of a lighter colour on the back and flanks, while the *M. m. meles* subspecies is of a darker greyish tone. This greyish colour is the result of the superposition of long black guard hairs to a light underfur containing no melanin (Neal & Cheeseman 1996). Anyway some variations in hair colour have been described ranging from pure al-

binos to almost black animals (Neal & Cheeseman 1996).

During a study on the ecology of carnivores at the Urdaibai Biosphere Reserve (UBR) (Biscay, Basque Country) three badgers were trapped and radio-tracked. The body of two of them was of a light yellowish colour, the facial stripes being normal (Figures 1), while the other showed the normal coloration pattern of the *M. m. meles* subspecies (Figure 2). We observed that the yellowish colour was due to the scarcity of black guard hairs. Such a coloration pattern was consistent throughout time during a year round monitoring period, so it was not a consequence of moult. In the studied badger group at least three out of six known different badgers showed the same abnormal coloration. No other badger with this coloration pattern has been reported in Biscay, while badger observations

and carcasses found in the area (n=20) correspond to the normal coloration pattern of the *M. m. meles* subspecies.

Badgers show a high degree of philopatry, especially in high-density areas, and reproduction is usually restricted to a single pair of individuals in each clan (Kruuk 1989, Da Silva *et al.* 1994). Therefore, it has been suggested that there must be some degree of inbreeding (Neal & Cheeseman 1996), even if there is some clue that badgers avoid it by extraterritorial mating (Da Silva *et al.* 1994). In the other hand, group living may involve a cost for females by means of the reduction of their breeding probability (Da Silva *et al.* 1994). Aggressive reproductive suppression of several female badgers by a single female has been observed in a captive group, and in Scottish wild populations usually only one sow in each group produced a litter, probably the dominant one (Kruuk 1989). This agrees with the results that Rogers *et al.* (1997) obtained in a high-density area, where a substantial part of the female population did not breed. Thus, after this breeding pattern, non-deleterious abnormal physical characteristics of dominant individuals, mainly female, would tend to remain and spread in the group. In our opinion, this could be the reason for the persistence of the coloration pattern observed in some badgers of the group from the UBR. Some other variations in the coloration pattern have been described in seven badgers from Aberdeenshire, Great Britain (Neal & Cheeseman 1996). With rather limited dispersal range and somewhat restricted mating possibilities, records of albinism in badgers are likely to be higher in some populations (Neal & Cheeseman 1996). They also give some data on the consistence through time of sights of albinos in some setts that bear out this hypothesis, which could have important effects on small badger populations or in isolated ones.



Figure 1. Badger from the study area showing abnormal coloration pattern. Note the scarcity of guard hairs and their light colour of the animal.

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Figure 2. Badger from the study area showing normal coloration, guard hairs being abundant and black.