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# A Study on *Vormela peregusna* Guldenstaedt, 1770 (Mammalia: Carnivora) in Turkey

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**Abstract:** Karyological and morphological characteristics of a female *Vormela peregusna* captured from Gönen (Balıkesir) were examined. The diploid number of chromosomes ( $2n$ ) 38, fundamental number (FN) 72, and the number of autosomal arms (NFa) 68. The X chromosome is medium-sized submetacentric. The morphological and karyological evaluations showed that Turkish *peregusna* is similar to *Vormela peregusna syriacus* from Syria.

**Key Words:** *Vormela peregusna*, karyology, Turkey

## Türkiye'deki *Vormela peregusna* Guldenstaedt, 1770 (Mammalia: Carnivora) üzerine bir çalışma

**Özet:** Gönen (Balıkesir)'den yakalanan dişi bir *Vormela peregusna* örneğinin karyolojik ve morfolojik özellikleri incelendi. Diploid kromozom sayısı ( $2n$ ) 38, temel kromozom kol sayısı (FN) 72, ve otozomal kromozomların kol sayısı (NFa) 68'dir. X kromozomu orta büyüklükte submetasentriktir. Morfolojik ve karyolojik değerlendirmeler Türkiye'deki *Vormela peregusna*'nın Suriye'den tanımlanan *Vormela peregusna syriacus*'a benzediğini gösterdi.

**Anahtar Sözcükler:** *Vormela peregusna*, karyoloji, Türkiye

### Introduction

*Vormela peregusna* ranges from the steppe and subdesert zones in Bulgaria and Romania to western China, south to Palestine, Israel, Lebanon, Syria and Turkey (1-4). This species was recorded by Danford and Alston (5) from northeast Turkey, Nehring (6) from Eskişehir, Lehman (7) from Siirt, and Kumerloev (8) from many localities in Turkey. There are many records on *V. peregusna*, but its karyotype is unknown in Turkey. The aim of this study was to examine the karyotype along with the morphological characteristics.

This study was performed on a female specimen of *V. peregusna* captured from Gönen, Balıkesir. *V. peregusna* was karyotyped from the bone marrow of the colchicized animal in accordance with the method described by Ford and Hamerton (9). Twelve slides were prepared from the colchicized animal, and twenty-five metaphase cells, with well separated chromosomes, were examined in order to determine the diploid number of chromosomes ( $2n$ ), the fundamental number (FN), and the number of autosomal arms (NFa) as well as the metacentric (m), submetacentric (sm), telocentric (t), acrocentric (a), and sex chromosomes (X and Y).

### *Vormela peregusna* Guldenstaedt, 1770

**Distribution:** *V. peregusna* was collected from Gönen, Balıkesir (Fig. 1).

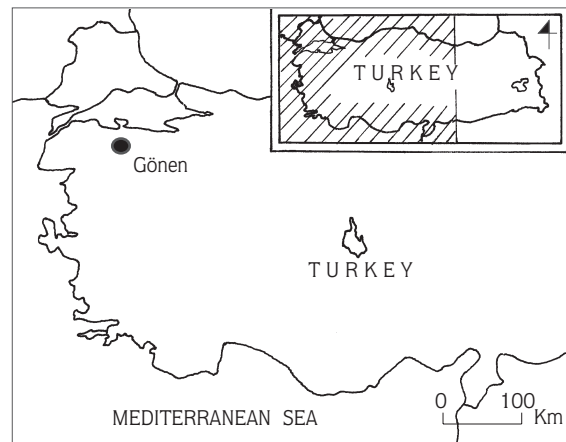


Figure 1. The map showing recorded locality of *Vormela peregusna*. Gönen, Balıkesir.

**External characteristics:** The dorsal fur is dark brown and completely variegated with buff yellowish irregular lines and patches, with a yellowish white stripe extending laterally to the forehead. The tail is the same as in dorsal coloration with a dominant buff yellowish band in the mid-region of the tail, ending in the blackish terminal tip with longer hairs than the rest of the tail. Underparts and limbs are blackish brown.

**Cranial characteristics:** The rostrum and nasal bones are short. The interorbital constriction is wide, and the postorbital process is strong. The sagittal ridge is absent, but the lambdoid ridge is well developed. The supraoccipital is the most posteriorly projecting point of the skull. The notch is absent in the posterior end of the palate. The mandible is relatively short and slender (Fig. 2).

**Karyology:** The diploid number of chromosomes (2n) is 38, fundamental number (FN) 72, and the number of

autosomal arms (NFa) 68. The outosomal set consists of 5 pairs of metacentrics, 11 pairs of submetacentrics, and 2 pairs of acrocentrics. The X chromosome is medium-sized submetacentric (Fig. 3).

According to Ognev (4), the nominate subspecies occupies the northern parts of Turkey. In contrast, Lehmann (7) and Harrison and Bates (3) referred to Turkish specimens as *Vormela peregusna alpherayki* whose type locality is Ashkhabad Turkmenistan. Pocock (10) described *V. p. syriacus* from Tiberias (Syria).



Figure 2. The skull of *Vormela peregusna* from Cönen, Balıkesir. a) Dorsal, b. Ventral, c. Mandible. Scale: 5 cm.

Harrison and Bates (3) suggested that *V. p. syriacus* differs from Anatolian specimens by its white occipital collar broken up by spots and stripes. According to Kumerloeve (8), *V. p. alpheraky* lives in eastern Turkey and *V. p. syriacus* in western Turkey.

We compared a female specimen from Gönen, Balıkesir with the subspecies mentioned above and found that the Turkish specimen is similar to *V. p. syriacus*. These findings show that there are many problems in the subspecific status of *V. peregusna* in Turkey. In order to resolve these problems, available specimen series need to be collected from a wide geographic area.

The diploid number of chromosomes was determined to be 38 by Raicu and Duma (11) in Romania, Dzujev and Tchamokov (12) in Caucasia, and Peshev and Al-Hossein (13) in Syria. Grafodatskij et al. (14) distinguished 17 bi-armed and one acrocentric pair of autosomes (NFa), and the X chromosome is medium-large submetacentric. In contrast to the karyotypes mentioned above, there are two pairs of acrocentrics, one of which has a small notch (Fig. 3).

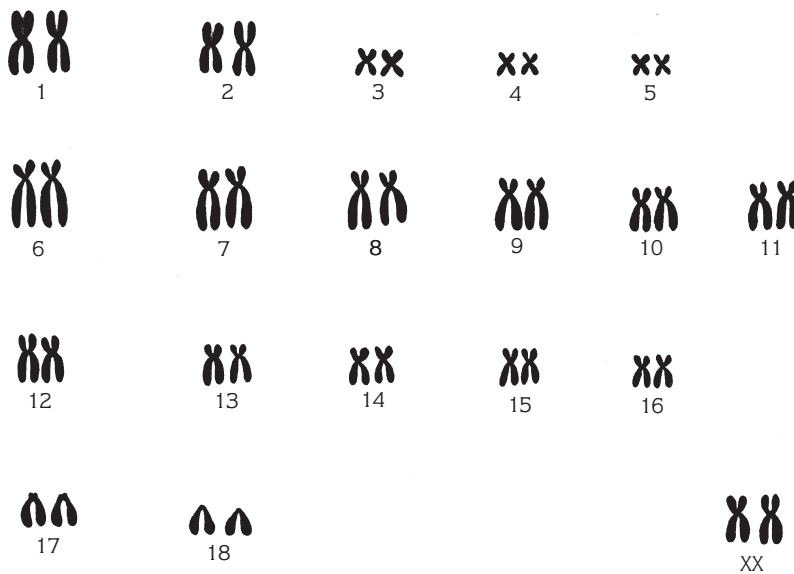


Figure 3. The karyotype of *Vormela peregusna* from Gönen, Balıkesir.

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