

A NEW GENUS OF THE FAMILY FELIDAE FROM TATROT STAGE (PLIOCENE) NEAR SAKETI VILLAGE, SIRMUR DISTRICT, HIMACHAL PRADESH

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ABSTRACT—The authors record a new genus *Saketoteron* consisting of a broken ramus of the family Felidae from the Tatrot Formation near Saketi village. Its main characters being a deeply curved long post-canine diastema, absence of PM₁ and PM₂, a well developed PM₃ and an angulation separating the anterior and lateral margins of the ramus.

INTRODUCTION

During the course of mapping of Tilokpur-Kala-Amb-Bikramabad area in connection with systematic mapping of Upper Siwaliks based on collection of vertebrate fossils, the authors struck upon an interesting specimen of a fragment of left ramus of the Family Felidae which is quite distinct from the Indian as well as foreign forms described under this family (Lydekker, 1884, p. 320; Mathew, 1910, p. 289; 1929 p. 494; Pilgrim, 1932, p. 153; Piveteau, 1961, p. 769; Romer, 1947, p. 371; Scott, 1962, p. 600; Zittel, 1925, p. 75).

A brief description of the same is given below alongwith its characteristic features :

SYSTEMATIC DESCRIPTION

Order Carnivora

Family Felidae
Sub Family Nimravinae
Genus *Saketoteron*

Saketoteron tatroinse gen. et sp. nov.

Plate 1, Figs. 1

Material. A fragment of left ramus.

Horizon. Tatrot stage of Upper Siwaliks.

Locality. About 300 metres south-east of Saketi village (30° 30' 22", 77° 14' 48"; Sheet No. 53 F/2), Sirmur district, H.P.

Repository. G. S. I. Type 18513.

Description. The specimen contains lower portion of left canine and PM₃ intact. The cross section of canine is oval shaped with a notch on the anterior side and the base of the canine is slightly above the base of PM₃. The diastema between PM₃ and the canine

is not only very long but is also deeply curved. PM_1 and PM_2 both are absent as is evident from the smooth upper surface of the diastema. PM_3 has double roots, a well developed protoconid and weak anterior and posterior cusps. The anterior margin of the ramus forms a small angle with the lateral margin.

Measurements of dentition are as follows :

	Antero-posterior diameter	Transverse diameter
PM_3	15 mm	9 mm
Canine (cross section)	8 mm	9 mm
Diastema between canine and PM_3 measured horizontally	..	29 mm
Depth of diastema at the deepest part 8 mm
Depth of ramus midway between the Canine and PM_3	..	35 mm

Remarks. The present specimen shows clear transitional characters between the Sub Families Felinae and Machaerodontinae both with regards to development of dentition and shape of ramus and accordingly it can be classified with the Sub Family Nimravinae. But it clearly stands separated from the existing genera of the Nimravinae on account of greater length and curved nature

of the post-canine diastema as well as absence of both PM_1 and PM_2 . Further no members of this Sub Family are known from India and even in their own habitat they are known only from older beds (Oligocene to Miocene).

The other similar form particularly with regard to the curved diastema is the European genus *Homotherium* belonging to Sub Family Machaerodontinae but its PM_3 is very small and shaped like a peg. With regards to Indian Machaerodont (*Megantereon*) our specimen differs in having only a small angulation between the anterior and lateral margins of the mandible as well as having a well developed PM_3 .

Accordingly, we assign our specimen to a new genus, having characters intermediate between the Sub Families Machaerodontinae and Felinae.

The characters of the present specimen which are transitional between the Sub Families Machaerodontinae and Felinae are as follows :—

A. *Characters common with the Sub Family Machaerodontinae*

- (i) Long diastema between canine and PM_3
- (ii) Absence of PM_1 and PM_2

EXPLANATION OF PLATE I

Saketoteron tatroinse gen. et sp. nov.

1. Side view of the left ramus. (x 1.25).

2. Crown view of the left ramus. (x 1.5).

Specimen No. G. S. I. Type 18513.



1



2

- (iii) Angulation between the anterior and lateral margins of the jaw.

B. *Characters common with the Sub Family Felinae*

- (i) Presence of a well developed PM_3
 (ii) Absence of a flange.

The main diagnostic character of our genus which differentiates it from all the Indian and foreign forms of the Family Felidae is the curved nature of the post-canine diastema which has not been observed in any genera of this family which is well known for its reduced premolar series and long post canine diastema.

Diagnostic characters

- (i) Long curved post-canine diastema
 (ii) Small angulation between the anterior and lateral margins of the jaw
 (iii) Absence of PM_1 and PM_2
 (iv) Well developed PM_3 .

AGE OF THE BEDS

The beds from which this fossil has been discovered have been correlated with Tatrot Formation on the basis of their profuse vertebrate fauna. The forms recovered from these beds as well as those from the surrounding area include among others the following forms :

1. *Hipparion antilopinum* Falc. & Cautley

2. *Leptobos* sp. Rutimeyer
 3. *Hippopotamus (Hexaprotodon) sivalensis* Falc. & Cautley
 4. *Camelus sivalensis* Falc. & Cautley
 5. *Sivatherium giganteum* Falc. & Cautley
 6. *Stegodon ganesa* Falc. & Cautley
 7. *Gavalis cf. gangeticus* Geoff.

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REFERENCES

- JEAN, PIVETEAU., 1961. *Traite de Palaeontology*. Tome 6, 1, Masson et Cie, Editeurs, Paris.
 LYDEKKER, R., 1884. Indian Tertiary and Post-Tertiary vertebrata. *Pal. Ind Ser. 10, 2*: 178—351, Pls. XXVI—XLV, Text Figs 21.
 MATHEW, W. D., 1910. The Phylogeny of the Felidae, *Bull. Amer. Mus. Nat. Hist.* **28** : 289—316, Figs 1—15.
 IDEM, 1929. Critical notes on Siwalik Carnivora in the British Museum. *Bull. Amer. Mus. Nat. Hist* **56** : 466—506.
 PILGRIM, G. E., 1932. Fossil Carnivora of India. *Pal. Ind. N. S.*, **18**: 1—232, Pls I—IX.
 ROMER, ALFRED S., 1947. *Vertebrate Palaeontology*. University of Chicago Press, Chicago.
 SCOTT, W. B., 1962. *A History of Land Mammals in the Western Hemisphere*. Hafner, Publishing Company, New York.
 ZITTEL, KARL A. VON., 1925. *Text Book of Palaeontology* **3**—Mammalia. Macmillan & Co. Ltd.; London.