

THE INCIDENCE OF *TORUS MANDIBULARIS* IN MALAY PEOPLES

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ABSTRACT The incidence of *torus mandibularis* is known to vary in world groups. The object of this study was to determine the incidence of *torus mandibularis* in Malay peoples. Comparison of the data with the known incidence in other world groups showed that the incidence of this trait in Malay people is not unusually high.

INTRODUCTION

Torus mandibularis is generally defined as an exostosis. It is found on the lingual aspect of the mandible in the premolar area above the mylohyoid line. *Torus mandibularis* may occur unilaterally or bilaterally. It can occur in a single or multiple form. Kolas and his co-workers (1953) classified *torus mandibularis*, if present, into four groups; a) single unilateral, b) multiple unilateral, c) single bilateral, d) multiple bilateral *tori*.

The definition of Malay people can be difficult, as the survey was conducted in the Sultanate of Brunei on the island of Borneo. Brown (1970) hinted at this problem when he indicated that census-takers were often faced with a wide variety of groups. The people would all be racially alike, having a virtually identical language and similar social and cultural organization. Yet, they would be named after the geographical feature which was closest to their longhouse. Moreover, the 1971 census in Brunei recorded that 66% of the population was Malay and 29% was Chinese.

Groups who form the people of Malay stock were studied. The true Brunei Malay, who were the majority of the subjects, came from four main sub-groups. These are the Brunei Malay, the Tutong Malay, the Pelait Malay (all three named after the river which drains their district), and Kedayans. Muruts and Punans are other Malay-type indigenous people within the sultanate, but none were consciously seen during the survey. Another large group of Malay-type people in Brunei is made up of Bans or Sea-Yaks, who are employed in Brunei as a labor force, but are indigenous to Sarawak. Any ethnic Malay citizen from either East or West Malaysia was also included.

METHOD

The study was done on routine dental patients, who met the above criteria of a Malay. They were examined at a petroleum company hospital in Brunei for the presence or absence of *torus mandibularis* by visual or by tactile examination. If present, the *torus* was categorized into one of the four classifications given above. Records about name, sex, and age were also kept.

The results of the study of the four grades of *torus mandibularis* are given in Table 1. The frequency is also given by sex and by the total number in the sample.

Table 2 provides comparative frequencies of *torus mandibularis* presence in 11 world groups. In his publication Yang (1995) gives a set of four comparisons from the literature. I have compared the incidence in three Mongoloid groups (Malay, Aleut, and Japanese), three White groups (Florida White, Norwegian, and Ohio White), and three Negro (Florida Black, Negro, and Bushmen) groups. I have also included Brazilian Indians. Of these samples, the data for Aleuts (Hrdlička, 1940), Japanese (Akabori (1939) and Bushmen (Drennen, 1937) were obtained from skeletal material, which may have produced a high incidence of *torus mandibularis*.

TABLE 1. *Torus mandibularis* in Malay.

	Number	Unilateral Tori		Bilateral Tori		Total Frequency	Age in years
		Single	Multiple	Singl	Multiple		
Males	452	15		14	4	33	7.30
Females	428	8	1	7	1	17	3.97
Total	880	23	1	21	5	50	5.68

CONCLUSION

Examination of Table 2 indicates that the incidence of *torus mandibularis* in living people of Malay stock is not unusually high

TABLE 2. Comparison of *torus mandibularis* in population groups.

Group	Incidence	Investigator
Malay	5.7	This study
Aleuts	63.4	Hrdlička, 1940
Japanese	26.6	Akabori, 1939
Florida Whites	24.0	King and King, 1981
Norwegians	7.3	Haugen, 1992
Ohio Whites	7.7	Kolas et al., 1953
Florida Blacks	14.0	King and King, 1981
Negroes	8.2	Austin et al., 1965
Bushmen	26.9	Drennan, 1937
Brazil Indians	0.5	Bernaba, 1977

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AN UNUSUAL MAXILLARY MOLAR FROM PREHISTORIC NEW MEXICO

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The skeletal remains of a prehistoric Native American male were inadvertently discovered during land development in Albuquerque, New Mexico. An almost full compliment of the permanent dentition was recovered, including a loose maxillary molar with four distinct roots (Fig. 1). The isolated burial was situated above the floor of a jacal (sticks and brush) habitation structure containing post holes and hearth features. Abundant ceramics suggest a Pueblo IV occupation (about 1,300-1,500 AD).

This four-rooted molar is tentatively identified as an upper left maxillary first molar. It is larger than its antimere, which was present and in occlusion (Fig. 2). Metric comparisons with the maxillary right first molar are provided. The bucco-lingual measurement of the maxillary left first molar is 12.43 mm; the mesio-distal measurement is 12.20 mm. The maxillary right first molar bucco-lingual dimension is 12.27 mm, whereas the mesio-distal measurement is 10.28 mm.

The lingual aspect of this four-rooted molar is morphologically complex (Fig. 3). This complexity suggests an additional cusp intermediate between the protocone and hypocone. It is also possible that the extra cusp is linked to a "runaway" Carabelli's trait and its associated root. Post-mortem breakage of the majority of the roots prevented morphological comparisons.

Comments from readers concerning the identification of this molar and its unusual morphology will be greatly appreciated.

DENTAL ANTHROPOLOGY AT THE UNIVERSITY OF NEW MEXICO

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Dental anthropological research in the UNM Department of Anthropology is both pervasive and diverse. All Biological Anthropology faculty members, as well as a number of graduate and undergraduate students, are involved in studying some aspect of the field.

Jeffery Froehlich recently used fluctuating asymmetry in Sulawesi macaque dentitions to corroborate a hypothesis of hybrid dysgenesis with some success. One of Jeff's students, Jared Bousliman, is studying all of the known specimens of New Mexico and Colorado *Pelycodus*, pursuant to defining a possible third species with small but morphologically complex third molars.



Fig. 1. Apical view of maxillary left four-rooted first molar on the left and its antimere on the right. The buccal roots are on the left sides of each tooth and the lingual roots are on the right. On the four-rooted molar, mesial is at the top and distal is at the bottom. On the three-rooted molar, distal is at the top and mesial at the bottom.

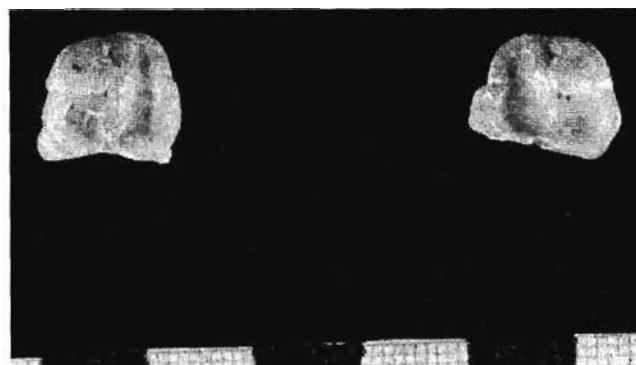


Fig. 2: Occlusal view of the left and right maxillary first molars showing size differences. Teeth are pictured left to right and oriented as follows: buccal is to the outside and lingual, to the inside; distal is at the top and mesial, at the bottom.

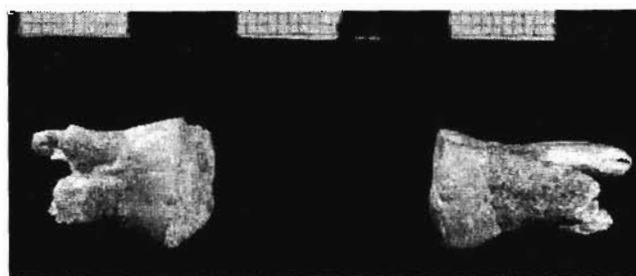


Fig. 3. Lingual aspect of maxillary left first molar, shown on the left, demonstrating complexity. In this view, mesial is at the top and distal at the bottom.