

Dental Morphology from Two Mayan Ethnic Groups in Chiapas, Mexico

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In 1991 we conducted field research with the National Museum of Mexico among the Tojolabal Indians of the Maya community of Las Margaritas in the Chiapas Highlands, southeast Mexico. We also studied 82 Tzeltal Maya individuals, whose dental morphology we report here.

According to our plan, we studied eight morphological dental traits: shoveling, ridging, and tuberculum dentale (cingulum) in upper incisors; Carabelli's trait and hypocone in upper molars; and groove pattern, cusp number, and protostylid in lower molars (Table 1).

TABLE 1. Frequencies of dental traits in 82 Tzeltal Mayans (individual counts, sexes pooled).

Trait	Rank	%
Shoveling ¹ UI1	N ²	0.7
	U	65.1
	A	34.1
	O	0.0
Ridging ¹	0	7.5
	1	11.3
	2	13.7
	3	0.0
	4	0.0
Tuberculum dentale ¹ UI1		15.4
Carabelli's trait ³ UM1		26.1
Hypocone ³ UM2		56.0
Protostylid ³ LM1		28.2
Protostylid ³ LM2		14.1
Groove pattern ³ LM2	Y	8.7
	+	43.6
	X	47.6
Cusp number ³ LM1	4	0.8
	5	63.4
	6	35.8
Cusp number ³ LM2	4	48.0
	5	32.8
	6	19.2

¹Classification of Pompa (1991)

²Absence

³ASU System (Turner et al., 1991)

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RESULTS AND DISCUSSION

Shoveling, as has been observed in other Amerindian populations, has an expression close to 100%. The frequency of Carabelli's trait was 55% on UM1, but very few tubercles were found. Therefore, we obtained a very low weighted frequency (26.1%), using the method of Turner (1985). The unweighted frequency of hypocone on UM2 is close to 85%.

The frequency of Y-groove on LM1 is 83%. However groove pattern on LM2 varies in the Maya Indians. The frequency of Y-groove is 8.7%, whereas + and X pattern are about equal (Table 1). Regarding cusp number, 6-cusped mandibular molars occurred in average frequencies (35.8% on LM1 and 19.2% on LM2). On LM2 over half of the individuals had more than four cusps. Protostylid was expressed as expected, with greater expression on LM1 than LM2. The unweighted frequency was over 50%, but as with Carabelli's, trait few tubercles were found. Cusp 7 was very rare (2% on LM1 and 0% on M₂).

The frequencies of the features we observed agree with the Amerindian dental characteristics (Scott, 1973; Pompa, 1984, 1990) as well as with the Sinodonty dental complex (Turner and Bird, 1981). The data we obtained show the low rate of admixture that these New World ethnic groups have undergone.

Our goal for the near future is to extend this study on dental morphology by analyzing a larger sample of both modern and colonial individuals in the area.

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