

to the southern border of the species, the plant is a component of the dense, *Salix-Betula-Populus* growth occurring along streams, in ditches and around bogs. Specimens are tall, though thin, densely branched, and usually growing in groups (see Cody¹¹). Extreme life forms have specimens in the lower alpine belt of the Mackenzie Mountains where they grow on dry rocky soils, often in windy places, but rarely among deeper bogs and denser plant communities. Plants are short with dense, thick, strongly-twisted stems distinctly damaged by wind in upper parts.

S. alaxensis is a subarctic species common in the west and rare towards the east, but reaching Hudson Bay. To the south it is alpine. Differences in the behaviour of the plant in the above areas (Banks Island, Tuktoyaktuk, Inuvik, Norman Wells and the Mackenzie Mountains) show that this narrow ranging species can adapt itself to varying environments and climates.

S. alaxensis on Banks Island is one of the main components of twig and mossy peat, in which it is represented mostly by thick branches and nearly entire root systems. Stems, in addition to their thickness and the characteristic type of branching, have distinct striation and nodes on the surface of the wood.

Salix richardsonii Hook.

Common in the Masik River valley, especially on older alluvium ascending to 500 ft. In the Sachs River valley also frequent on alluvium and in moss-bogs. Several small clumps were found on alluvium of the middle of Kellett River (cf. Mason *et al.*¹).

Stellaria edwardsii R. Br.

Collected only twice: (1) on swamps between lakes near the middle of Sachs River and (2) in depressions in wet tundra near Thesiger Bay — though commonly observed in many other places. New to Banks Island. Det. A. E. Porsild.

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Three-rooted Mandibular First Permanent Molars in Greenland Eskimo Skulls

The first permanent mandibular molar normally has two roots; however, in a number of individuals a third root develops. This anomaly with three roots (3RM1) occurs in between 0.9%¹ and 3.4%² of Caucasians. The anomaly is unknown in the Negro, but in Mongoloid races is of such a high prevalence as to be termed a racial characteristic. In Eskimos and Aleuts the percentage of individuals showing the anomaly has been variously reported as between 43.7%³ and 12.5%⁴. The wide variation in reports based on studies of arctic peoples leads to the suspicion that the prevalence of 3RM1 may vary according to the different sub-groups of Eskimos in different geographic areas of the Arctic.

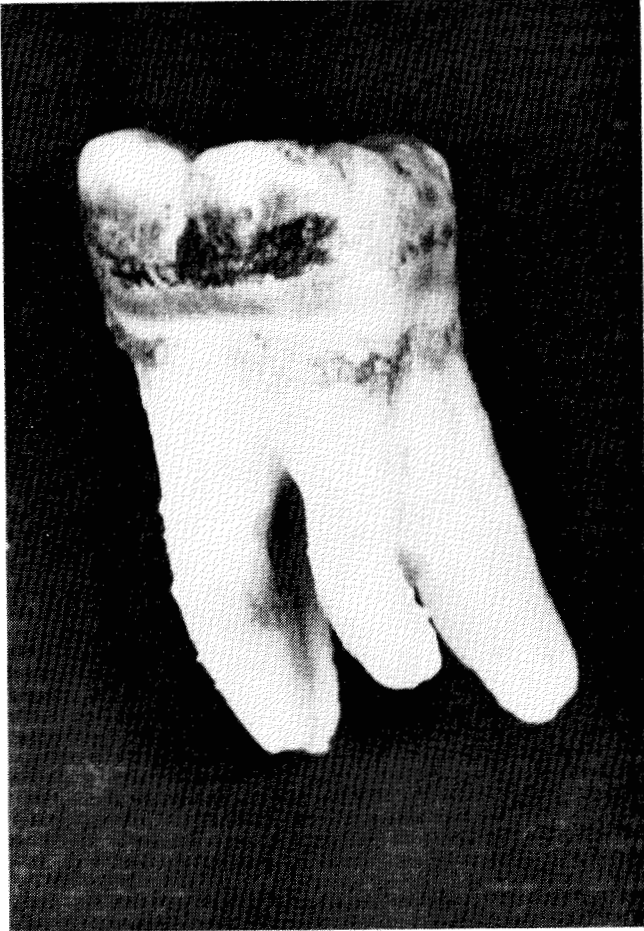


FIG. 1. First permanent mandibular molar of Eskimo showing presence of third root.

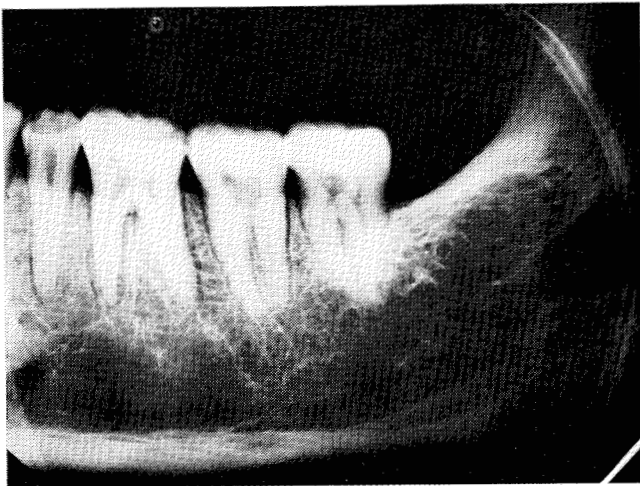


FIG. 2. Radiograph of mandible of Eskimo skull showing presence of disto-lingual root on first permanent molar.

Accordingly, as part of a continuing study of 3RM1 in man, a group of Eskimo skulls, all originally collected prior to 1900, were examined for the presence of this racial characteristic.

SKULLS

Some 160 Eskimo skulls were identified in various museums of Great Britain⁵. Forty of these skulls were found to be complete with mandibles and the presence of first mandibular molars or discernible tooth sockets. However, study of the museum catalogues revealed that the forty skulls originated from many parts of the North American Arctic and Greenland. Only one group, that from the west coast of Greenland, was big enough for study (29 skulls). Of the remaining specimens, 3 were from Alaska, 5 from Baffin Island, 2 from Labrador and 1 from the east coast of Greenland.

Each skull was examined as to the presence of lower first mandibular molars and as to how many roots were present. Where possible, the teeth were removed from the mandibles, examined for the presence of a third root and photographed (Fig. 1). In those cases where the teeth could not be removed from the bone a radiograph was taken of the mandible (Fig. 2).

In some skulls where teeth had been lost post-mortem, examination of the sockets of these teeth revealed how many roots had originally been present. Pre-mortem loss of teeth and subsequent remodelling of bone obliterated some tooth sockets in several cases. Examination of the tooth present on the contralateral side served to indicate the number of roots of the lost molar.

RESULTS

Details of the incidence of 3RM1 found in the skulls from the west of Greenland are given in Table 1. Although the incidence of 3RM1 is given as a rate for skull, and hence individuals, the incidence as a percentage of teeth affected may be more valid. In one skull the lower right molar had two roots, whilst the lower left had three. Therefore, in

those cases where a molar had been lost pre-mortem, and the retained molar had two roots, it is possible that the lost molar had three roots. Without knowing what is the prevalence of two roots on one side and three on the other, it is not possible to allow for pre-mortem losses. Accordingly, the prevalence as a percentage of teeth examined is more accurate.

The determination of sex of a skull is always difficult and of doubtful reliability⁶. In this survey, each skull was sexed and then reference made to the sex given in the museum catalogues. Where there were differences a re-examination was made and a decision arrived at. On this basis, 15 of the 29 skulls were male, whilst 12 were female. The remaining two skulls were of children. The sex ratio of 3RM1 was found to be 3:1 (female to male). However, with only four skulls affected, this sex ratio cannot be considered significant.

DISCUSSION

The incidence of 12.7% by tooth count of 3RM1 in this study of Greenland skulls is very close to the 12.5% reported by Pedersen⁴ from examination of skulls in Copenhagen. It would, therefore, appear that this incidence of about 12.5% was the prevailing one at the time this skull material was collected (1823-1900). However, in view of the great mixing of Caucasian genes by the introduction of Danes to Greenland, the present-day incidence of the anomaly is probably lower. Recent studies of miscegenation and 3RM1 have shown the incidence to be lower in offspring of mixed parentage⁷.

In comparison with the very high incidence of the anomaly as reported for the Aleut (43.7%) and the Alaskan Eskimo (26.7%) by Turner³, the incidence in this study is closer to that for other Mongoloid races. In the Malays of Singapore, Tratman⁸ recorded 10.5% of affected molars, and 17.2% in Javanese.

Of even greater interest, however, is a comparison of this study with other reports in respect of Aleuts and Eskimos throughout

TABLE 1. Incidence of 3RM1 in west Greenland Eskimo skulls.

Teeth	% 3RM1 incidence	
	Skulls	Teeth
$\overline{6 6}$	13.8	12.7
$\overline{6 }$	10.3	11.5
$\overline{ 6}$	13.8	15.4

TABLE 2. Frequency of 3RMI in Aleut-Eskimo people in various geographic regions of the Arctic.

Study	Group	N	% 3RMI individual	Incidence tooth count
Turner ³	Aleut	87	43.68	—
Turner ³	Alaska Eskimo	116	26.72	—
Merbs ⁹	Hudson's Bay Eskimo	60	25.00	—
Curzon & Curzon ¹⁰	Keewatin Eskimo	71	—	19.0
Curzon ⁷	Baffin Eskimo	69	21.7	21.0
Present Study	Greenland Eskimo	29	13.8	12.7
Pedersen ⁴	Greenland Eskimo	64	—	12.5

the Arctic. In Table 2 previously reported incidences are grouped in a geographic order, commencing with the Aleuts as the most westerly people. As can be clearly seen, there is a definite cline from west to east. The fact that this cline follows the probable migration route of the original Eskimo settlers may or may not be significant. There is an obvious need for a study on the anomaly in the Chukchi living on the Russian side of the Bering Strait. As Turner³ has pointed out, the 3RMI frequency variations may be explained on the basis of migrations from Asia of the three groups, Amerindian, Na-Dene and Aleut-Eskimo. He postulates a theoretical incidence of 60% in the "proto-Aleut-Eskimos".

A complicating factor, which must be taken into account, particularly as regards the Greenland Eskimo, is the mixing of Caucasian genes. This commenced on the Greenland coast with the Viking settlements, and continued with the wintering over of whaling ships and fishing fleets, probably present in Davis Strait and even Baffin Bay before recorded explorations.

With the continued interbreeding of the Eskimo with people of Caucasian origin, an increasingly lower incidence of the three-rooted mandibular first molar is to be expected.

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Evidence for the Temporal Stability of Cree and Chipewyan Indian Animal Names

Following publication of my short paper on mammal and bird names in the Indian languages¹ Dr. C. Stuart Houston of Saskatoon kindly pointed out to me that a considerable number of Cree animal names are given in the *Fauna Boreali Americana* of Richardson and Swainson². As this publication is based