

one of two possible mates of II-3 were tested and showed normal albumin only. Although the albumin types for the other possible mates are not known, this variant, because it is uncommon in the village, is probably inherited through the individuals identified in the pedigree. All of the individuals heterozygous at the albumin locus are homozygous at the *Gc* locus; consequently, the family does not provide an opportunity to test the possibility of close autosomal linkage between loci for serum albumin and *Gc* protein which has been described in families segregating for other albumin variants^{2,5,6}.

The new albumin variant was introduced into the Yanomama village of Borabuk by individual I-1 (Fig. 2), a woman captured from the Máku tribe⁷ in a raid some time during the early 1930s. In 1925 the Máku were still a viable cultural entity, maintaining settlements of their own on the Rio Uraricoera⁸. During an eastward expansion by the Yanomama, however, the Máku were reduced to virtual extinction: by 1964 only three individuals were known to be able to speak the Máku language⁹. Although a number of Máku may have been incorporated into a second Yanomama group on the Rio Uraricoera⁹, there seem to be few individuals who have survived to reproduce within Yanomama society. The woman who did survive, however, was not subjected to the traditional Yanomama customs relating to marriage and reproduction because she was an outsider¹⁰. She provided several men in the village with an opportunity to reproduce earlier in their lives—men who might otherwise not have obtained a spouse until later, or perhaps not at all. She was, in turn, provided with reproductive opportunity which was somewhat better than usual, as witnessed by the fact that she has five surviving children (compared with an average of 3.2 for post-menopausal Yanomama women)¹¹. The probability of retention of the new gene which this woman introduced into the village may therefore have been partly determined by cultural factors affecting her reproductive behaviour.

The new albumin variant, apparently foreign to the Yanomama population, was introduced by a captive member from the nearly extinct Máku tribe. In consideration of this once numerous and culturally significant but now dying people, we propose to name the new variant Albumin Máku, at least until a proper name which identifies the structural alteration in the variant can be assigned.

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BIOLOGY

Discrimination between Heavy Water and Water by the Mouse

THE experiment described here indicates that mice are able to discriminate between D₂O and H₂O. Two male litter mates of *Mus musculus domesticus* (strain T-O) were kept in separate Harwell type cages, each fitted with two water bottles. In the experimental cage, one bottle contained D₂O and the other glass-distilled H₂O, and in the control cage each bottle contained glass-distilled H₂O. The bottles were refilled every 24 h and the quantity taken from each during the previous day was determined. The bottles were replaced in the cages in a random manner, following Fisher and Yates's table of random numbers. The experiment was continued for 14 days and Table 1 shows the quantities of liquid taken during that period by the two mice.

Table 1

Experimental cage		Control cage	
H ₂ O (ml.)	D ₂ O (ml.)	H ₂ O (ml.)	H ₂ O (ml.)
12.8	2.8	7.2	10.2
13.2	3.2	15.2	13.4
15.2	2.1	10.0	12.0
14.2	2.1	9.5	12.0
12.2	3.6	14.4	5.0
14.0	3.6	12.0	15.0
15.2	4.2	14.6	17.4
10.8	2.0	4.4	11.0
9.6	2.4	5.0	12.2
11.4	1.0	8.0	4.0
12.0	1.2	7.2	3.2
12.6	3.4	8.0	10.2
10.2	1.8	10.0	5.2
9.5	1.4	5.2	7.4

It is clear from the results in Table 1 that *Mus musculus* can distinguish ($P \ll 0.001$) between H₂O and D₂O. There was no significant difference between the amounts taken from the two bottles in the control cage ($P > 0.7$).

This result is of interest in two different contexts. First, it has been proposed that the decreased fluid intake of rodents presented with D₂O or deuterated water is the result of a decrease in excretion¹. My results suggest that distaste for D₂O may also contribute to the observed diminution in excretion. Second, Shallenberger² has suggested that the formation of hydrogen bonds between a molecule and a gustatory receptor site plays an important part in stimulating the receptor cell. It is known³ that the bonds attaching deuterium to oxygen are considerably more stable than those attaching hydrogen to oxygen. The ability of D₂O and H₂O to form hydrogen bonds is thus significantly different. It is possible that the mouse uses this difference as the discriminandum between D₂O and H₂O.

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Phylogenetic Relationships among Venomous Snakes of the Genus *Agkistrodon* from Asia and the North American Continent

AMONG a great number of venomous snakes, *Agkistrodon* is the only genus which is found in both Asia and the North American continent. The Asiatic members of *Agkistrodon* consist of seven species and range from Japan, Formosa, China, south-east Asia (excluding Celebes and Philippines), India, Central Asia and southern Siberia,