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QUALITATIVE CHARACTERISTICS OF THE VESTIBULAR NUCLEI OF THE BRAIN OF DOLPHINS AND MAN

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[Text] As we know, the leaps of dolphins and the high speed of aquatic animals have long drawn the special attention of scientists (Wilkie, 1959; S.V. Pershin, 1957, and others). In this work, a quantitative analysis has been made of the four principal vestibular nuclei (classification according to Brodal et al., 1962). The study was made on the basis of preliminary cytoarchitectonic research on series of sections through the brain stem of an Atlantic Bottle-Nosed Dolphin (Tursiops truncatus), a Common Dolphin (Delphinus delphis) and man. The thickness of the sections, stained by Nissl's method, was 20 μ. The boundaries of the four principal vestibular nuclei (superior -- nucleus vestibularis superior --nVIIIvS, lateral -- nucleus vestibularis lateralis -- nVIIIvL, medial -- nucleus vestibularis medialis -- nVIIIvm, and descending, or inferior -- nucleus vestibularis inferior -- nVIIIvd) were established under the microscope on a continuous series of sections, transferred on to paper, and measured planimetrically, serially, in the form of projections, with the subsequent calculation of the territory occupied in the brain stem by the formations studied. The technique of the measurements and calculations was described earlier in greater detail (V.P. Zvorykin, 1957, 1963).

The results of the study made are presented in Table 1.

Table 1

	nVIIIvS	nVIIIvL	nVIIIvm	nVIIIvd
Common Dolphin	0.47	9	0.74	0.60
Atlantic Bottle-Nosed Dolphin	0.96	16	0.58	0.93
Man	1	1	1	1