

phosphate excretion in this fish but no definite conclusions can be drawn at present.

THE SIZE AND HEMOGLOBIN CONTENT OF THE RED CORPUSCLES OF TELEOSTS, ELASMOBRANCHS, AND CYCLOSTOMES

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As part of an investigation of the size and hemoglobin content of vertebrate red corpuscles, the blood of 18 species of teleosts, 5 species of elasmobranchs, and 1 cyclostome was examined. In each instance erythrocyte counts, hemoglobin, hematocrit and icterus index determinations, diameter measurements of the red cells and calculation of the mean volume, thickness, hemoglobin and hemoglobin concentration of the red corpuscles were carried out. A total of 41 specimens was thus studied.

These observations revealed a great difference in the volume of the erythrocytes of elasmobranchs and cyclostomes as compared with that of teleostean red corpuscles, the former being much larger. The hemoglobin content of these erythrocytes tended, on the whole, to vary directly with their size so that the mean corpuscular hemoglobin concentration was essentially constant. The greatest difference in the volume of the red cells was 15:1. The maximum variation in mean corpuscular hemoglobin concentration was 1.5:1.0. These findings correspond with observations in amphibia, reptiles, birds and mammals and suggest, as studies in human beings have already indicated, that there is an optimum concentration of hemoglobin in the red corpuscle.

On the whole, variations in red cell size occurred in inverse ratio to variations in erythrocyte count, so that the red cell mass tended to vary much less than the wide differences in the erythrocyte counts of various fish would indicate. Nevertheless red cell mass was much less constant than mean corpuscular hemoglobin concentration.

THE REACTION OF THE OVIDUCT OF SKATES TO CERTAIN AUTONOMIC POISONS

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Studies of the effects of well known autonomic poisons on the heart and gastro-intestinal tract of skates have already been reported by a number of investigators. However, a rather careful search of the literature has led to the conclusion that the oviduct of the skate has never been made the subject of an investigation of this kind. The desirability of extending such studies to the oviduct of the skate became apparent.

The herein described study was carried out on three species of