turus specimens were purchased, already preserved, from the Carolina Biological Supply House, Burlington, North Carolina. The remainder of the *Necturus* specimens were obtained, in the month of September, from the Lemberger Company, Oshkosh, Wisconsin, as live specimens. The *Cryptobranchus* specimens were supplied already preserved by the General Biological Supply House, Inc., Chicago, Illinois. All the specimens, with the exception of those dissected in the fresh state and those obtained already preserved from biological supply houses, were preserved in a 10% solution of formalin, after killing by drowning in a 20% solution of ethyl alcohol.

Whenever possible, specimens were obtained from two or more seasons of the year to provide observations on seasonal variation. In the case of *Desmognathus f. fuscus*, specimens were obtained from all seasons of the year. In all species except *Ambystoma maculatum* and *Siren lacertina*, individuals of both sexes were dissected. Only sexually mature adults were used in obtaining data for this study. Since this is a comparative study, more than one species of each genus was used whenever possible.

With the majority of species studied, at least six specimens were dissected. Before dissection, each specimen was blotted with a paper towel to remove excess moisture and then weighed. The body length was measured as the distance from the tip of the snout to the posterior border of the cloacal opening. The entire ventral body wall was removed by inserting the point of a pair of scissors immediately anterior to, and to the left side of, the cloaca, and making a longitudinal incision along the left side of the animal as far as a point anterior to the heart. The incision was then extended across the body transversely and from thence posteriorly along the right side; the integument and body wall were easily stripped off with the aid of forceps and an occasional use of scissors to separate the ventral mesentery from the liver. The heart was then removed with forceps and scissors in order to expose the esophagus.

The liver was studied first to determine its natural position, lobing, and relation to the other organs of the digestive system. At this point in the dissection, a pencil drawing of the entire digestive tract *in situ* was made to scale, whenever such a drawing was desired.

Measurements of the various parts of the digestive tube were taken. To determine the anterior and posterior boundaries of the esophagus, it was necessary to slit this tube longitudinally on the ventral side, along with the anterior part of the stomach, and observe the interior lining under magnification. The measurements of the total liver length and of the length of the left, posterior, ventral lobe were taken along the median longitudinal axis of the animal, even in cases where the liver showed curvature to one side or the other. Relative lengths of the various organs were calculated by dividing the organ length by the body length of the individual (cf. Table II).

All specimens for which data have been recorded were first preserved in formalin solution as described above. A few specimens were dissected in the fresh state in order to observe the organs and tissues in their natural (unpreserved) condition, but measurements of these were not taken.

The terminology used in this paper is mainly that of Hyman (1942). The scientific names of the species studied are those in the check list by Schmidt (1953). A complete list of the species considered in the present study is given in Table I.

RESULTS

GENERAL APPEARANCE OF THE DIGESTIVE TRACT.

The digestive tract of the caudates is relatively simple. A wide esophagus follows an almost straight course from the pharynx to the stomach. It is situated slightly to the left of the median line, passing dorsal to the heart as it approaches the stomach, and narrowing considerably posteriorly. The esophagus presents a