FISH MORPHOMETRICS AND MERISTICS

ICHTHYOLOGY LABORATORY

Location: Pasteur Hall Room 225

Objective: Learn how to conduct typical morphometric measurements and meristic counts on a local fish.

Hypothesis: Morphometric measurements and meristic counts will exhibit low variability in individual fish of similar size representing one species collected from the same location on the same date.

Agenda:

1) Choose a single preserved fish specimen to use for your measurements and counts. Conduct all measurements and counts on this single fish.

2) Follow the directions provided in the morphometric and meristic handout to determine what and how to measure and count.

   a) 19 morphometric measurements (in mm)

   b) 11 meristic counts

   c) make triplicate measurements/counts of each variable

   d) average the values for each variable (whole number)

Analysis:

1) Using data from **ALL** fish, create a summary table for all morphometric measures. This table should include 5 different columns: names of the measurements, minimum value, maximum

value, mean ± SD, and mean expressed as a % of total length. Label this as **Table 1**, and include a descriptive heading identifying the contents of the table, the species of fish (including scientific name), the total number of fish examined (sample size), and location and date of fish collection.

2) Using data from **ALL** fish, create a summary table for all meristic counts. This table should include 4 different columns: names of the meristics, minimum value, maximum value, and mean ± SD. Label this as **Table 2**, and include a descriptive heading identifying the contents of the table, the species of fish (including scientific name), the total number of fish examined (sample size), and location and date of fish collection.

3) Write a narrative detailing your findings for this lab (this should probably be at least two paragraphs in length, one paragraph for each table). Use the two tables as points of reference, and call the reader's attention to the main findings of the lab exercise summarized in these tables (you need to refer to these specifically). There is no need to repeat every number on the tables, but rather you should point out patterns and trends in the data. For example, how many fish were examined? Were they all similar in size? Were some measurements or counts more (or less) variable than others? Did the fish have abnormally large fins, head, eyes? Were any counts really distinctive? Do any of the results just seem odd, or just don't seem to make any sense?

Equipment:
Metric rulers, metric balances, dissecting microscopes, light sources, data sheets