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GROWTH AND MORTALITY STUDIES OF LARVAL GIZZARD SHAD (Dorosoma cepedianum LeSueur) FROM MAUMEE BAY, WESTERN LAKE ERIE. Theresa C. Gordon, C. Lawrence Cooper and Charles E. Herdendorf. Center for Lake Erie Area Research, The Ohio State University, Columbus, Ohio 43210.

2:15

Between April 15 and September 3 of 1975 and 1976, surface and bottom collections of larval gizzard shad were made at eight sampling locations in a 122 sq km area of Maumee Bay. Samples were taken with a 0.75 m diameter oceanographic plankton net (0.760 mm mesh) equipped with a General Oceanics flowmeter. Using the method of Hackney and Webb (1978, Fourth National Workshop for Entrainment and Impingement. EA Communications, Melville, NY), mortality rates of 2.73 (r^2 = 0.80) and .85 (r^2 = .91), and growth rates of .20 (r^2 = .85) and .23 (r^2 = .91) were computed for the 1975 and 1976 seasons, respectively. Mortality is expressed in units of larvae per 100 m^3 per day and growth is expressed in units of mm per day. The results are discussed in light of the critical period hypothesis which attributes a portion of mortality to starvation during transition from yolk sac to active feeding.

A PRELIMINARY ANALYSIS OF DIET AND RESOURCE PARTITIONING IN ETHEOSTOMA CAERULEUM STORER AND ETHEOSTOMA FLABELLARE RAFINESQUE IN ROCK RUN, CLARK COUNTY, OHIO. Valentine, D.W., and C.A. Stewart. Department of Biology, Wittenberg University, Springfield, OH 45501.

2:30

Etheostoma caeruleum Storer and Etheostoma flabellare Rafinesque occur together in riffle areas of Rock Run, Clark County, Ohio. The diets of these two percids were studied by gut analysis during fall 1980. Hydropsyche larvae, Cheumatopsyche larvae, Stenelmis larvae, and chironomid larvae are the predominant benthic macroinvertebrates in Rock Run. Hydropsyche larvae, chironomid larvae, and Cheumatopsyche larvae (arranged in order of decreasing importance) were the three most important components of the diet of E. caeruleum, while Stenelmis larvae, chironomid larvae, and Hydropsyche larvae (in order of decreasing importance) were the three most important components of the diet of E. flabellare. Diet overlap (Morista 1959) between the two darters was high, $\hat{C}_\lambda$=0.94. However, Stenelmis larvae were significantly (p<0.05) more important in the diet of E. flabellare than in the diet of E. caeruleum. Likewise, Hydropsyche larvae made up a significantly (p<0.05) larger proportion of the diet of E. caeruleum than E. flabellare. Diet diversity (MacArthur 1972) was lower for E. flabellare than E. caeruleum, 4.4 as compared to 5.25. It is suggested that diet overlap between E. caeruleum and E. flabellare may decrease as food availability decreases, a possibility now being investigated.

GROWTH AND MORTALITY STUDIES OF LARVAL YELLOW PERCH (Perca flavescens) FROM THE LOCUST POINT AREA OF WESTERN LAKE ERIE. D. L. Breier, T. C. Gordon, C. Lawrence Cooper and Charles E. Herdendorf. Center for Lake Erie Area Research, The Ohio State University, 484 West 12th Avenue, Columbus, Ohio 43210.

2:45

Growth and mortality rates of larval yellow perch (Perca flavescens) were calculated from samples collected near Locust Point in the western basin of Lake Erie. Samples were collected from 5 stations both day and night from April 13 to September 1 at 7-10 day intervals. A 0.75 meter diameter oceanographic plankton net with 550 micron mesh was used; the net was also fit with a flowmeter to measure volumes of water filtered. Calculations were made using the methods developed by Hackney and Webb (1978, Fourth National Workshop on Entrainment and Impingement, EA Communications, Melville, NY) for the growth and mortality of larval fish populations. In essence these calculations were made by plotting densities versus length over time. From this we derive the growth and mortality of the larval perch. This method is potentially a very useful management tool in the understanding of fish population dynamics of large bodies of water such as Lake Erie.