

is "spreading southward", perhaps as a result of the proliferation of reservoirs, and that the influx of these predators may have impacts on zooplankton populations in southern waters.

*Leptodora kindtii* was encountered in the lower Mississippi River near St. Francisville, Louisiana, as early as June 6, 1973 (Bryan et al., Appendix E in Environ. Rept., Constr. Permit Stage, River Bend Station Units 1 and 2, Gulf States Utilities Co., Baton Rouge, Louisiana, 1974). Binford (M.S. thesis, Louisiana State Univ., Baton Rouge, Louisiana, 1975) took *L. kindtii* in the Atchafalaya river (a Mississippi River tributary) near the mouth of Bayou Chene, St. Martin Par., Louisiana, in March 1974. The latter locality lies roughly at the latitude of New Orleans (ca. 30° S), or about 300 km south of Lake Texoma, from which the southernmost formally-published records are available (Holt et al., Southwestern Nat. 23:686-688, 1978).

Both southern Louisiana records for *L. kindtii* were obtained soon after initiation of sampling with 1-m diameter, 0.505-mm mesh conical townets in the respective study areas (April 3, 1973 in the Mississippi; September 27, 1973 in the Atchafalaya). The question whether or not *L. kindtii* was always present will remain moot, for Conner and Bryan (Proc. Ann. Conf. SE Assoc. Game Fish Commrs. 28:429-441, 1975) found no reference to any previous use in the lower Mississippi-Atchafalaya Rivers of meter-nets or other gear suitable for sampling macrozooplankton. The fine-meshed, relatively small-mouthed nets and bottle samples used in most limnological studies prior to the 1970's are notoriously selective against larger, strong-swimming zooplankters (Schindler, J. Fish. Res. Bd. Canada 26:1948-1955, 1969). At least some of the recent discoveries of *L. kindtii* in southwestern reservoirs were apparently associated with larval fish sampling.

Coarse-mesh plankton sampling has continued through the present on a monthly or more frequent basis at the St. Francisville, Louisiana, site, as well as irregularly in various parts of the Atchafalaya Basin.—*Leptodora kindtii* has been encountered at least once in each year since 1973, but without indication of gradually increasing frequency of occurrence or catches/effort. For example, at one Mississippi River Station where effort was comparable, mean annual numbers/100 m<sup>3</sup> were: 1973 (3.3); 1974 (4.4); 1975 (0.9); 1976 (12.6); and 1977 (0.2). Specimens have been taken as early as March and as late as November, but in most years *L. kindtii* has been most common and abundant in June and July; individual sample estimates (based on impeller-type flowmeter readings) for early summer collections in 1973-77 ranged from 3 to 25/100 m<sup>3</sup>. Specimens ranging from about 2 to 10 mm (total length) have been observed, indicating that at least some reproduction occurs locally; most smaller specimens (<3 mm) have appeared in summer and early autumn.—JOHN V. CONNER, School of Forestry and Wildlife Management, AND C. FRED BRYAN, Louisiana Cooperative Fishery Research Unit, Louisiana State Univ., Baton Rouge, LA 70803.

**COLORADO SQUAWFISH, *PTYCHOCHEILUS LUCIUS* (CYPRINIDAE), WITH A CHANNEL CATFISH, *ICTALURUS PUNCTATUS* (ICTALURIDAE), LODGED IN ITS THROAT.**—The Colorado squawfish (*Ptychocheilus lucius*) is a large cyprinid endemic to the Colorado River basin. Historically, it was widely distributed in the Colorado River and its major tributaries (Minckley, *Fishes of Arizona*, Arizona Game and Fish Dept., 293 pp., 1973), but habitat modification has resulted in its decline. The species was listed as Endangered by the U.S. Fish and Wildlife Service (Federal Register 39:1175, 1974).

One factor in its decline that is frequently suggested is the ingestion of introduced channel catfish (*Ictalurus punctatus*). Undocumented reports exist of Colorado squawfish found dead with channel catfish lodged in the esophagus (Seethaler, M.S. thesis, Utah State Univ., 1978; Vanicek and Kramer, Trans. Am. Fish. Soc., 98:193-208, 1969). Presumably the squawfish died from suffocation or starvation.

In December, 1974 an adult Colorado squawfish (550 mm TL) with a channel catfish (120 mm TL) lodged in its esophagus was collected by trammel net at Sand Wash on the Green River, 348 km upstream from its mouth. The catfish was headfirst, with the pectoral fins locked out and lodged in the esophageal wall immediately posterior to the gill arches. The channel catfish was contained completely within the mouth of the Colorado squawfish and was not attached to the trammel net. Therefore, it is unlikely that the channel catfish was caught in the net before it was ingested by the Colorado squawfish.

In the Colorado River Basin universities, consulting companies, and state and federal agencies have spent considerable time on the rivers and collected relatively large numbers of Colorado squawfish. For example, the U.S. Fish and Wildlife Service collected 466 subadult and adult Colorado squawfish (>200 mm TL) in 1979-81 and found none with ictalurids lodged in their throats

(H. Tyus and R. Valdez, pers. comm.). Therefore this occurrence is undoubtedly very rare and probably had little influence on the decline of the Colorado squawfish.

I thank R. Wydoski and C. Reger who participated in the collection. The Utah Cooperative Fishery Research Unit is jointly supported by the U.S. Fish and Wildlife Service, Utah Division of Wildlife Resources, and Utah State University.—CHARLES W. McADA, *Utah Coop. Fish. Res. Unit, UMC-52, Utah State Univ., Logan, UT 84322.* (Present address: *U.S. Fish and Wildlife Service, 551 25.5 Rd., Suite B113, Grand Junction, CO 81501.*)