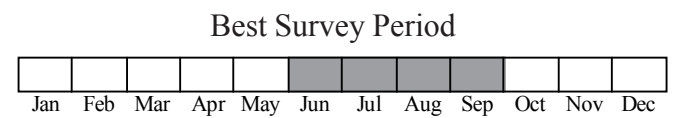
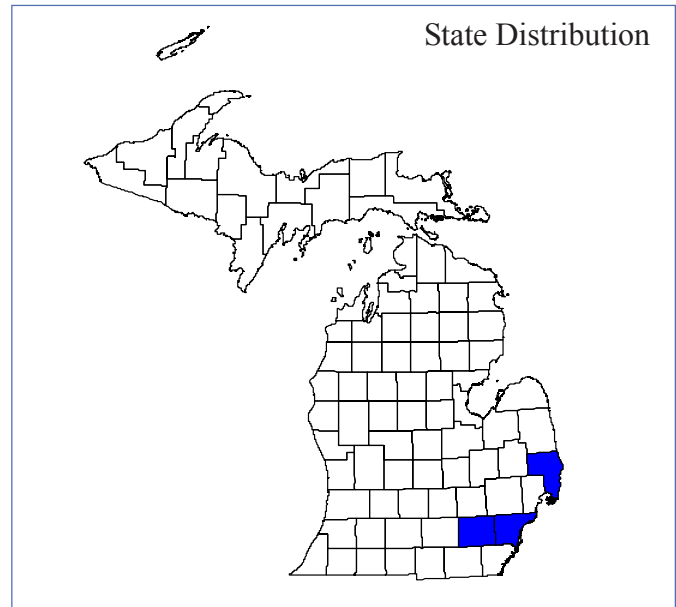
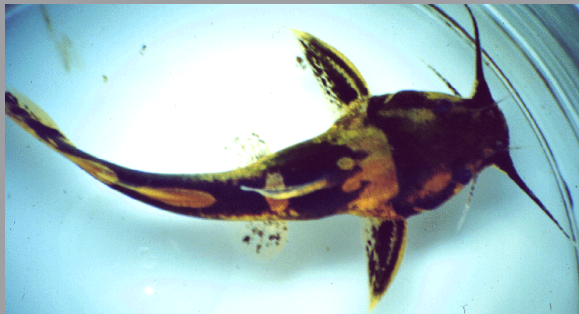




Above: Northern madtom, lateral aspect. Photo courtesy of Rob Criswell.

Below: Northern madtom, dorsal aspect. Photo courtesy of Matthew Chan.



Status: State endangered

Global and state rank: G3/S1

Family: Ictaluridae (Bullhead Catfish)

Total range: The northern madtom is sporadically distributed in eastern North America, primarily in the Ohio River basin from Illinois to West Virginia and Pennsylvania. It has been collected as far north as Lake St. Clair in Ontario, and as far south as northern Mississippi and western Tennessee in tributaries of the Mississippi River. The northern madtom is also found in the Western Lake Erie Drainage. This species is considered critically imperiled (S1) in Indiana, Michigan, Mississippi, Ohio, Pennsylvania, West Virginia and Ontario, and is possibly extirpated (SH) from Illinois. While northern madtom populations are drastically declining and infrequently encountered at the fringes of its range, it is less rare in the center of its range, in Tennessee (S3 - vulnerable) and Kentucky (S2 - imperiled) (NatureServe).

State distribution: Historically, the northern madtom was known from several large rivers in southeastern Michigan. Surveys in the late 1970's confirmed their presence in the Detroit and Huron Rivers. However, a follow-up survey of the Huron River in 1983 found no

individuals present. In 1995, several adults, young-of-the-year juveniles, and larval fish were found in the St. Clair River, confirming that Michigan still has at least one breeding population of the northern madtom.

Recognition: The northern madtom is a small (2-4 inches in length) bottom-dwelling fish of the catfish family (Ictaluridae). Like other madtoms, the northern madtom has sharp pectoral spines and associated poison glands that can inflict a painful wound. It has a thick body with gray, brown or tan back and sides. The belly is pale with dark mottling. The northern madtom has four broken dark saddle-bands, the last of which is found at the base of the adipose fin. It is confused most often with the brindled madtom in Michigan (Trautman 1981, Goodchild 1993).

Best survey time/phenology: The northern madtom is best surveyed during the late spring, summer and early fall months during periods of low rainfall and concomitant low water and low turbidity. Because this species is nocturnal, evening or night surveying may be the most successful (Goodchild 1993).

Habitat: The habitat of the northern madtom varies throughout its range according to the latitudinal location of populations. It is found in small rivers and creeks



within the southern portion of its range, and it occurs in medium to large rivers in the middle of its geographic range. It is found in large rivers in the most northern portion of its range (Michigan and Pennsylvania). A specimen was collected from Lake St. Clair, which suggests that the northern madtom may also occur in lentic habitats. In all areas, it prefers a strong current with sand, gravel or rock substrates (Taylor 1969, Goodchild 1993). This species is somewhat tolerant of turbidity, but avoids heavily silted areas (Trautman 1981).

Biology: Little is known of the life history of the northern madtom. In Michigan, the fish spawns in mid-summer, and egg masses are deposited in small cavities. Nests are guarded by the males, and young remain near the nest until the yolk sac is absorbed (Taylor 1969). Like most madtoms, the northern madtom is probably sexually mature after 2-3 years, and is a night spawner. Food habits of the northern madtom are presumed to be similar to that of other madtoms. Small insects and invertebrates are likely consumed at night.

Conservation/management: The sporadic range and small populations of the northern madtom suggest that this species has very specific ecological requirements and is sensitive to habitat disturbance and degradation. Trautman (1981) suggests that increased turbidity and stream flow alteration has led to the decline of the species in Ohio. Because little is known of the specific habitat and ecological requirements of this fish, it is important to preserve the natural state of the rivers where this species occurs.

Research Needs: In order to protect the species, the life history and habitat requirements of the northern madtom need to be further studied. Also, because very few populations in Michigan are currently known, surveys of historic ranges are essential for the conservation of this species.

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