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THE ASSASSIN BUG *ZELUS LURIDUS* (HETEROPTERA: REDUVIIDAE) IN MICHIGAN'S UPPER PENINSULA

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On 17 July 1992, an assassin bug *(Zelus luridus* Stål) was flushed from the stomach of a smallmouth bass *(Micropterus dolomieu)* collected in West Long Lake of the University of Notre Dame Environmental Research Center, Gogebic County, Michigan. The bass measured 237 mm in total length and weighed 187 g. Although Z. *luridus* was reported by McPherson (1992) from 26 of 67 counties in Michigan's Lower Peninsula, he did not list it from the Upper Peninsula. Including Z. *luridus,* only 5 of 28 reduviids known from Michigan have been collected in the Upper Peninsula, a region that apparently has been under-collected (McPherson 1992).

The Z. *luridus* reported herein probably was eaten by the smallmouth bass after falling from a shoreline bush or tree to the water's surface. Although smallmouth bass typically eat fish and crayfish primarily, their diet in unproductive lakes in northern Michigan may be dominated by insects (Clady 1974). The stomach contents of the bass that had eaten the Z. *luridus* specimen contained, in addition, a mixture of both aquatic and terrestrial insects.

Chemical defense systems are characteristic of the Heteroptera, and assassin bugs possess not only scent glands in the metathorax, but also toxic saliva (McGavin 1993). Indeed, Cochran (1990) observed a treefrog reject assassin bugs after taking them into its mouth. However, McGavin (1993) suggested that particular groups of bugs may have different sets of primary predators, with chemical defenses evolved to target the most appropriate enemies in each case. It seems likely that the chemical defenses of assassin bugs are more effective against whatever terrestrial predators they typically encounter than against aquatic predators such as bass. In addition, it is our experience that some individual bass appear to specialize on noxious prey (Cochran et al., unpublished data). Thus, we are not surprised to find a presumably toxic or distasteful assassin bug among the gut contents of a presumably occasional predator.

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