



United States Department of the Interior

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PLATTE RIVER RESOURCE AREA
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The narrow-footed Hygrotus diving beetle (Hygrotus diversipes) is known only from Dugout Creek in northern Natrona County. The species was collected in 1964 at the point where Dugout Creek passes under old Highway 87. As far as is known, this was the only collection ever made. Because so little is known about the species, the U.S. Fish and Wildlife Service, in 1984, placed the species in its Category II designation. This means that information in the possession of the service indicates that proposing to list the species as Endangered or Threatened is possibly appropriate, but substantial data are not currently available to biologically support a proposed rule. The acquisition of additional information could result in a proposal to list the species, if that information showed that the species was indeed found only in Dugout Creek or similar restricted habitat. The opposite is also true - should new information show that the species is more widespread than previously thought, it would likely be removed from even the Category II list.

Normally, we would not be concerned about this Category II species. However, the proposed Exxon CO₂ pipeline running from SW Wyoming to WC North Dakota passes through Natrona County, and parallels Dugout Creek for about six or seven miles, crossing it at one point, and running within a mile, and as close as one-eighth mile, for most of the six to seven miles. The pipeline crosses many of the tributary drainages to Dugout Creek. This presents a need to know, does the species still exist; if so, is it only in Dugout Creek, or is it also in similar stream systems elsewhere?

Originally, I thought that we could simply go up to Dugout Creek, look for the beetle, and make a judgment. However, since acquiring published literature on the beetle, I conclude that the job is beyond our capabilities. The beetle is only 4.5 mm long and less than one mm wide. In addition, there are at least two other species of the same genus in the creek, and the only way to tell them apart is to examine certain parts of their legs and external genitalia. In addition, in order to examine these parts, the insects will likely have to be dry mounted on "points", or pin heads. This entails drying the insect slightly, then applying a small amount of adhesive to its side, then mounting the animal on the pin head. Then, the mounted specimens will have to be shipped to someone who can identify them. The mounting process is a slow, tedious process, and will likely consume many hours, since probably several hundred specimens will have to be collected. The large number is necessary if several habitats besides Dugout Creek are to be inventoried.

I spoke with Dr. Levine of the University of Wyoming Entomology Department on April 16. Asked him about the likelihood of any expertise at UW, and willingness to conduct a study on the beetle for us. He basically said he wasn't interested, and was unsure of any other expertise, with the exception of Dr. George Baxter, who has recently retired, and might be interested. He advised that we contact Dr. Hugh Leech, who originally described the species. He suggested we ask Dr. Leech if he would be willing to identify a limited number of specimens of beetles, and if so, how many, and how would he like them shipped. This means, would he want them in alcohol or on points (mounted dry), and if on points, how (right side up, upside down, on side). He agreed to send me a photocopy of a Hygrotus beetle; so we would know what we are looking for. He also indicated that we could send the material to Dr. Leech through UW, if there was concern about the handling and the eventual disposition of the collected material. The above mentioned mounting on points is a tedious, time consuming process, based on Dr. Levine's description.. It also seems that it must be done immediately upon collection of the beetles.

I spoke with Dr. Russell Anderson (801-586-7700) of Southern Utah State College, Cedar City, Utah, about the possibility of his identifying to species level some Hygrotus diving beetles that we would collect. He said he would be glad to identify them for us. He will be on campus from June 15 to July 15 and can identify the material at that time. We will collect during May and early June, preserve the material in 70 percent alcohol, and ship it to him by July 1.

April 18, 1985 Gene Dahlem