

SCIENTIFIC NOTE

FIRST NEBRASKA STATE COLLECTION RECORD OF THE MOUNTAIN PINE BEETLE,  
*DENDROCTONUS PONDEROSAE* HOPKINS (COLEOPTERA:  
CURCULIONIDAE: SCOLYTINAE)

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The mountain pine beetle, *Dendroctonus ponderosae* Hopkins (Coleoptera: Curculionidae: Scolytinae), is the most destructive bark beetle in western North America (Furniss and Carolin 1977). Extensive outbreaks are currently in progress across the region. In 2009 alone, approximately 0.41 and 0.49 million hectares (1.0 and 1.2 million acres) were affected in Colorado and Wyoming, respectively, and since 1996, an estimated 160,000 hectares (396,000 acres) in the Black Hills of Wyoming and South Dakota have been impacted (USDA Forest Service 2010). The mountain pine beetle attacks many pine species including Rocky Mountain ponderosa pine, *Pinus ponderosa* var. *scopulorum* (Engelm.) E. Murray, and limber pine, *Pinus flexilis* James (Pinaceae), both native to Nebraska, as well as exotics such as Scotch pine, *Pinus sylvestris* L., which is widely planted in Nebraska. The mountain pine beetle occurs in British Columbia and Alberta, throughout the western United States, and into northern Mexico (Wood 1982), yet to our knowledge recorded confirmation from Nebraska is lacking both in published literature and in collections. Here we present documentation that the mountain pine beetle is currently widespread at low densities across western Nebraska.

In April 2009, adult specimens were collected from a dead Scotch pine in Banner County, Nebraska, and identified as the mountain pine beetle. This identification was confirmed by scolytine specialist Dr. Donald E. Bright, C.P. Gillette Museum of Arthropod Diversity, Department of Bioagricultural Sciences and Pest Management, Colorado State University, Fort Collins, Colorado. Voucher specimens

were deposited in the C.P. Gillette Museum and with the University of Nebraska–Lincoln. Additional specimens were submitted to the USDA–Agricultural Research Service, Systematic Entomology Laboratory, Beltsville, Maryland. Many of these additional specimens were obtained from pheromone monitoring traps.

To survey for the presence of the mountain pine beetle, pheromone monitoring traps were placed at 13 locations across the native ponderosa pine forests of western Nebraska in the summer of 2009 by Nebraska Forest Service staff (Fig. 1). A 12-unit Lindgren funnel trap was used containing a lure of two commercially synthesized mountain pine beetle aggregation pheromones, trans-verbenol and exobrevicomin, and host volatile myrcene. One trap per location was deployed in mid-July, except at the Wildcat Hills Wildlife Management Area (WMA) and Bordeaux Road locations, where traps were deployed in late July and mid-August, respectively (Table 1). Traps were checked every two weeks and removed in mid-September. Mountain pine beetles were captured and confirmed from each trapping location in four Nebraska counties (Table 1).

Field visits in October 2009 and January 2010 found positive evidence of the mountain pine beetle in the town of Kimball (Kimball Co.), the Wildcat Hills State Recreation Area Nature Center (Scotts Bluff Co.), Buffalo Creek WMA (Banner Co.), Carter Canyon Ranch (Scotts Bluff Co.), Gilbert-Baker WMA (Sioux Co.), and just south of the Hudson-Meng Bison Bone Bed near Crawford (Sioux Co.) (Fig. 1). Of the many beetle-attacked pines examined during these two field visits, few had evidence of successful colonization and reproduction,