



Whooping Cranes

Gary W. Seib

## WHOOPING CRANE TOUR

One-day nature tours to observe migrating Whooping Cranes will depart from Saskatoon on 29 September and 6 October 1984. The tours will be led by Natural History Society members and will begin about 0830 h and continue until dusk. Tour cost (\$65) covers leadership and transportation from Saskatoon. For further information, phone 343-1148 or 955-3242. To register, write: SNHS, Box 1784, Saskatoon, Saskatchewan. S7K 3S1

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## THIRTEEN-LINED GROUND SQUIRREL APPARENTLY FEEDS ON CREEPING JUNIPER SEEDS

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The Biddulph half-section is a natural research area south of Saskatoon, belonging to the University of Saskatchewan. On 4 November 1982, I was there collecting cones of the Creeping Juniper (*Juniperus horizontalis* Moench). Creeping Juniper dominates the slopes of dry sand hills there, which are otherwise largely barren. On the ground near the juniper shrubs, I noticed several small mounds of crushed cones. These were evident due to their vivid colours; the cones are dark blue with a whitish bloom on the outside, and bright green inside. Closer inspection showed that there were no seeds among the cone



Midden of Creeping Juniper cones  
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litter, just seed coat fragments. Evidence suggests that the seeds had been collected and eaten by a Thirteen-lined Ground Squirrel (*Spermophilus tridecemlineatus*).

A juniper cone is more properly called a *galbulus* (pl. *galbuli*), which means a cone with fleshy cone-scales.<sup>5</sup> It is not a berry, but is used like a berry by some animals seeking food, and indeed looks like a berry. Each *galbulus* of this species contains an average of three or four large seeds.

The *galbuli* at Biddulph had been peeled open. The seeds were removed, then cracked to expose the soft embryo inside. The embryo was the only part eaten. All other parts were discarded. This immediately rules out the possibility of birds having fed upon these *galbuli*. No birds known to feed on these species — such as Sharp-tailed Grouse<sup>4</sup> — hoard seeds, and most song birds feeding on juniper can only digest the soft pulp and not the seeds themselves.<sup>2</sup>

Since the cones had been hoarded, rodents were the logical suspects. Several rodents have been known to feed upon juniper fruit.<sup>1 2</sup> Habitat preferences of species can reduce the choice still further. For example, the grass cover preferred by microtine voles was lacking in the sand hills at Biddulph.<sup>3</sup> The decision as to which rodent had been feeding on the seeds was finally reduced to a choice between ground squirrels or Deer Mice.

A Thirteen-lined Ground Squirrel is presumed to be the animal that left the mound of crushed cones. Near a cluster of the mounds, a den entrance was found with an inside diameter of about 3.5 cm. This is a rather large den size for a Deer Mouse to maintain, so it can be safely discounted as a possibility. Also, the only ground squirrel small enough to make a den

this size is the Thirteen-lined. This species is also known to be a great seed-eater (thus the Latin name — *Spermophilus*).

The Thirteen-lined Ground Squirrel has not previously been recorded eating juniper seeds. This is also rather late in the year for a ground squirrel to be out feeding. Normally, they begin hibernation no later than October.<sup>3</sup> In 1982, the regional weather was still quite warm until the beginning of November, and may have allowed the ground squirrels to be active later than normal. Ripe juniper *galbuli* are available throughout the year, but this indicates their use by the ground squirrel in late autumn.

I would like to thank Dr. J.S. Rowe for making the trips to Biddulph possible, and Dr. R.J. Staniforth for reviewing this note.

<sup>1</sup> CRIDDLE, S. 1926. The habits of *Microtus minor* in Manitoba. Journal of Mammalogy 7: 193-200.

<sup>2</sup> MARTIN, A.C., ZIM, H.S., and NELSON, A.L. 1961. American Wildlife and Plants — A Guide to Wildlife Food Habits. General Publishing Company, Ltd., Don Mills, Toronto, Ontario.

<sup>3</sup> SAVAGE, A. and SAVAGE, C. 1981. Wild Mammals of Western Canada. Western Producer Prairie Books, Saskatoon, Sask.

<sup>4</sup> SNYDER, L.L. 1935. A study of the Sharp-tailed Grouse. Contributions of the Royal Ontario Museum of Zoology 6. 66 pp.

<sup>5</sup> USHER, G. 1966. A Dictionary of Botany. Constable and Company, Ltd., London.