

# THE EASTERN YELLOW-BELLIED RACER IN CANADA

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On May 23, 1977 we encountered a slim, olive-backed snake in a deep ravine of the Frenchman River Valley, just north (TP 1, R. 10, Sect. 10) of the Saskatchewan-United States border. Somewhat to the consternation of the cows that were grazing nearby, we succeeded in running down and capturing the hapless creature. After verifying its racing capabilities, we noted its bright lemon-yellow belly; the combination clearly indicated an eastern yellow-bellied racer (*Coluber constrictor flaviventris*) as illustrated and described in Stebbins.<sup>10</sup> The specimen, which was about 75 cm in length was photographed and then released to its damp habitat of grazed sedges. Photographs were sent to the National Museum of Natural Sciences, Ottawa and Francis Cook, Curator of Herpetology, confirmed the identification.

The first record<sup>6</sup> of this species in Canada consisted of two specimens taken on October 4, 1964 in the Frenchman River Valley approximately 30 km NW of the location reported herein. This remained the only locality for the racer in Canada until Morrison<sup>7</sup> casually mentioned that a racer had been killed on the Marshall ranch in the lower Big Muddy Valley in September 1968. Cook and van Zyll de Jong<sup>4</sup> confirmed the Morrison report when they collected a road killed racer (*sic*) in that vicinity on August 6, 1974.

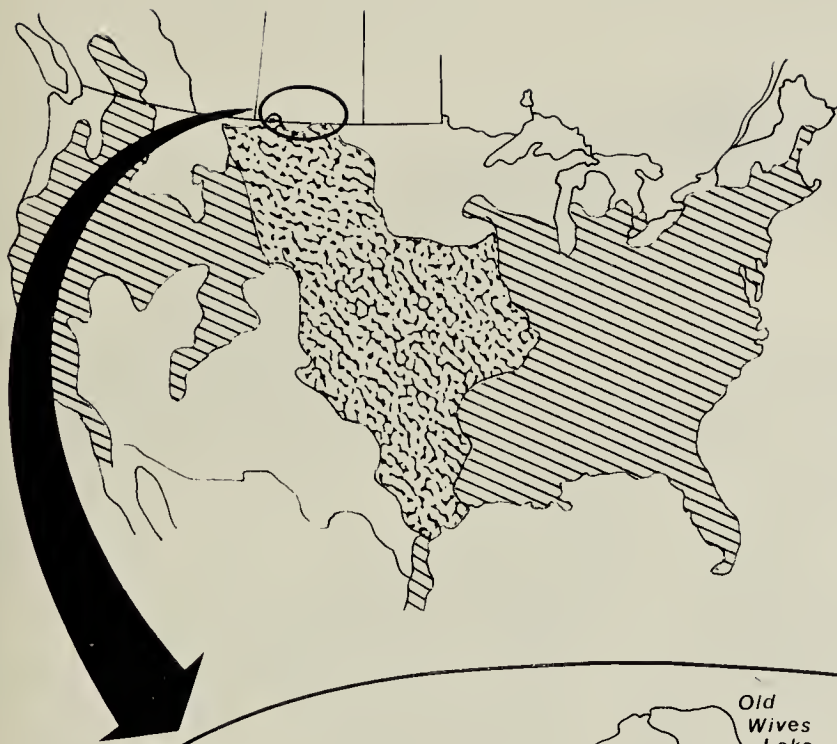
Besides these published records, there are several unpublished observations of racers in Saskatchewan. These records, along with our own, allow us to better define the range of

*C. C. flaviventris* in Canada.


G. Seib (pers. comm.) reports that in late April, 1968, three yellow-bellied racers were collected from a hibernaculum in the Frenchman River Valley (TP.2, R. 11, Sect. 3 or 10). Seib and W. Lynch saw two racers at this same hibernaculum on October 15, 1977: "On this rather cold day, the snakes were sunning themselves in company of some garter snakes at the hibernaculum entrance. We managed to capture one racer, and took an extensive series of photographs". On September 25, 1977 John Woods (pers. comm.) and Bob Peart found a racer about 12 km southeast of Val Marie in the vicinity of the 'Snake Pit' or 'Rattlesnake Nest' — local names for a hibernaculum located at TP. 3, R. 12, Sect. 5. Woods and Peart observed a headless rattlesnake in the hibernaculum and numerous bullet cases nearby.

Another record of a racer come from the Marshall ranch in the Big Muddy Valley. An immature specimen captured on July 4, 1970 was transferred to the Saskatchewan Museum of Natural History and released a year later near its capture location (R. Kreba, pers. comm.).

The records indicate, as suggested by Cook and van Zyll de Jong<sup>4</sup>, that the range of the eastern yellow-bellied racer extends into Canada at two locations — via the Frenchman River and Big Muddy Creek Valley (Fig. 1). Conant<sup>5</sup> also illustrates a bi-lobe northern extension of the racer on the Great Plains. It is possible that the

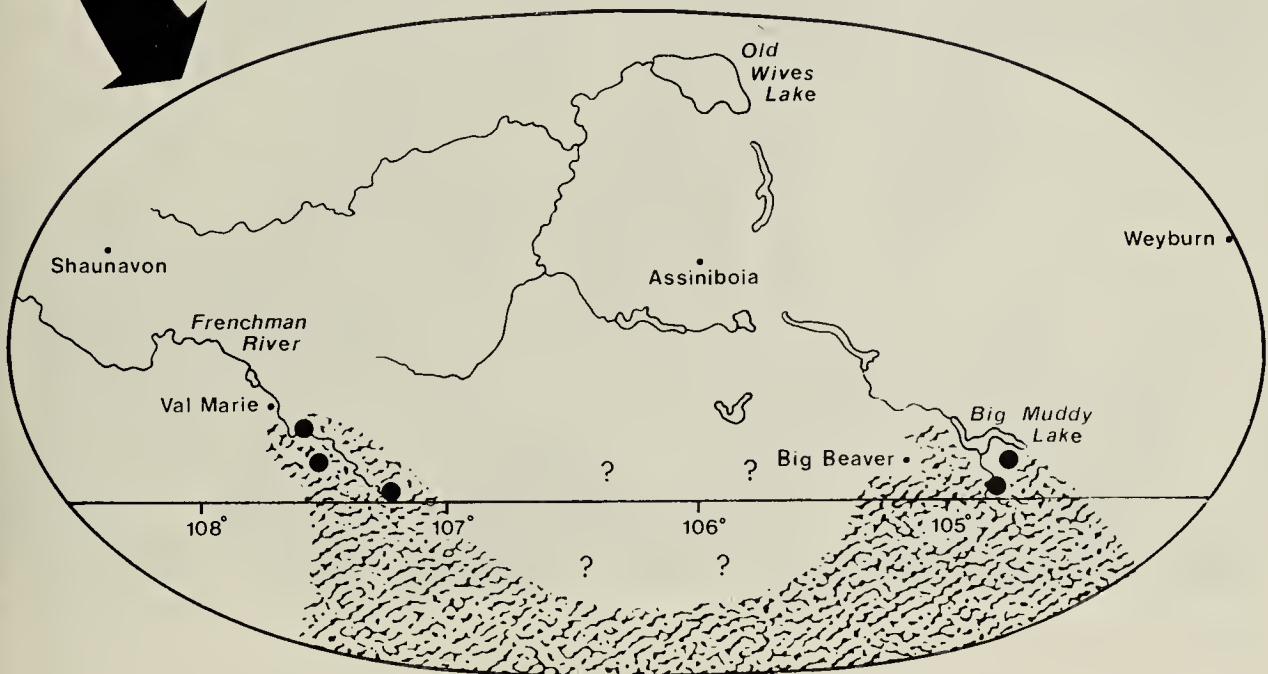


 Eastern Yellow-bellied Racer

 other subspecies of racer

North American range (left) from Stebbins (1966) and Conant (1975).

Saskatchewan range (below) derived from specimen and sight records, indicated by closed circles (●).



hiatus results from inadequate coverage of the intervening area which has drainage and landform features similar to the area where the racer occurs.

Cook<sup>3</sup> noted that no reptiles are restricted in range entirely to Canada and only in a narrow nationalistic view could they be considered rare or endangered since in most cases they represent the northern extremes of a larger continuous range in the United States. However, these northern-most populations may be uniquely adapted to northern conditions and their presence in certain areas also indicates

the existence of unique habitats and climatic conditions for Canada. Perhaps one of the most important limiting factors in the distribution of the racer and other reptiles in southern Saskatchewan is the availability of hibernacula (denning sites). The badland features with associated slump structures in the Frenchman River and Big Muddy Valleys provide critical overwintering habitat. Here one may find impressive aggregations of snakes warming themselves in the waning sunlight of September and early October before they descend into overwintering caverns. In April



*Eastern Yellow-bellied Racer*

Wayne Lynch

and May they emerge from the hibernacula and bask in the sun before they mate and disperse for the summer. Suitable denning sites appear to be limited and traditional — features which make them vulnerable to 'herpetophobes'. Indeed, the 'Snake Pits' of the Frenchman River Valley are well known to some ranchers who have been known to employ some devastating methods to eliminate the snakes. Stelfox noted that a large den of rattlesnakes on the Larsen ranch, where the first yellow-bellied racers were collected, was almost wiped out by dynamiting. He observed that such practices could eliminate local population very quickly. Woods' and Pearts observation of a headless

rattlesnake suggest that local sentiments have not changed. However, recent developments may have some important ramifications.

The Frenchman River Valley may no longer remain "a remote and relatively undisturbed ranching region"<sup>2</sup>, since it is now the proposed site of a National Grasslands Park. For the racer, the significance of such a development "is quite simply that there is no other National Park which includes grassland amphibians and reptiles . . . at least not to the extent that the Killdeer — Val Marie concept encompasses" (Cook pers. comm.). National parks policy may provide for habitat conservation of critical areas

for rare or endangered species; however, this does not ensure their survival. Indeed the area of the proposed park is relatively small and if human use is maximized, habitat destruction may occur to the detriment of badland and grassland species.

Other species of reptiles known or suspected to occur in the Killdeer — Val Marie area include the Western Painted Turtle (*Chrysemys picta belli*), Snapping Turtle (*Chelydra serpentina*), Northern Short-horned Lizard (*Phrynosoma douglassi brevirostre*), Western Hognose Snake (*Heterodon nasicus*), Bullsnake (*Pituophis melanoleucus sayi*), Plains Garter Snake (*Thamnophis radix*), Wandering Garter Snake (*T. elegans*) and the Prairie Rattlesnake (*Crotalus viridis*).<sup>1 2 5 8 9</sup> Amphibians that probably occur in the area include the Plains Spadefoot Toad (*Scaphiopus bombifrons*), Leopard Frog (*Rana pipiens*), Boreal Chorus Frog (*Pseudacris triseriata maculata*), possibly the Canadian Toad (*Bufo hemiophrys*) and certainly the Blotched Tiger Salamander (*Ambystoma tigrinum melanostictum*).<sup>1 2 5 10</sup> The Great Plains Toad (*Bufo cognatus*), although not specifically recorded from Killdeer — Val Marie, has been taken in the Maple Creek — Tompkins area and its range probably includes the area of concern (Cook pers. comm.). Several of these species, like the racer, represent northern range limits of the herpetofauna of the Great Plains; a National Grasslands Park in the Killdeer — Val Marie area of southern Saskatchewan, if well managed, may ensure the survival of several of these species.

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<sup>1</sup>COOK, F. R. 1965. Additions to the known range of some amphibians and reptiles in Saskatchewan. *Can. Field-Nat.* 79:112-120.

<sup>2</sup>COOK, F. R. 1970. Rare or endangered Canadian amphibians and reptiles. *Can. Field-Nat.* 84:9-16.

<sup>3</sup>COOK, F. R. 1977. Review of the Canadian Herpetological Scene. *In*: T. Mosquin and C. Suchal (eds.) *Canada's Threatened Species and Habitats*. Canadian Nature Federation, Ottawa, p. 117-121.

<sup>4</sup>COOK, F. R. and C. G. van Zyll de Jong. 1975. Eastern yellow-bellied racer in central southern Saskatchewan. *Can. Field Nat.* 89:174-175.

<sup>5</sup>CONANT, R. 1975. A field guide to reptiles and amphibians of eastern and central North America. The Peterson Field Guide Series, Houghton Mifflin Co., Boston. 729 pp.

<sup>6</sup>MAHER, W. J. and W. H. BECK. 1964. Two records of the yellow-bellied racer in Saskatchewan. *Blue Jay* 22:174.

<sup>7</sup>MORRISON, H. 1969. A preliminary botanical survey of the Big Muddy Valley in southern Saskatchewan, 1968. *Blue Jay* 27:42-53.

<sup>8</sup>PENDLEBURY, G. B. 1976. The Western Hognose Snake, *Heterodon nasicus nasicus*, in Alberta. *Can. Field-Nat.* 90:416-422.

<sup>9</sup>PENDLEBURY, G. B. 1977. Distribution and abundance of the Prairie Rattlesnake, *Crotalus viridis viridis*, in Canada. *Can. Field-Nat.* 91:122-129.

<sup>10</sup>STEBBINS, R. C. 1966. A field guide to western reptiles and amphibians. The Peterson Field Guide Series, Houghton Mifflin Co., Boston. 279 pp.

<sup>11</sup>STELFOX, J. G. 1966. An investigation of the current status of prairie dogs (*Cynomys ludovicianus ludovicianus* (Ord)) in the Val Marie, Saskatchewan area. Progress Report for Parks Canada. 40 pp.