

Glossotheca (tongue case) relatively short (approximately 5 mm), curving toward body, resting on ventral surface of thorax; expanding at base, tapering caudally. Thoracic segments reddish-brown. Antennae extending two-thirds the distance toward wing tips, shorter than maxillae.

Cremaster dark, conical, tapering to a point, from which two small spines extend distally.

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## THE MONARCH BUTTERFLY (DANAIDAE) IN NORTHERN SASKATCHEWAN

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There seems to be little known about the northern distribution of the monarch, *Danaus plexippus* (L.), in Canada. This species is the best known butterfly migrant; it migrates southward in the fall to the southern United States before the advent of heavy frosts in Saskatchewan. In the Riding Mountains of Manitoba occasional stragglers will linger into mid-September as I observed in 1962, while in southern Manitoba fresh individuals can be netted around Winnipeg into the third week of September. Very likely these do not survive the cold weather. The monarch is actually abundant during some years around the outskirts of Winnipeg, but apparently no records of mass movements exist in the literature for the Winnipeg area. It is, nevertheless, quite likely that these movements do occur.

During fifteen years of rather intensive butterfly collecting in the area of The Pas, Manitoba, 500 miles north of Winnipeg, I have not seen a single individual of the monarch. From time to time dismembered specimens are found around garages at The Pas. These probably have fallen

from the insect screens of cars arriving from areas much further south.

In view of the foregoing remarks I was surprised to see a specimen of the monarch collected at Cookson, Saskatchewan, a locality 25 miles north of Shell Brook near Prince Albert. The worn specimen was collected by Kenneth Cole, a high school student, in mid-June, 1964, at flowers of lilac on the Cole farm. Although only one monarch was taken, five others were on the lilacs at the same time. This specimen is now in the writer's collection at The Pas.

During the following season only one individual was seen; it was flying in a garden at Cookson. This would seem to indicate that the return spring migration of the monarch reaches into the Prince Albert area. This is a considerable extension of its known range as defined by F. Urquhart (1960) who reported rare collections at Duval, 40 miles north of Regina and also at Furness, Saskatchewan, near the Alberta border, some 20 airline miles south of Cookson's latitude.

At this latitude the species cannot become established because its food plant, milkweed (*Asclepias* spp.), does not occur this far north. Apparently, *Asclepias ovalifolia*, the usual food plant on the prairies, is also spreading in range. Formerly it was a typical, black-soil prairie species but now thrives in gravel and clay of railway embankments in spots such as on the outskirts of Winnipeg. This portends a future spread and establishment of the monarch in areas from which it is at present completely absent. It is a southern species now venturing to the 53° parallel on the prairies. Its sailing flight and ability to fly great distances has enabled it to spread to distant areas and to become established in those areas where its food plant has been introduced.

The viceroy, *Limenitis archippus* Cramer, is similar in appearance to the monarch and is believed to mimic the monarch. The viceroy is part of the butterfly fauna to at least the 55° parallel in Manitoba (Lynn Lake, Manitoba specimen in the writer's collection taken in 1958). Thus, the viceroy extends some 400 miles northward of the most northern records for the monarch. It is strange that the viceroy's model should only now be extending its range northward within the distribution of the viceroy. It would be interesting to know if the protection gained by the viceroy has application in northern latitudes.

The present records, one collected specimen and flight records of six others, at Cookson, Saskatchewan considerably extend our knowledge of the northward range of the monarch in Canada.

#### LITERATURE CITED

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