

## Fetid Dogweed (*Dyssodia papposa*; Asteraceae) and Slender Russian Thistle (*Salsola collina*; Amaranthaceae), New to Alberta, Canada

MICHAEL J. OLDHAM<sup>1</sup>, JOYCE GOULD<sup>2</sup>, and JANE M. BOWLES<sup>3</sup>

<sup>1</sup>Ontario Natural Heritage Information Centre, Ontario Ministry of Natural Resources, 300 Water Street, Peterborough, Ontario K9L 1C8 Canada; email: michael.oldham@ontario.ca

<sup>2</sup>Parks Division, Alberta Tourism, Parks and Recreation, 2nd Floor, 9820 106 Street, Edmonton, Alberta T5K 2J6 Canada; email: joyce.gould@gov.ab.ca

<sup>3</sup>Herbarium, Department of Biology, University of Western Ontario, London, Ontario N6A 3K7 Canada; email: jbowles@uwo.ca

Oldham, Michael J., Joyce Gould, and Jane M. Bowles. 2011. Fetid Dogweed (*Dyssodia papposa*; Asteraceae) and Slender Russian Thistle (*Salsola collina*; Amaranthaceae), new to Alberta, Canada. *Canadian Field-Naturalist* 125(4): 366–369.

Two non-native vascular plants, Fetid Dogweed (*Dyssodia papposa*; Asteraceae) and Slender Russian Thistle (*Salsola collina*; Amaranthaceae), are added to the flora of Alberta, Canada, based on collections and sight records made in 2011. Fetid Dogweed was found along roadsides at eight sites in southern Alberta, and Slender Russian Thistle was found along a hiking trail in Dinosaur Provincial Park near Drumheller. Both species are weedy and are probably expanding their range in North America.

Key Words: Fetid Dogweed, *Dyssodia papposa*, Asteraceae, Slender Russian Thistle, *Salsola collina*, Amaranthaceae, new records, Alberta, Saskatchewan, Canada.

Fetid Dogweed or Fetid Mayweed (*Dyssodia papposa* (Ventenant) Hitchcock) is an aromatic member of the aster family (Asteraceae) native to much of central and western North America. In eastern North America, it is expanding its range along gravel road shoulders and has recently been reported new to Manitoba and Quebec (Oldham and Klymko 2011). In its native range, Fetid Dogweed occurs in grasslands and open woodlands, but is also weedy in fields and along roadways (Strother 2006). In western Canada, Fetid Dogweed has been reported only from Saskatchewan, where it was first collected near Regina in 1990 (Hudson 1994) (although it was not mapped from Saskatchewan by Strother 2006). In Saskatchewan, the species has been recorded only along roadsides (V. L. Harms, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, personal communication, 2010), and Harms (2003) considers it introduced to the province, as do Brouillet et al. (2011\*).

While travelling by automobile in southern Alberta and southern Saskatchewan in late August 2011, we observed *Dyssodia papposa* at eight sites in Alberta and eight sites in Saskatchewan (Table 1). Locations were recorded using a dashboard-mounted global positioning system (GPS); specimens were collected from two sites in Alberta and three sites in Saskatchewan. All populations were on gravel roadsides along major highways, where the species was likely introduced and dispersed by vehicles, including mowing machines and snow plows. Populations varied in size from a few dozen plants to many thousands of plants in continuous patches for several kilometres of highway.

Our collections from Alberta (specimens deposited at the University of Alberta, Edmonton (ALTA), the

National Collection of Vascular Plants, Agriculture and Agri-Food Canada, Ottawa (DAO), and the Canadian Museum of Nature, Gatineau (CAN) (herbarium acronyms follow Thiers 2012\*); see Table 1) are the first documented records from the province (Moss 1983; Kartesz 1999; Strother 2006; Brouillet et al. 2011\*; Oldham and Klymko 2011).

Fetid Dogweed is an erect to ascending multi-branched annual from a large taproot. It grows to about 30 cm in height and has opposite, deeply pinnatifid, glabrous leaves with scattered tan to red glands. The leaves are up to 3.5 cm long and 1.5 cm broad with leaf divisions that are linear with a few coarsely serrate teeth on the margins. Petals are yellow, but the ray flowers are small and inconspicuous. A most distinctive characteristic is the strong aroma, particularly when plant parts are crushed, which gives the plant its common and generic name (Strother 2006; Oldham and Klymko 2011). Colour photographs of *Dyssodia papposa* appear in Oldham and Klymko (2011). No other *Dyssodia* species occur in Canada (Strother 2006; Brouillet et al. 2011\*).

Slender Russian Thistle (*Salsola collina* Pallas; Amaranthaceae) is one of three species in the genus occurring in Canada. All are non-native (Mosyakin 2003; Beckie and Francis 2009). Common Saltwort (*Salsola kali* subsp. *kali*) occurs in Canada primarily along the east coast, while Prickly Russian Thistle (*S. tragus*) is a widespread weed of open areas in southern Canada from British Columbia to the Maritimes. Slender Russian Thistle is the rarest member of the genus in Canada, reported only from Quebec, Ontario, and Saskatchewan (Mosyakin 2003; Brouillet et al. 2011\*). However, it is much more common in Ontario than published records

TABLE 1. Locations of collections (collection number and herbaria where deposited listed under Record) and sight records of *Dyssodia papposa* and *Salsola collina* in Alberta and Saskatchewan in August 2011.

Date	Record	Province	Location	Latitude, longitude
<i>Dyssodia papposa</i>				
30 August 2011	sight	AB	Irvine, Hwy. 1	49.954, -110.268
30 August 2011	39285 (ALTA, DAO)	AB	Hwy. 1, west of Irvine, east of Medicine Hat, 1.5 km east of Buffalo Trail intersection, 3.5 km east of Dunmore	49.975, -110.529
30 August 2011	sight	AB	Hwy. 1, 0.4 km southeast of Box Springs Road NW, Medicine Hat	50.053, -110.735
30 August 2011	sight	AB	Hwy. 1, 2.5 km SE of Bowell, ca. 20 km NW of Medicine Hat (at Hwy. 3 junction)	50.142, -110.919
30 August 2011	sight	AB	Hwy. 1, 2.4 km NW of Dennis, ca. 33 km NW of Medicine Hat (at Hwy. 3 junction)	50.192, -111.079
30 August 2011	sight	AB	Hwy. 1, Suffield	50.217, -111.161
23 August 2011	39245 (ALTA, CAN)	AB	Drumheller, Hwy. 838 (North Dinosaur Trail), near Royal Tyrell Museum	51.467, -112.753
30 August 2011	sight	AB	Hwy. 36, ca. 1 km south of Township Road 294, 9 km west of Sheerness, ca. 10 km south of Hwy. 9	51.496, -111.786
28 August 2011	39283 (ALTA, DAO)	SK	Hwy. 21 at Hwy. 728, 35 km north of Maple Creek	50.224, -109.463
28 August 2011	sight	SK	Hwy. 7, ca. 2 km west of Netherhill	51.475, -108.879
28 August 2011	sight	SK	Hwy. 7, 4 km west of Kindersley (Hwy. 21 junction)	51.475, -109.111
28 August 2011	39251 (ALTA, DAO)	SK	Hwy. 7 at Ditson Drive/C Street, Kindersley	51.475, -109.145
24 August 2011	sight	SK	Hwy. 7, west of Kindersley	51.478, -109.373
28 August 2011	sight	SK	Hwy. 7, 4 km west of Fiske	51.483, -108.452
24 August 2011	sight	SK	Hwy. 31, west of Rosetown	51.502, -108.315
28 August 2011	39250 (ALTA, CAN)	SK	Hwy. 7, 3.5 km northeast of Harris (junction Hwy. 768)	51.760, -107.551
<i>Salsola collina</i>				
30 August 2011	39286 (ALTA, DAO)	AB	Dinosaur Provincial Park, Badlands Trail	50.761, -111.512

(Crompton and Bassett 1985) suggest, primarily along railways and roadsides, and is likely overlooked elsewhere in Canada. *Salsola collina* can be distinguished from other *Salsola* in Canada by its typically erect stems, only weakly spiny leaves and bracts, appressed bracts (which are strongly imbricate at maturity), and dense spikes (which are usually not interrupted at maturity) (Mosyakin 1996, 2003).

We encountered Slender Russian Thistle along a hiking trail in Dinosaur Provincial Park, Drumheller, Alberta, where it was growing with Prickly Russian Thistle (Table 1, Figures 1 and 2). It was locally common in dry, open sandy and gravelly soil. Specimens have been deposited at the University of Alberta, Edmonton (ALTA), and Agriculture and Agri-Food Canada, Ottawa (DAO). There are no previous records of *Salsola collina* from Alberta (Moss 1983; Crompton and Bassett 1985; Kartesz 1999; Mosyakin 2003; Beckie and Francis 2009; Brouillet et al. 2011\*).

## Acknowledgements

The Parks Division of Alberta Tourism, Parks and Recreation provided logistical support for fieldwork and a permit to collect in Alberta provincial parks.

## Documents Cited (marked \* in text)

- Brouillet, L., F. Coursol, M. Favreau, M. Anions, P. Bélisle, and P. Desmet.** 2011. VASCAN, the Database of Vascular Plants of Canada. <http://data.canadensys.net/vascan>. (Accessed 3 December 2011).
- Thiers, B.** 2012. Index Herbariorum: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>.

## Literature Cited

- Beckie, H. J., and A. Francis.** 2009. The biology of Canadian weeds. 65. *Salsola tragus* L. (Updated). Canadian Journal of Plant Science 89: 775-789.
- Crompton, C. W., and I. J. Bassett.** 1985. The biology of Canadian weeds. 65. *Salsola pestifer* A. Nels. Canadian Journal of Plant Science 65: 379-388.



FIGURE 1. Slender Russian Thistle (*Salsola collina*), Dinosaur Provincial Park, Alberta, 30 August 2011. Photo: M. J. Oldham.



FIGURE 2. Slender Russian Thistle (*Salsola collina*) growing with Prickly Russian Thistle (*Salsola tragus*, left centre), Dinosaur Provincial Park, Alberta, 30 August 2011. Photo: J. M. Bowles.

- Harms, V. L.** 2003. Checklist of the Vascular Plants of Saskatchewan and the Provincially and Nationally Rare Native Plants in Saskatchewan, Including Important Synonyms, Authors of Epithets, Common Names, and Various Status Indicators. University of Saskatchewan Extension Press, Saskatoon, Saskatchewan, Canada. 328 pages.
- Hudson, J. H.** 1994. Plant discoveries in Saskatchewan, 1988–92, featuring Serpent Spurge and Fluffweed. *Blue Jay* 52(3): 126–129.
- Kartesz, J. T.** 1999. A synonymized checklist and atlas with biological attributes for the vascular flora of the United States, Canada, and Greenland. First edition. *In* Synthesis of the North American Flora. *Edited by* J. T. Kartesz and C. A. Meacham. Version 1.0. North Carolina Botanical Garden, Chapel Hill, North Carolina, U.S.A. CD.
- Moss, E. H.** 1983. Flora of Alberta. Second edition (revised by J. G. Packer). University of Toronto Press, Toronto, Ontario, Canada. 687 pages.
- Mosyakin, S. L.** 1996. A taxonomic synopsis of the genus *Salsola* (Chenopodiaceae) in North America. *Annals of the Missouri Botanical Gardens* 83: 387–395.
- Mosyakin, S. L.** 2003. *Salsola* Linnaeus. Pages 398–403 in Volume 4 of the Flora of North America. *Edited by* the Flora of North America Editorial Committee. Oxford University Press, New York, New York, U.S.A. 559 pages.
- Oldham, M. J., and J. Klymko.** 2011. Fetid Dogweed (*Dyssodia papposa*; Asteraceae) in Canada. *Northeastern Naturalist* 18(3): 347–356.
- Strother, J. L.** 2006. *Dyssodia*. Pages 230–231 in Volume 21 of the Flora of North America. *Edited by* the Flora of North America Editorial Committee. Oxford University Press, New York, New York, U.S.A. 616 pages.

Received 13 February 2012

Accepted 8 March 2012