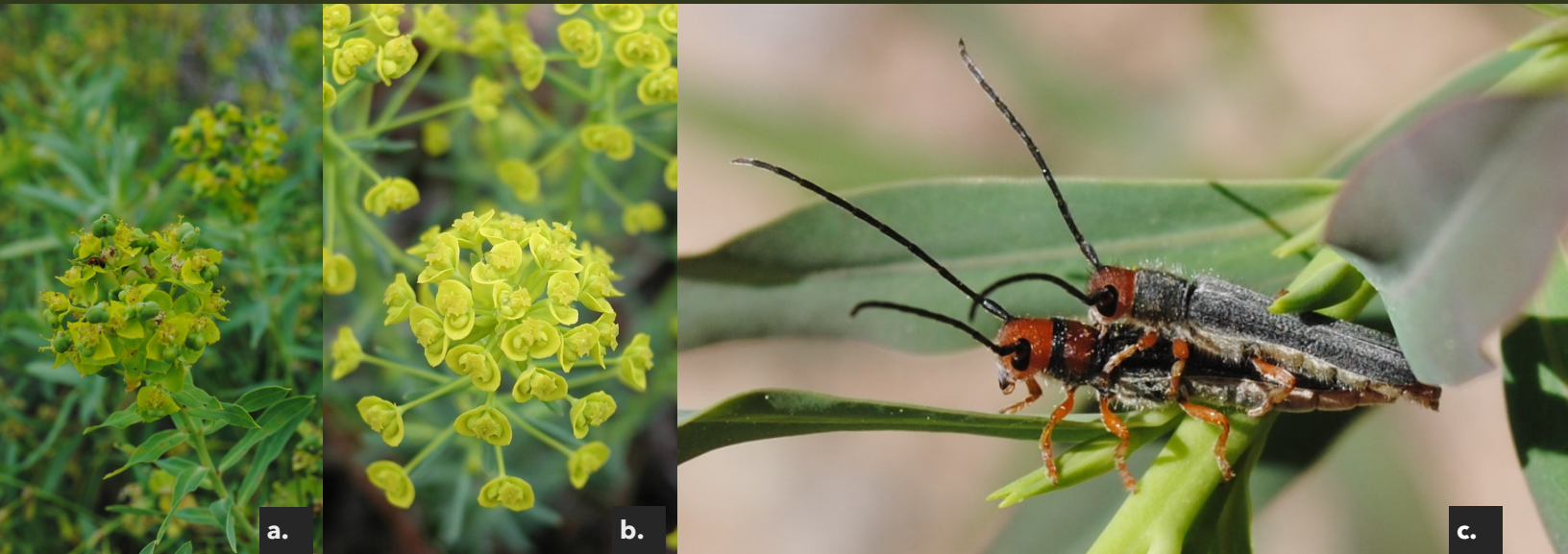


BIOCONTROL OF LEAFY SPURGE

RED HEADED LEAFY SPURGE BORER BEETLE

OBBEREA ERYTHROCEPHALA



LEAFY SPURGE (*EUPHORBIA ESULA*) PLANT GUIDE

Life Cycle	Root	Leaves	Stems	Flower	Seed/Fruit	Toxic
Perennial	Taproot and rhizomes brownish with pink buds	Alternate, narrow, 1 to 4 inches long; leaves contain a milky sap	Up to 3 feet tall; stems contain a milky sap	7 to 10 yellowish-green flowers in small clusters; the inconspicuous flower is surrounded by showy, heart-shaped yellow bracts	Oblong, grayish to purple, and borne in a three-celled fruit	Horses, cattle, humans

BIOCONTROL AGENT DESCRIPTION

- Larvae are slender, segmented and white with a yellow head capsule, reaching up to 22mm (3/4in) long
- Adult beetles are very slender, and 10-12mm (1/2in) long with long dark antennae, red heads, dark grey wings, light grey bodies, and yellowish brown legs (image **c.**)

BIOCONTROL AGENT IMPACT

- Larval feeding on the roots and stems causes damage to the plant; this damage hinders the plant’s ability to uptake nutrients which causes plant mortality
- Females girdle the stem, chew a hole, and deposit a single egg on the lower part of the plant stem; once the larvae hatch, they mine their way down the stem to the roots
- Stem girdling can reduce seed production

LIFE CYCLE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
LEAFY SPURGE				Bolting		Flowering		Seeding				
RED HEADED LEAFY SPURGE BORER BEETLE						Adults						
						Eggs						
				Larvae			Larvae					
	Overwintering Larvae									Overwintering Larvae		
					Pupae							

MONITORING

- During mid-spring to mid-summer, sweep net leafy spurge infestations for adult beetles
- In early spring, pull up and dissect roots and examine for larvae

How to Use

- Release 50+ adult beetles on warm, open to partially shaded areas with a minimum of 1 acre infestation (infestations of 5 or more acres are preferable)
- These beetles are strong fliers and will rapidly disperse throughout the infestation

NOTE

- This insect may only attack specific biotypes of leafy spurge, therefore limiting its efficacy in some areas
- This biocontrol works well in conjunction with leafy spurge flea beetles (*Aphthona* spp.)

IN MONTANA

- These insects are well-established in western and southwestern Montana and are present throughout the majority of the state

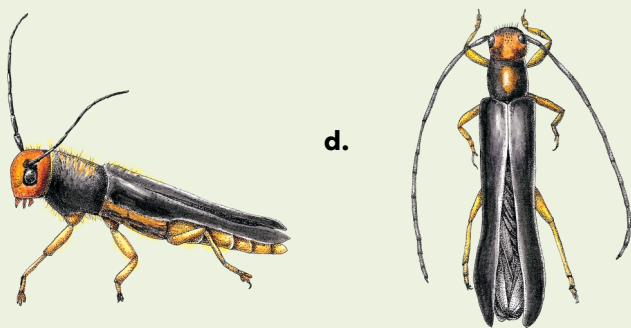


IMAGE KEY

- a. Leafy spurge infestation (Montana Biocontrol Coordination Project)
- b. Leafy spurge flowerhead close-up (Leslie J. Mehrhoff, University of Connecticut, Bugwood.org)
- c. Adult red headed leafy spurge borer beetles (Montana Biocontrol Coordination Project)
- d. Adult red headed leafy spurge borer beetle (not to scale)
- e. Bolting leafy spurge visible in spring
- f. Flowering leafy spurge seasonal changes; bolting in spring and early summer (left), mature flowers in summer (center), seeding in fall (right)
- g. Red headed leafy spurge borer beetle larvae in leafy spurge taproot (not to scale)

Illustration Credit: **d-g.** Evelyn Neel, www.evelynneel.com

