

## ***Aeolus mellillus* (flat wireworm) – Lesser or regional pest**

Area where reported as pests: southern Alberta, Saskatchewan, Manitoba (van Herk and Vernon 2014; van Herk et al. 2021b).

Wireworm (larval) stage: *Aeolus mellillus* (flat wireworm) is distinguishable from other pest wireworm species by its brown or reddish-brown head and prothorax (portion of thorax closest to head, bearing the first pair of legs), while the rest of its body is a pale yellow and soft (Glen et al. 1943) (Figure 21). Wireworms are 15 millimetres (0.6 inches) long or less, and flattened, especially the ninth abdominal segment. The caudal notch is V-shaped, and urogomphal prongs are reduced. These wireworms are quite active and crawl so quickly that it can be difficult to keep them in the palm or your hand.

Beetle (adult) stage: Beetles are small, 5.5–8 millimetres (0.2–0.3 inches) long (Brooks 1960) and are reddish-yellow with dark brown spots on the pronotum (thorax cover) and elytra (wing covers), giving a mottled appearance. The beetles have long sharp hind angles and very short fine, hair (Figure 21).

Life cycle: *Aeolus mellillus* (flat wireworm) is thought to have up to one generation per year in Canada, and can overwinter in both adult (beetle) and larval (wireworm) forms (Stirrett 1936, Jewett 1942). Beetles become active in late May, reaching peak activity between mid-June and mid-July (Doane 1977b).

Reproduction: Only a parthenogenetic (all female) form of *A. mellillus* is known in Canada (Glen et al. 1943). This means that monitoring and management approaches based on female sex pheromones are not possible. Females appear to lay on average 18–51 eggs (Jewett 1940, 1942), which is far fewer than other wireworm species.

Dispersion: Dispersal is primarily by walking, but females will fly later in the season (Doane 1977b).

Feeding/damage: *A. mellillus* (flat wireworm) wireworms are more active than most wireworms and can be predacious (Glen et al. 1943). This tendency may help reduce populations of the other pest wireworm species (Doane 1977b). However, *A. mellillus* wireworms also feed on plants: they attack cereal stems at the soil surface and cut them off completely. This is in contrast to other wireworm species that bore into or shred cereal stems (Glen et al. 1943).

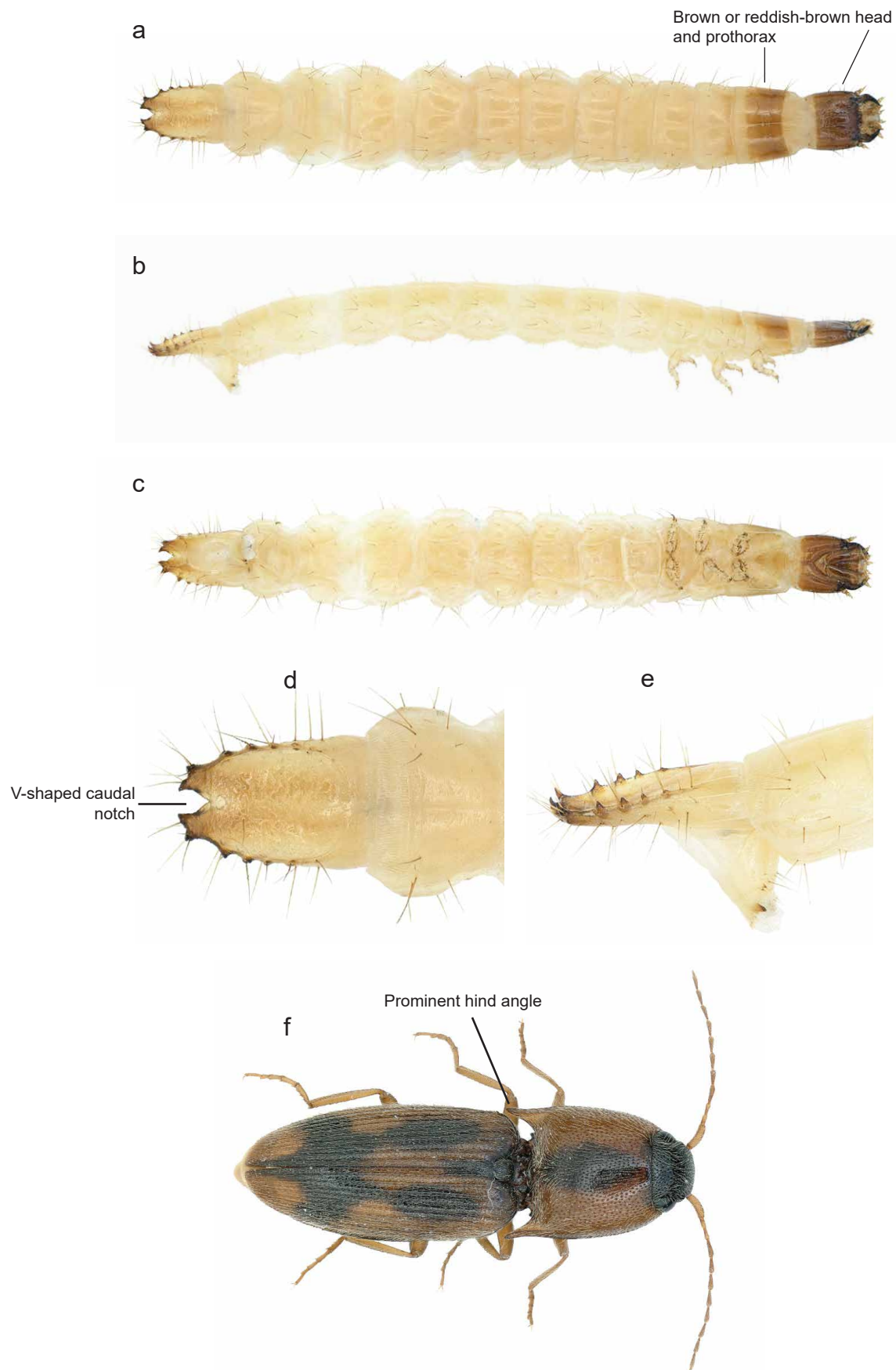


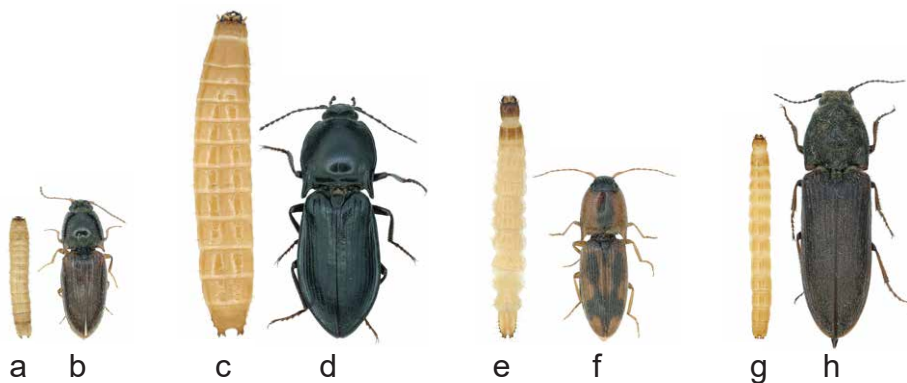
Figure 21. *Aeolus mellillus*. a) larva - top view; b) larva - side view; c) larva - bottom view; d) larva - caudal notch, top view; e) larva - caudal notch, side view; f) adult. Photos: J. Saguez, CÉROM



# Guide to Pest Wireworms in Canadian Prairie Field Crop Production

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Front cover species: *Hypnoidus bicolor* a) larva; b) adult; *Selatosomus aeripennis destructor* c) larva; d) adult; *Aeolus mellillus* e) larva; f) adult; *Limonius californicus* g) larva; h) adult

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# FOREWORD

This guide is intended to provide information on wireworm damage, biology, management, research and challenges in crop production on the Canadian Prairies. We have summarized the knowledge of this persistent and complicated pest on the Prairies by discussing the general life cycle, behaviours, and management options for the main pest species in this region. We have also identified major gaps in knowledge and where research is needed. Our target audience include farmers, agronomists, crop scouts, extension personnel and anyone else interested in the impact of wireworms on Prairie crop production.

*Note that this guide is a summary of the scientific literature. No content of the guide should be considered as an endorsement of any product.*

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