

Agrilus planipennis Fairmaire Screening Aid

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Figure 1. *Agrilus planipennis* Fairmaire.

Members of the genus *Agrilus* are challenging to identify due to structural coloration and subtle morphological differences between species. Furthermore, the presence of newly discovered exotic *Agrilus* species in the Midwest and Ontario complicates identification issues and demands a renewed interest in applied taxonomy of *Agrilus* beetles.

The emerald ash borer (EAB) is an invasive buprestid beetle native to Northeast China, Korea, Japan, and Russia (Figure 1). In Michigan, and Ontario, this pest is established and has devastated stands of native ash trees. The following characteristics can be used for discriminating EAB from other native *Agrilus* species:

- No patches of pubescence
- Pronotum copper/green
- Elytra and abdominal sternites emerald green

- Abdominal tergites purplish copper in color
- Length 13 mm
- Emarginate pygidial spine (Figure 2).
- **EXOTIC**



Figure 2. Pygidium of *A. planipennis*.

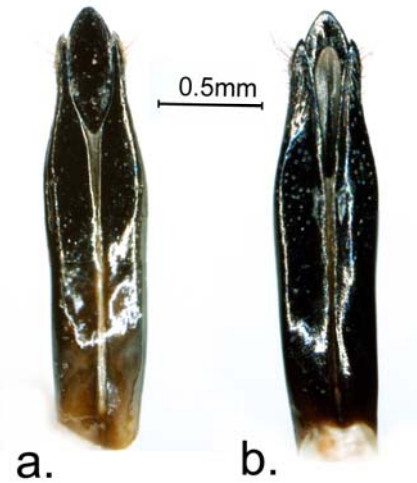


Figure 3. Aedeagus of *A. planipennis* (a. tergal, b sternal views).

Some commonly intercepted native and exotic species are illustrated and briefly described on the following pages.

Agrilus bilineatus (Weber):



Figure 4. *Agrilus bilineatus* (Weber)

- Pubescent line on pronotum extending down each elytron.
- Bronze-black to dark blue.
- Length 11 mm
- Host *Quercus* spp.

Agrilus cyanescens Ratzeburg



Figure 5 *Agrilus cyanescens* Ratzeburg

- No patches of pubescence.
- Metallic blue in color, darker below.
- Length 8 mm
- Host: *Lonicera* spp.
- **EXOTIC**

Agrilus anxius (Weber)



Figure 6. *Agrilus anxius* (Weber)

- No patches of pubescence.
- Bronze-black
- Length 12-13 mm
- Host: *Betula* spp. *Agrilus vittaticollis* (Randall)



Figure 7. *Agrilus vittaticollis* (Randall)

- Pubescent line on pronotum.
- Pronotum copper colored with dark elytra, darker below with violet highlights.
- Length 10-12mm
- Hosts: *Crataegus*, *Malus*, *Amelanchier* spp.

Agrilus obsoletoguttatus



Gory

Figure 8. *Agrilus obsoletoguttatus* Gory

- Pubescent spots on elytra.
- Copper color with violet elytral apices, darker below.
- Length 9-10 mm
- Hosts: Hardwood spp.

Agrilus masculinus



Horn

Figure 9. *Agrilus masculinus* Horn

- No distinct patches of pubescence
- Bronze-black, green face on males
- Length 6-7 mm
- Hindleg tarsi longer than tibia
- Host: *Acer negundo*

In addition to *Agrilus planipennis*, *A. subcinctus* Gory is the only other *Agrilus* species known to occur on *Fraxinus* in the Midwest. *A. subcinctus* differs behaviorally from *A. planipennis* in that it is a twig borer and prefers smaller branches for oviposition. In the field, *A. subcinctus* can be sweep-netted from ash leaves. *A. subcinctus* is

small in size (>4.0 mm) and features a distinct subbasal and subapical spots of scale-like pubescence on the elytra (Figure 10).



Figure 10. *Agrilus subcinctus* Gory

All of these *Agrilus* are often found on sticky and in funnel trap samples. With close to 50 *Agrilus* species known from the Midwest, I expect other species to be added to this preliminary guide in the near future.