

Discriminating *Agrilus sulcicollis* Lacordaire from *Agrilus cyanescens* Ratzeburg

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Agrilus sulcicollis Lacordaire is a medium sized exotic buprestid beetle first collected in Southeast Michigan in 2003. Native to Europe, *A. sulcicollis* oviposits in limbs and branches of oaks. Its similarity to other common *Agrilus* found in Michigan delayed the discovery for several years. The color of *Agrilus sulcicollis* varies from green, blue and rarely purple (Figure 1). Most of the examples found so far from Michigan are blue to blue green in color like *A. cyanescens*.

Like *A. cyanescens*, *A. sulcicollis* has a sinuous anterior edge on the prosternal lobe, no pygidial spine, transverse carina on scutellum, and an emarginate tip on the fifth abdominal sternite. However, there are some morphological features that can be used to distinguish these species from each other. *Agrilus sulcicollis* overlaps in size with *A. cyanescens*, but is slightly larger than *A. cyanescens*. Bily (1982) records the size ranges of *A. sulcicollis* from 6 to 8.5 mm and *A. cyanescens* from 4.5 to 7.5 mm. In profile, *A. sulcicollis* is more elongate than *A. cyanescens* (Figure 1.)

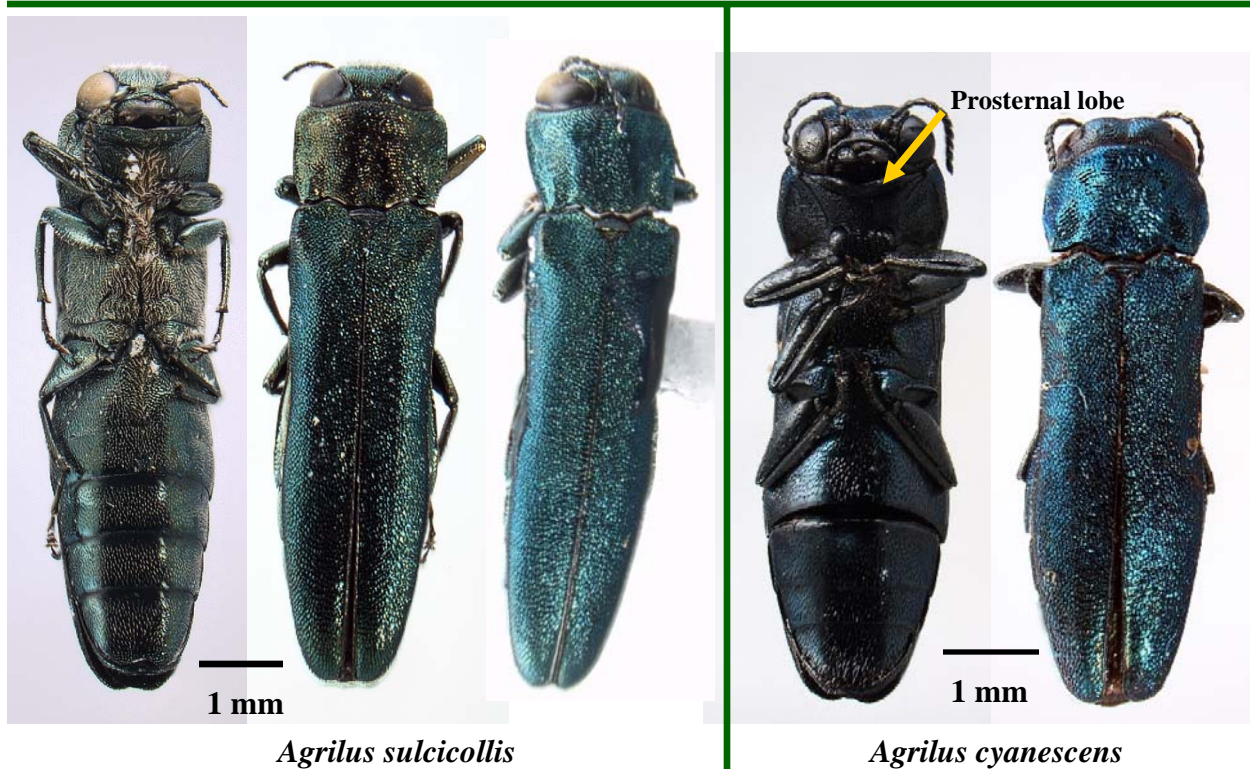


Figure 1. Sternal and Elytral Habitus Images of *Agrilus sulcicollis* and *Agrilus cyanescens*. Note pubescence on pro- and mesosterna of male *A. sulcicollis*. Female *A. sulcicollis* are more sparsely pubescent than males.

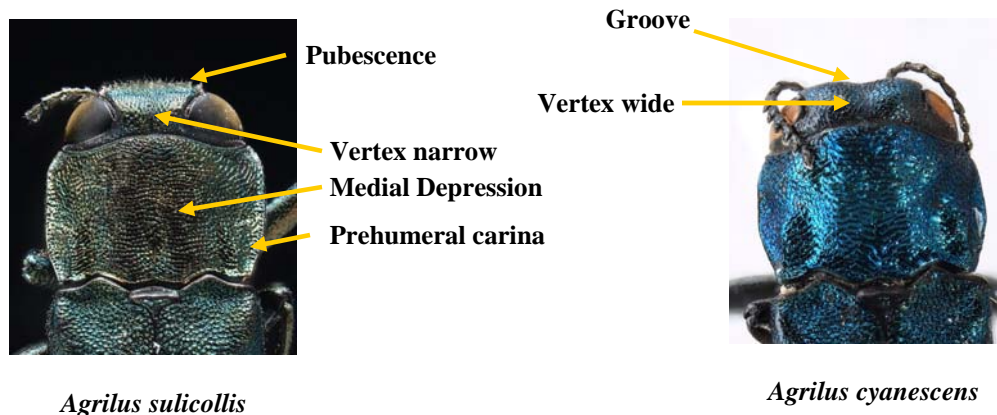


Figure 2. Head and pronotal profiles of *Agrilus sulcicollis* and *A. cyanescens*.

Morphological differences are evident on the head and pronotum of these species (Figure 2). A shallow groove is present on the vertex and frons of *A. cyanescens*. The frons and vertex are not grooved in *A. sulcicollis*, but covered with dense, short light colored pubescence in males. Also, male *A. sulcicollis* have larger eyes and a narrower vertex than *A. cyanescens* (Figure 2). Female *A. sulcicollis* are more sparsely pubescent and have slightly smaller eyes than males.

In *A. sulcicollis*, short prehumeral carinae and wide medial depression are present on the pronotum (Figure 2). In *Agrilus cyanescens*, the prehumeral carinae are usually absent and the medial depression is present but usually indistinct. The lateral pronotal margins are obviously convex in *A. cyanescens* and weakly convex in *A. sulcicollis*. The prosternum and anterior portion of the mesosternum is covered with long dense pale hairs in male *A. sulcicollis* (Figure 1). *Agrilus cyanescens* is sparsely pubescent to glabrous on the sterna segments (Figure 1).

Characteristics of the male genitalia are obvious and useful for species identification. In *A. sulcicollis*, the parameres are asymmetric with the right paramere having a large angulose process and conical median lobe (Figure 3). The left paramere is strongly convex in *A. sulcicollis* (Figure 3). In *A. cyanescens*, the aedeagus is symmetric with gradually swollen parameres. The tip of the median lobe median lobe is rounded in *A. cyanescens* (Figure 3).

Bily (1982) notes that *Agrilus sulcicollis* infests mostly living oak trees with oviposition occurring in the branches. As in other *Agrilus* species, the development of *A. sulcicollis* from egg to adult takes between 1 and 2 years. In its native environment, Bily (1982) reports that adults emerge in late May and can be found on oak timber through July. Adult specimens have been captured from May 30 to June 23 in Michigan.

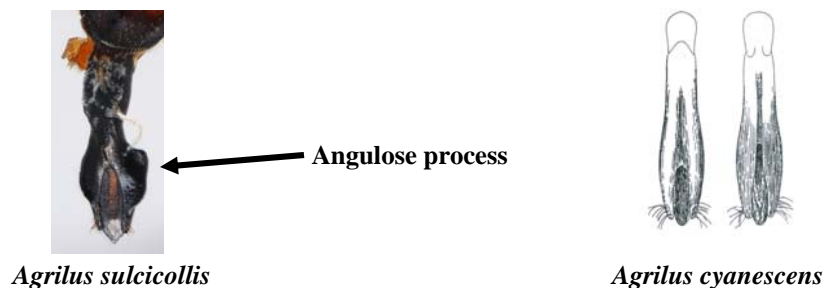


Figure 3. Male genitalia of *Agrilus sulcicollis* (dorsal view) and *Agrilus cyanescens*. Illustrations of *A. cyanescens* genitalia from Fisher (1928).

Bily, S. 1982. The Buprestidae (Coleoptera) of Fennoscandia and Denmark. Fauna Entomologica Scandinavica. Volume 10:109 pp.

Fisher, W. S. 1928. A revision of the North American species of buprestid beetles belonging to the genus *Agrilus*. USNM Bulletin 145. Plate 6, Fig. 54.