

A Screening Aid for the Identification of the Walnut Twig Beetle, *Pityophthorus juglandis* Blackman

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Introduction: The walnut twig beetle (WTB), *Pityophthorus juglandis* Blackman (Scolytidae), is a small (~2 mm long) bark beetle native to the southwestern United States (AZ, CA and NM) and northern Mexico (Chihuahua). Recently, WTB has been linked to decline and death of walnut trees (*Juglans*) in several western states, including states outside its native range, e.g., CO and OR. Twig, branch, and eventual tree death (known as thousand cankers disease, TCD) is the result of WTB attack and canker development around beetle galleries caused by a fungal associate (*Geosmithia morbida*). WTB and TCD have recently been detected in TN, raising concerns about the impacts on eastern black walnut and butternut in their native ranges. The early detection and identification of WTB is important to the successful prevention and management of TCD in the east and other areas of North America where these pests are unknown. This screening aid will help differentiate WTB from other bark beetles in trap samples or specimens collected from suspect walnut trees.

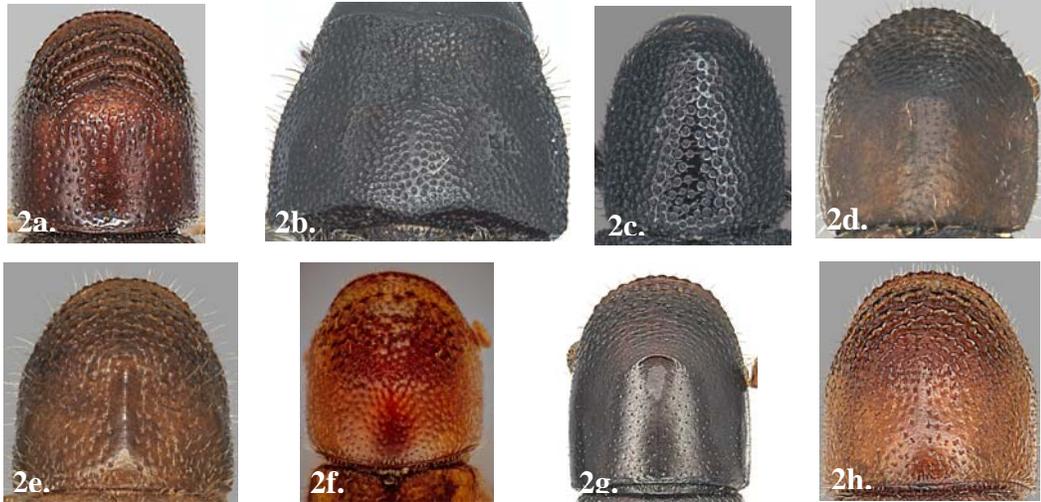
Reality check: *Pityophthorus* is a large genus (>100 species in North America) and identification to species can be difficult since these are very small beetles and the distinguishing characters are often hard to discern without high magnification and good optics. Suspect specimens should be submitted to an identification specialist for verification.



Key:

1. Total body length less than 3 mm.....2
Total body length greater than 3 mm.....NOT *P. juglandis*

2. The pronotal asperities from the middle to the anterior margin form two or more well-defined concentric rows, adjacent asperities in each row normally in contact basally (2a).....3
 Pronotum lacking asperities (2b-c) or, if asperities present, those from the middle to the anterior margin not in well-defined concentric rows (2d-f), if rows more or less evident, adjacent asperities in each row not in contact (2g-h).....NOT *P. juglandis*



3. Apex of elytra evenly rounded (3a).....4
 Apex of elytra not evenly rounded (3b-c).....NOT *P. juglandis*



4. Apical elytral declivity flattened on either side of suture laterad of impressed striae 1 and striae 2 not impressed (4a), declivity finely roughened and dull (3a).....5
 Apical elytral declivity distinctly depressed on either side of suture laterad of striae 1 and striae 2 deeply impressed, declivity shiny (4b-c).....NOT *P. juglandis*



5. Anterior margin of pronotum with more than 12 asperities (5a).....YES – *P. juglandis*
*Two rarely collected species from the desert Southwest shrub *Franseria* might key here but these are so unlikely to be encountered that it is not worth trying to differentiate between them and *P. juglandis*.
Anterior margin of pronotum with no more than 12 asperities (5b-c).....NOT *P. juglandis*

