Distinguishing native and non-indigenous *Trypodendron* species in surveillance trap captures

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Humble (2001) reported the presence of *Trypodendron domesticum* (L.) in southwest British Columbia. To date, it has not been reported from any other jurisdiction in North America. This may be in part due to the timing of surveillance activities, *T. domesticum* is in flight more than 8 weeks before any native *Trypodendron* species in British Columbia (Humble unpublished data).

The most effective lure for detection of *Trypodendron* species is lineatin. However, use of lineatin in surveillance trapping results in significant captures of native species, especially *Trypodendron lineatum*. Upwards of 35,000 individuals of that species have been captured in a single 12 funnel lindgren trap over a 6 month trapping season in southwestern British Columbia (Humble, unpublished data). These high numbers present a significant challenge for screeners attempting to recognize non-indigenous species of *Trypodendron* in such trap captures. Scanning electron microscope and color images of *T. domesticum* and selected native *Trypodendron* species are provided to allow the screening of trap captures for the presence of *T. domesticum*.

All of the species of *Trypodendron* native to North America have an evenly rounded oval antennal club (Wood 1982). (e.g. Fig. 1 a, b; Fig. 4) while the only non-indigenous species, *T. domesticum*, has a quadrate antennal club (Fig. 1 c, d). This character is easily visible when sorting specimens captured in liquid, as collected specimens all tend to be laying on their sides. *T. domesticum* exhibits the same coloration as the native species, *T. betulae* (Figs. 2 and 3), and is easily mistaken for the latter unless the specimens are closely examined. Males of *T. domesticum* can be separated from those of *T. betulae* through a microscopic examination of the frons. That of *T. betulae* has a prominent tubercle that is lacking in *T. domesticum* (Fig.2).

References

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Wood, S.L. 1982. The bark and ambrosia beetles of North and Central America (Coleoptera: Scolytidae), a taxonomic monograph. Great Basin Nat. Mem. 6.

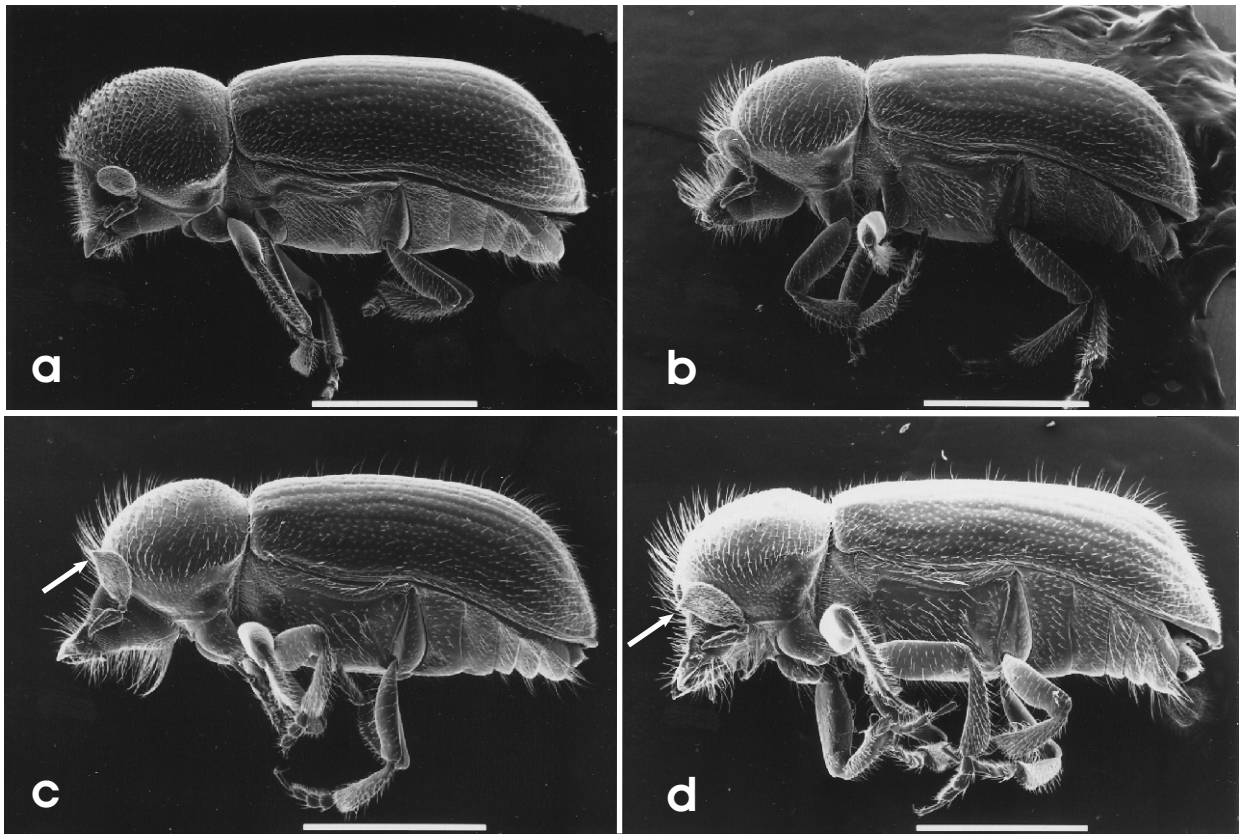

Figure 1. Habitus (lateral) of females and male *Trypodendron betulae* and *Trypodendron domesticum*: a, female - *T. betulae*; b, male - *T. betulae*; c, female - *T. domesticum*; and d, male - *T. domesticum*. Scale bar = 1 mm. Arrows in c and d designate quadrate antennal club.

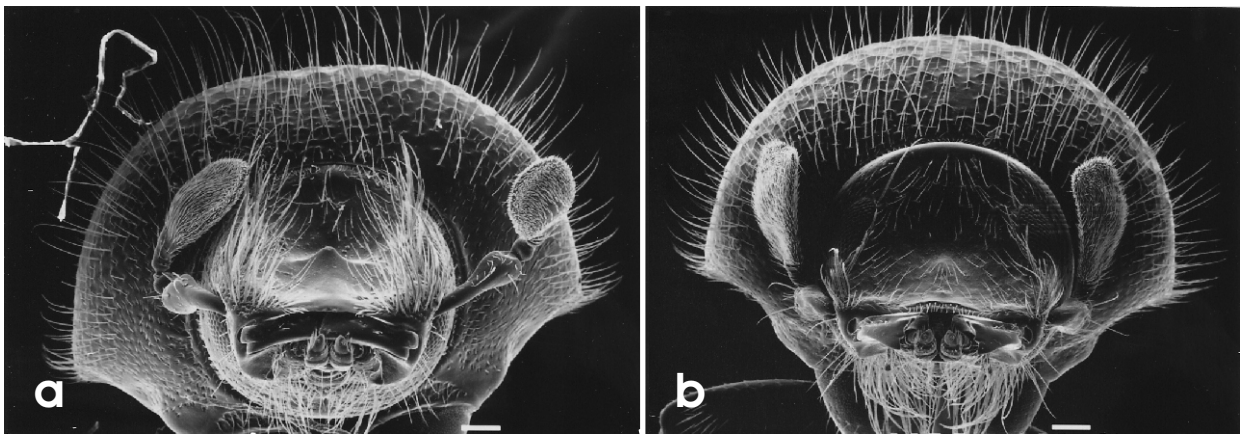

Figure 2. Frontal view of heads of male *Trypodendron betulae* (a) and *Trypodendron domesticum* (b). Note tubercle on the frons of *T. betulae*. Scale bar = 0.1 mm.

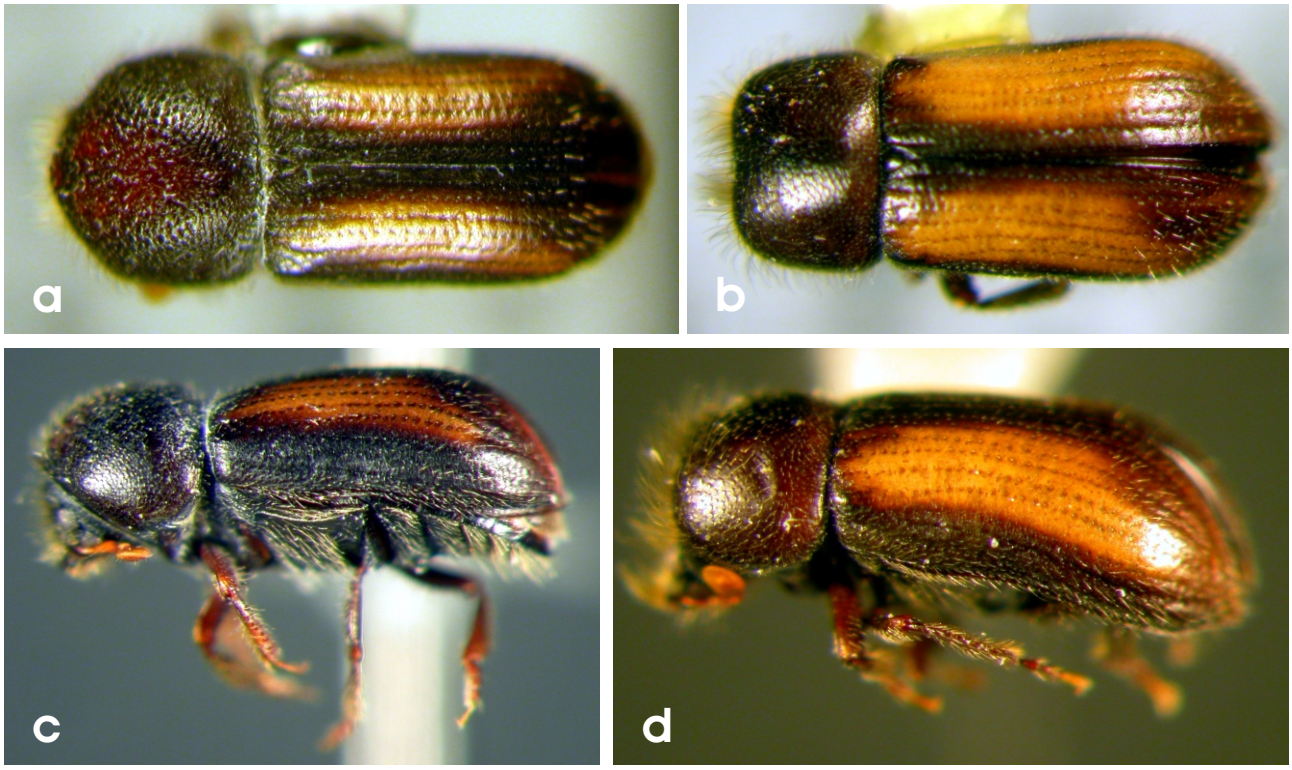

Figure 3. Habitus of females and male *Trypodendron betulae*: a, female - *T. betulae,* dorsal; b, male - *T. betulae*, dorsal; c, female - *T. betulae,* lateral; and d, male - *T. betulae,* lateral.

Figure 4. Habitus (lateral) of females *Trypodendron lineatum.*