

Ips tridens engelmanni

Scientific Name

Ips tridens engelmanni Swaine, 1917

Synonyms

Ips engelmanni Swaine, 1917

Ips dubius Swaine, 1918

Ips yohoensis Swaine, 1918

Ips amiskwiensis Hopping, 1963

Ips semirostris Hopping, 1963

Diagnostic notes

Species:

-Has four spines on the elytral declivity and general appearance is similar to *I. borealis*.

-Potentially sympatric with related species *I. pilifrons*, *I. borealis*, *I. perturbatus* and morphologically similar species *I. pini*.

-Differs from the related species by the coarse, irregular punctures on the upper frons and small, shallow stria punctures, and from *I. perturbatus* and *I. pini* by uniseriately punctured discal interstriae.

Subspecies:

-Diagnosable by female only. Female frons elevated from epistoma to upper level of eyes, setae of frons absent, to sparse, to with pile-like patches (Wood 1982).

Morphological Summary

females

Body. 3.3-4.3(-4.8) mm long, 2.5-2.8 times longer than wide; pronotum 1.0-1.2 times longer than wide.

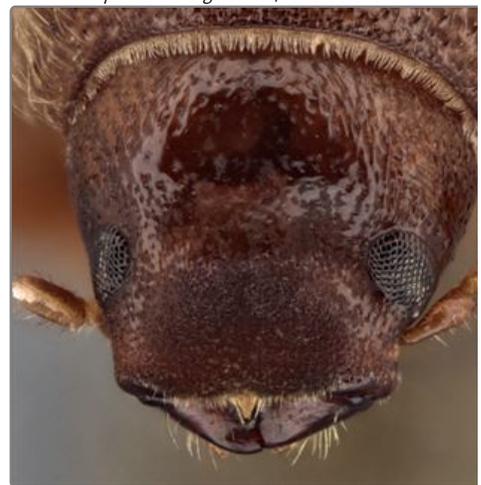
Head. Epistomal margin with uniseriate row of tubercles uninterrupted medially; absent; or present with gap at midline. Frons outline protruding in lateral view; vestiture fine (not hiding part of integument) or coarse and dense (hiding part of integument); surface sculpture near epistoma densely tuberculate-punctate; central carina absent; central tubercle absent, without pair of circular tubercles on either side of midline; transverse carina absent or present; frons central fovea absent; circular tubercles above top of eyes absent or present - up to one third of all tubercles. Vertex and pronotum without stridulatory apparatus (pars stridens). Antennal club sutures acutely angulate or bisinuate.

Prothorax. Protibiae with three, four or five socketed teeth on apical half (does not include apical spine).

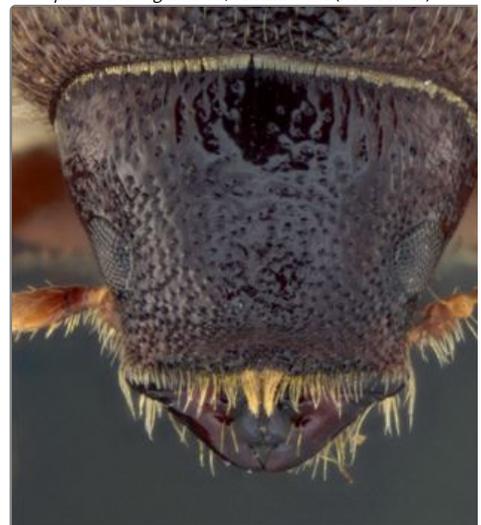
Elytra. Interstriae punctate (observed on interstriae 2 and 3 on middle third of elytral disc), interstitial punctures (0.3-)0.4(-0.5) times diameter of adjacent stria punctures (punctures and striae measured at steepest part of puncture wall), interstitial setae longer than width of scutellar shield, interstriae 3-5 times as wide as adjacent striae (punctures and striae measured from steepest part of puncture wall(s)). Elytral declivity with



Ips tridens engelmanni, female frons



Ips tridens engelmanni, female frons (non-setose)



Ips tridens engelmanni, female frons

four spines per side, **spine 3** largest; **spine 1** (largest on 2nd interstria) closer to **suture** than to **spine 2**; bases of spines 1 and 2 separated by distance greater than height of **spine 1**; **spine 3** nearly parallel-sided with **tapered** apex or **petiolate** (capitate), with apical half symmetrical in lateral view, apex obtuse to rounded; spines 2 and 3 on shared tumescence, in or not in line with spines 1 and 4 (posterodorsal view); declivital integument mat or shiny.

males

Body. 3.3-4.3(-4.8) mm long, 2.4-2.8 times longer than wide; **pronotum** 1.0-1.2 times longer than wide.

Head. **Epistomal** margin with uniseriate row of tubercles uninterrupted medially or with gap at midline. **Frons** outline convex in lateral view; vestiture fine (not hiding part of integument); surface sculpture near epistoma densely tuberculate-punctate or with isolated tubercles; **central carina** absent; **central tubercle** absent; **transverse carina** absent; **frons** central fovea present or absent; circular tubercles above top of eyes present - up to, or more than one third of all tubercles. Vertex and **pronotum** without **stridulatory apparatus** (pars stridens). **Antennal club sutures** bisinuate.

Prothorax. Protibiae with three or four **socketed teeth** on apical half (does not include apical **spine**).

Elytra. **Interstriae punctate** (observed on interstriae 2 and 3 on middle third of elytral disc), punctures 0.3-0.4(-0.5) times diameter of adjacent **strial punctures** (punctures and striae measured at steepest part of puncture wall), interstitial setae longer than width of scutellar shield, **interstriae** 3-5 times as wide as adjacent **striae**. Elytral **declivity** with four spines per side, **spine 3** largest; **spine 1** (largest on 2nd interstria) closer to **suture** than **spine 2**; spines 1 and 2 separated at base by distance greater than height of **spine 1**; **spine 2** closer to **spine 3** than **spine 1**; **spine 3** pedunculate (capitate), apex acute, right-angled or obtuse to rounded, with apical half symmetrical in lateral view; spines 2 and 3 on shared tumescence, in or not in line with spines 1 and 4 (posterodorsal view); declivital integument mat or shiny.

Geographic Distribution

Species: Canada (Alberta, British Columbia, Northwest Territories, Yukon); USA (Alaska, California, Idaho, Montana, Oregon, Washington, Wyoming).

Subspecies: Canada (Alberta, British Columbia, Northwest Territories, Yukon); USA (Alaska, California, Idaho, Montana, Oregon, Washington, Wyoming).

Hosts

Picea spp.

Notes

I. borealis, *I. pilifrons*, and *I. tridens* form clade (Cognato and Sun 2007).

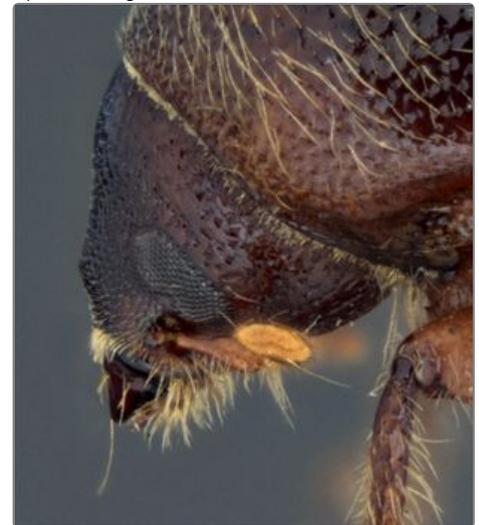
References



Ips tridens engelmanni, female head, lateral



Ips tridens engelmanni, female head, lateral (short setae)



Ips tridens engelmanni, male head, lateral

Cognato, A.I. 2015. Biology, systematics, and evolution of *Ips*. In *Bark beetles: biology and ecology of native and invasive species*. Edited by F.E. Vega and R.W. Hofstetter. Elsevier, San Diego, California. Pp. 351–370.

Cognato, A.I. and Sun, J.H. 2007. DNA based cladograms augment the discovery of a new *Ips* species from China (Coleoptera: Curculionidae: Scolytinae). *Cladistics*, 23: 539–551.

Wood, S.L. 1982. The bark and ambrosia beetles of North and Central America (Coleoptera: Scolytidae), a taxonomic monograph. *Great Basin Naturalist Memoirs*, 6: 1–1359.

Internet resources

https://www.barkbeetles.info/regional_chklist_target_species.php?lookUp=1732



Ips tridens engelmanni, female declivity



Ips tridens engelmanni, male declivity



Ips tridens engelmanni, female lateral habitus



Ips tridens engelmanni, male lateral habitus

