**Ips pilifrons pilifrons**

**Scientific Name**

*Ips pilifrons pilifrons* Swaine, 1912

**Diagnostic notes**

Species:
- Has four spines on the elytral declivity and general appearance is similar to *I. borealis*.
- Potentially sympatric with related species *I. borealis, I. tridens, I. hunteri*, and morphologically similar species *I. pini*.
- Differs from related species by deep, coarse strial punctures, large size, 3.9-5.0 mm and from *I. pini* by uniseriately punctured discal interstriae.

**Subspecies**:
- Diagnosable by female only.
- Female frons moderately protuberant, elevated area without median sulcus (groove), with dense pile-like patches of setae, and extending above level of eyes. 4.0-5.0 mm.

**Morphological Summary**

**females**

**Body.** 4.0-5.0(-5.3) mm long, 2.5-2.6 times longer than wide; pronotum 1.1-1.2 times longer than wide.

**Head.** Epistomal margin with uniseriate row of tubercles absent. Frons outline protruding in lateral view; vestiture coarse and dense (hiding part of integument); 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 bisinuate.

**Prothorax.** Protibiae with three 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 0.5-0.7 times diameter of adjacent strial punctures (punctures and striae measured at steepest part of puncture wall), interstrial setae longer than width of scutellar shield, interstriae 3-4 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 or right-angled, with apical half symmetrical or asymmetrical in lateral view; spines 2 and 3 on shared tumescence, not in line with spines 1 and 4 (posterodorsal view); declival integument shiny.

**males**

**Body.** 4.0-5.0(-5.3) mm long, 2.5-2.6 times longer than wide; pronotum 1.1-1.2 times longer than wide.
Head. Epistomal margin with uniseriate row of tubercles with gap at midline. Frons outline convex in lateral view; vestiture fine (not hiding part of integument); surface sculpture near epistoma densely tuberculate-punctate; central carina absent; central tubercle absent; transverse carina absent or present; frons central fovea 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 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 0.5-0.7 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 3-4 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 or right-angled, with apical half asymmetrical in lateral view; spines 2 and 3 on or not on shared tumescence, not in line with spines 1 and 4 (posterodorsal view); declival integument shiny.

Geographic Distribution
Species: Mexico (Coahuila); USA (Arizona, Colorado, Idaho, Nevada, New Mexico, Utah, Wyoming).
Subspecies: USA (Colorado, Wyoming).

Hosts
Picea engelmannii (Wood 1982)

Notes

References

Internet resources