

Ips duplicatus

Scientific Name

Ips duplicatus (Sahlberg, 1836)

Synonyms

Tomicus rectangulus Eichhoff, 1867

Bostrichus judeichii Kirsch, 1871

Tomicus infucatus Eichhoff, 1877

Common names: northern bark beetle (English), nordischer Fichtenborkenkäfer (German), dobbelt-tannet barkbille (Norwegian)

Diagnostic notes

- Has four spines on the elytral declivity.
- Differs from all other European *Ips* spp. by the position of the spine 1 of the elytral declivity, which is closer to the elytral suture than to spine 2.
- Differs from the morphologically similar North American *Picea*-feeding species (*I. borealis*, *I. perturbatus*, *I. pilifrons*, *I. tridens*) and *I. woodi*, by the sparsely tuberculate frons.
- Differs from its sister species *I. hauseri* by the close proximity of the bases of spines 2 and 3 (less than the distance between the spines 1 and 2).

Morphological Summary

females

Body. 2.6-4.3 mm long, 2.3-2.5 times longer than wide; pronotum 1.0-1.1 times longer than wide.

Head. Epistomal margin with uniseriate row of tubercles with elongate mesal tubercle or with gap at midline. Frons outline convex in lateral view; vestiture fine (not hiding part of integument); surface sculpture near epistoma with isolated tubercles; central carina absent; central tubercle absent or present and single, separated from base of epistomal setae by 2-4(-5) tubercle diameters, without pair of circular tubercles on either side of midline; transverse carina absent; frons central fovea absent; circular tubercles above top of eyes 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 striae (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 2 or 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 tapered, apex acute, with apical half symmetrical in lateral view; spines 2 and 3 on shared tumescence, in line with spines 1 and 4 (posterodorsal



Ips duplicatus male frons



Ips duplicatus female frons



Ips duplicatus male declivity

view); declivital integument shiny.

males

Body. 2.6-4.3 mm long, 2.3-2.5 times longer than wide; **pronotum** (1-)1.0-1.1 times longer than wide.

Head. **Epistomal** margin with uniseriate row of tubercles with elongate mesal tubercle or with gap at midline. **Frons** outline convex in lateral view; vestiture fine (not hiding part of integument); surface sculpture near epistoma with isolated tubercles; **central carina** absent; central tubercle present and single, separated from base of **epistomal** setae by 2-4(-5) tubercle diameters, 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 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), **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** 2 or 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 straight sided with **tapered apex** or pedunculate (capitate), apex acute, right-angled or obtuse to rounded, with apical half symmetrical or asymmetrical in lateral view; spines 2 and 3 on shared tumescence, in line with spines 1 and 4 (posterodorsal view); declivital integument shiny.

Geographic Distribution

Austria; Belarus; China (Heilongjiang, Inner Mongolia, Jilin, Liaoning, Sichuan, Xinjiang); Czechia; Estonia; Finland; France; Germany; Hungary; Japan; Kazakhstan; Latvia; Lithuania; Mongolia; The Netherlands; North Korea; Poland; Russia: throughout; South Korea; Slovakia; Slovenia; Syria; Turkey; Taiwan; Ukraine

Hosts

Picea (also *Larix*, *Pinus*)

Notes

Not closely related to any other species (Cognato and Sun 2007).

References

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.
Grüne, S. 1979. *Brief illustrated key to European bark beetles*. Hannover, Germany, M. and H. Schaper.



Ips duplicatus female declivity



Ips duplicatus female declivity



Ips duplicatus male declivity

EPPO. No date. Data Sheets on Quarantine Pests: *Ips duplicatus*. European and Mediterranean Plant Protection Organization.

Knížek M. 2011. Scolytinae. In Catalogue of Palaearctic Coleoptera, Vol. 7. Edited by I. Löbl and A. Smetana. Apollo Books, Stenstrup, Denmark, Pp. 204–251.

Internet resources

<http://www.padil.gov.au/pests-and-diseases/pest/main/135612>



Ips duplicatus male declivity



Ips duplicatus, female lateral habitus



Ips duplicatus, male dorsal habitus



Ips duplicatus, female dorsal habitus

Rotatable images of *Ips duplicatus* (Sahlberg 1836)
(click on dorsal habitus images)

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