

first two striae strongly impressed, the stria punctures very small, the 1st interspace convex, the 2nd less prominent and flattened apically, the outer part of the declivity strongly convex, the interspaces shining, rather coarsely granulate and setose-punctate uniseriately. The male has the front somewhat wider than the female, plano-convex, densely, coarsely, roughly punctured, with a shallow, transverse, postepistomal impression and a faint median carina in front and behind, sparsely clothed with long hairs; the declivity more polished, the punctures minute and the granules small and sparse on the first two interspaces.

Described from Colorado, and since found to be very abundant in the Canadian Rockies and Selkirks; the Canadian series presents variations but is probably not distinct. Hopkins' *abietis*, described from *Abies* of Montana, is apparently the same species.

Host trees.—Alpine Fir, Eastern Balsam Fir.

Distribution.—Colorado; Montana (*abietis* Hopk.); Rockies and Selkirks of British Columbia, and in northern Alberta.

Attacks and kills healthy balsam in eastern British Columbia and northern Alberta.

***Dryocoetes pubescens* Sw.; Can. Ent., 44: 350, 1912.**

Closely allied to *affaber* Mannh., from which it is doubtfully distinct in the more slender form and densely, coarsely punctured declivity. It will probably prove to be only a well marked race of *affaber*.

Distribution.—Colorado; habits unknown.

***Dryocoetes affaber* Mannh.; Bull. Mosc., 359, 1852 (*Bostrichus*).**

The species of this section of *Dryocoetes* are very closely allied. *D. picea* Hopk. was separated from *affaber* through its smaller average size, 2.3 mm. to 2.75 mm., and its eastern distribution. Our specimens from the Maritime Provinces and Quebec are constantly small, less than 2.75 mm. in length, and rather more coarsely punctured than the western specimens; our specimens from Manitoba are very faintly larger, a long series from Edmonton ranging between 2.5 mm. and 3 mm. in length; seventy-five specimens from south central British Columbia vary between 2.6 mm. and 3.1 mm.; over two hundred from northern Alberta range between 2.3 mm. and 3.2 mm., with many 2.8 mm., and our typical *affaber* from the northern coast of British Columbia varies between 2.5 and 3.2 mm. with an average of nearly 3 mm. Our collection indicates a gradual increase in size towards the north and west but presents no definite specific distinction between the typical *affaber* and our eastern race which is apparently *picea* Hopk., left in this paper as doubtfully distinct. (Pl. 11, fig. 3).

Host trees.—Sitka Spruce, all spruces and probably all pines within its range.

Distribution.—Alaska, throughout British Columbia and western and northern Alberta, eastward through the northern spruce forests; recorded by Hopkins through the Western United States south to Mexico.

PLATE 31.

Dendroctonus brevicornis Lec., The Western Pine Bark-beetle; egg-tunnels on the wood surface of Western Yellow Pine; near Princeton, B.C. (Author's illustration).