

A NEW AMBROSIA BEETLE FROM THE ADIRONDACKS;  
NOTES ON THE WORK OF *XYLOTERINUS*  
*POLITUS* SAY.\*

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While collecting *Ipida* in the vicinity of Cranberry Lake, New York, in the western part of the Adirondacks during the summer of 1919, the writer found numerous specimens of an apparently nondescript Ambrosia-beetle belonging to the genus *Anisandrus* Ferr. The insect was found breeding in large beech and hard maple logs, cut from living trees during the previous winter, and in large limbs, broken off during a windstorm, upon the ground. The beech and maple logs had been skidded to a roll-way and piled with other logs—yellow birch, spruce and hemlock—from two to five deep. The roll-way was near the side of a large hill and fairly well protected from the sun by surrounding trees. The logs were all in a moribund state, fairly moist and offered a rather favorable breeding place for Ambrosia-beetles and xylophagous insects. In fact they were all infested by these insects, but the new species of Ambrosia-beetles was found only in the beech and hard maple logs.

In addition to the undescribed species of *Anisandrus*, the beech and hard maple logs on the roll-way contained larvæ, pupæ and adults of *Anisandrus obesus* Lec., *Xyloterinus politus* Say and *Pterocyclon mali* Fitch. The yellow birch logs were infested by *A. obesus*, *P. mali* and *Trypodendron betulæ* Swaine. The spruce and hemlock logs were inhabited by *Trypodendron bivittatum* Kirby; two bark beetles, *Polygraphus rufipennis* Kirby and *Dryocætes piceæ* Hopkins, were also breeding in the spruce logs.

In the egg-galleries of some of the above species were found a number of rather interesting insects. A little anthocorid, *Anthocoris?* sp. is a very common predatory insect upon both bark and ambrosia beetles, especially in coniferous woods and by far the most abundant in spruce. Many specimens, representing at least four instars, were noted under the scales of the bark and in the burrows of both bark and ambrosia beetles in

\* Contribution from the Department of Entomology, The New York State College of Forestry, Syracuse, New York.

spruce logs, which were badly infested by *Ipidæ*, during June, July and August of 1919 and 1920. No adults were found at all during the entire summer, but as large nymphs were in the majority during September, the adults probably emerge in late fall. Only very young nymphs were found in the early part of the summer. It is quite evident that the entire life history is passed in the burrows of *Ipidæ* and beneath the scale of the bark. At Cranberry Lake there is but a single generation a year. Numerous large nymphs were placed in breeding cages at Syracuse, but they died just before the last moult or adult state was reached. During the summer the nymphs were especially common in the burrows of *Polygraphus rufipennis*, *Dryocætes piceæ*, *D. americana* *Orthotomicus cætatus* and occasionally in tunnels of *Trypodendron bivittatum*. A few nymphs have also been collected in the burrows, of *Ips pini*, *Pityogenes hopkinsi*, *Dryocætes betulæ*, *Trypodendron betulæ*, *Anisandrus obesus* and *Xyloterinus politus*. Other associated forms, including scavengers, sap-feeders, predators, etc., were as follows:

In the burrows of *Anisandrus obesus* Lec. (beech and hard maple);

*Molamba lunata* Lec.

*Rhizophagus dimidiatus* Mann.

*Cerylon castaneum* Say.

*Colydium lineola* Say.

In the burrows of *Anisandrus swainei* n. sp.

*Euperea ovata* Horn?

In the burrows of *Xyloterinus politus* Say and *Pterocylon mali* Fitch (in beech and Maple);

*Anistoma* sp.

*Siagonium punctatum* Lec.

*Rhizophagus bipunctatus* Say.

*Homalium* sp. ?

*Siagonium punctatum* Lec.

*Læmophæus biguttatus* Say.

*Cerylon castaneus* Say.

*Rhizophagus remotus* Say.

Another anthocorid, *Anthocoris borealis* Dall., is occasionally taken on coniferous trees, but it is more common on deciduous trees, especially willow. A few specimens have been observed beneath the scales of the bark and in the burrows of bark

beetles, but the insect does not seem to breed or normally live beneath the bark. It prefers the branches of the trees and feeds largely upon leaf insects. Two or three adults have been taken in the burrows of *Ipidæ* in spruce. During September, 1919, the writer reared a specimen of *Tetraphleps* n. sp. from the burrows of *Cryptorhynchus lapathi* Linn., which was breeding in Bebb's willow, *Salix bebbiana* Sarg. This species, however, is a common insect on pine trees, feeding largely upon leaf feeding insects of the pine.

I am indebted to Mr. Chas. Dury for identifying the beetles found in the burrows of *Ipidæ* listed herein, and Mr. J. M. Swaine has very kindly compared the new species of *Anisandrus* with his types of *A. minor* and *populi*.

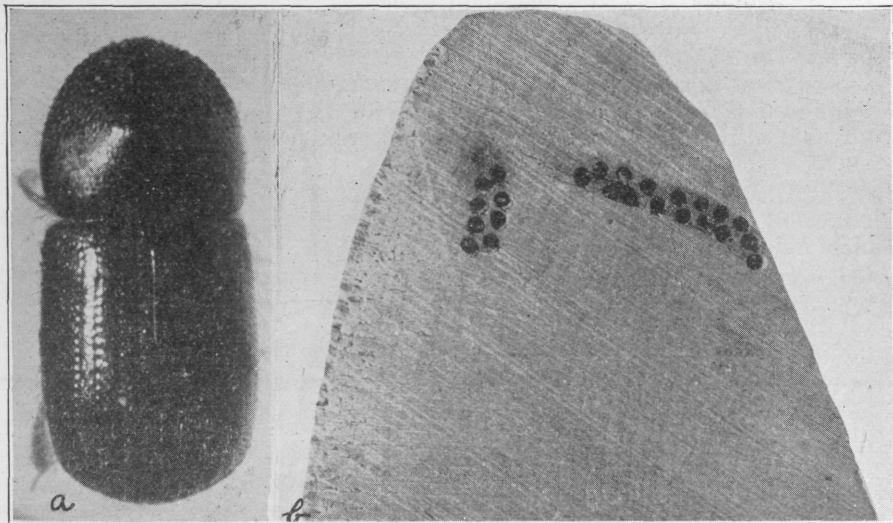


Fig. 1. a, *Anisandrus swainei* n. sp. (female); b, work of *Xyloterinus politus* Say in beech. Photo by author.

***Anisandrus swainei* n. sp.** (Fig. 1a, photo of female—paratype.)

*Female*: Closely allied to *A. pyri* peck, but stouter and with the pronotum more acutely rounded in front and on the sides; declivity with the striæ more deeply impressed; with the sides hardly angulate at the declivity although a little stouter in form than either *A. pyri* or *A. minor*. In the key to the species of the genus *Anisandrus*\* the female

\* Swaine, J. M., Canadian Bark-beetles, Part II. Dom. Can. Dept. Agr. Bull, No. 14, 1918, p. 124.

at first glance seems to fall in with *obesus* and *populi*, rather than with *pyri* and *minor*. A careful examination will place the species in BB ("The elytra with the sides behind and the caudal margin evenly arcuate") where the insect undoubtedly belongs. Length, 3.25 mm.; width, about 2 mm.

Black or brownish black, the antennæ, tibiæ and tarsi reddish brown. Front plano-convex, punctured, sparsely hairy, the epistomal fringe not well developed and the median carina fairly distinct. Pronotum sparsely hairy, slightly broader than long, asperate in front, nearly smooth, shining, sparsely punctured and finely reticulate behind, the posterior margin truncate; disc subopaque and finely reticulate. Elytra hairy, the hairs slender, moderately long and arising from the interspaces. The declivity with the striae impressed, the interspaces broad, the striae punctures not widely separated, the interstriae punctures sparse. The declivital ridge of the seventh interspace acute, slightly sinuate, but without teeth or tubercles. Interspaces slightly elevated, uniseriately granulate-punctate.

*Male*: Very distinct. It falls in Swaine's key\* to the males of the genus *Anisandrus* with *obesus* and *populi* (B "The pronotum without asperities, at most with minute granules") having a somewhat shining pronotum. The pronotum and head are much smoother and less noticeably punctured than in either of the above species. Length, 1.6 to about 2 mm.

Head slightly convex in front, not very closely punctured; epistoma somewhat depressed, more densely punctured, with the usual fringe of hairs. Pronotum slightly wider than long, beset with long, slender hairs, with the granules on the cephalic portion almost entirely wanting, much smoother and more closely punctured than closely related species, subcircular in outline. Elytra with the striae punctures sparser and the interstriae punctures finer than in *populi* and *obesus*, a little wider than the pronotum, the hairs on the disc almost as long and dense as about the margin of the elytra.

Described from 6 males and 25 females, taken in hard maple and beech during July and August, 1919 and 1920, at Wanakena and Cranberry Lake, N. Y. The specimens collected during 1920 by Mr. A. E. Fivaz and the writer were in a weakened beech tree. *Dryocætes betulae* Hops. was also found breeding in the same beech tree by Mr. Fivaz. One burrow, containing living adults, was found in a dying yellow birch tree on Buck Island, Cranberry Lake. The work of *A. swainei* is quite similar to *A. obesus* and is found in both trunk and larger branches. *Type* (female) and allotype (male) in my collection. Paratypes in the collections of Dr. M. W. Blackman, Dr. J. M. Swaine, New York State College of Forestry and the author.

\* L. c., p. 125.

**Xyloterinus politus** Say. (Fig. 1a, work in beech.)

Very little seems to have been noted relative to the work and burrows of this species. It has long been known that the insect, like forms in the genera *Gnathotrichus*, *Pterocylon*, *Trypodendron*, etc., rears its young in separate pits or cradles, the cradles projecting in opposite direction at right angles to the main passage way and with the fiber of the wood.

The compound ambrosia tunnels of *Gnathotrichus*, *Pterocylon*, *Trypodendron*, etc., have only two rows of larval cradles, one projecting above and the other extending below the main egg-gallery. The larval cradles of *Xyloterinus politus* (Fig. 1, b) are double-compound or quadrifarious, *i. e.*, arranged in double rows or two on each side of the main passage way. Compound ambrosia beetle tunnels should then be divided into two classes: viz. (1) egg-galleries with only two rows of larval cradles, one extending above and the other below the main passage way and (2) egg-galleries with quadrifarious or tetrad-rows of larval cradles, two projecting above and two below the main passage way.

The tetrad-rows of larval cradles of *X. politus* Say were first observed by the writer while collecting *Ipidæ* on the roll-way described above. The insect seems to prefer beech for breeding purposes, but it is also common in maple and frequently in birch. Numerous other food plants have been recorded by Hopkins (Bull. 33, W. Va. Agr. Exp. Stat., 1893, p. 210) and Swaine (l. c., p. 83). The latter (l. c., p. 10) describes the peculiar and characteristic projection of a cylindrical rod-like mass of frass from the entrance hole while the insect is actively engaged in excavation of its tunnels. Schwarz (Proc. Ent. Soc. Wash., Vol. II, 1891, pp. 77-81) publishes notes on the breeding habits of some scolytids, including this insect, but does not describe the larval cradles. The writer examined over thirty different galleries, in most cases on both sides, and found the larval cradles of *politus* to be arranged in double rows on each side of main passage way. All specimens of work of this insect examined or at hand are from the neighborhood of Cranberry Lake in the Adirondacks. As the larval burrows have not yet been described or figured by other workers, who have published on the insect, it is impossible to state whether the double-compound larval cradles are a specific character peculiar to this insect or whether it is a race or variety living in the vicinity of Cranberry Lake, New York.