

20th, 1894) a Cerambycid larva, that was found to be exceedingly destructive to the heartwood of large tulip trees, as mentioned in a former paper (Insect Life, Vol. VII., p. 150). Subsequent observations lead me to conclude that this is one of the most destructive wood-boring insects that infests the wood of living trees, and that the destruction of valuable timber by it results largely from primary injuries by fire.

The cocoons of a parasite (*Gymnosetis americanus*, C.) were found in larval mines, evidently of this species, in the same tulip log previously mentioned, which may be of some service in keeping this pest in check. It evidently attacks the larvæ at the time they are forming the exit gallery for the adult, since at other times the larvæ are so deep in the heartwood of the tree that they could not be reached by the ovipositor of the parasite.

On July 7th of the present year (1896), I found a female example of the large and beautiful *Leptura emarginata* ovipositing in the dead wood of a wound in a living beech tree, and numerous large holes were observed in the same wood, from which the beetles had evidently emerged, thus indicating that this species may also be classed among the destructive heartwood borers.

There are probably several other Cerambycid and Buprestid species that contribute to this class of injury to living trees, and, since the results of their work are practically the same, they may be designated as *Destructive Heartwood Borers*.

DESTRUCTIVE BARK BORERS.

With the exception of certain Scolytidæ, notably *Dendroctonus frontalis*, the most destructive and dangerous class of insects that attack living trees belongs to the genus *Agrilus*, since their habit of ovipositing in the bark of healthy trees in which it is possible for the larvæ to develop makes it possible for them to effect a terrible destruction of timber should they ever occur in sufficient numbers to take the character of an invasion.

Agrilus bilineatus is already to blame, either directly or indirectly, for the death of a great quantity of oak and chestnut timber, not alone in West Virginia, but in different sections of the country between here and the Mississippi River. Until last fall the dying of trees with which this insect was intimately associated was decidedly on the increase.