Brues-Anopheles Punctipennis in Northern New England

## THE OCCURRENCE OF ANOPHELES PUNCTIPENNIS IN NORTHERN NEW ENGLAND.

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On a visit to northern Maine during the past summer, I had the opportunity to collect the larvæ of several species of mosquitoes, including *Anopheles punctipennis*, which has, so far as I can ascertain, not previously been reported so far north as this district.

In eastern Massachusetts where I have examined many localities, A. punctivennis is the most abundant and widespread Anopheles, and it is listed from many localities in New England by Howard, Dyar and Knab.<sup>1</sup> These include several in southern New Hampshire and one in Maine, while it has been found over the Canadian border The present specimens are from Telos Lake which lies at Ottawa. well toward the northern part of Maine in the region of spruce and fir forests. It is a day's journey from the nearest railway on the east and a two days' trip from the railway to the south, so that there is no possibility of mosquitoes reaching the lake during the summer to become established temporarily, and any occurring there can be considered as permanent members of the fauna. I think there can be no reasonable doubt that the larvæ are actually those of A. punctipennis. Although not to be distinguished anatomically from A. quadrimaculatus, the habitat of the two species is rather constantly quite different.

Compared with Ottawa and Weld the position of Telos Lake is as follows:

Weld, Maine,	Lat. 44° 12' North.
Ottawa, Canada,	Lat. 45° 25' North.
Telos Lake, Maine,	Lat. 46° 7' North.

In Europe the extreme northern limit of malaria, and probably that of Anopheles also, lies at from  $63^{\circ}$  to  $69^{\circ}$  latitude while in North America malaria is said to be endemic at scattered localities as far north as the forty-fifth parallel. This would mean, of course, the presence of *Anopheles quadrimaculatus*, the northern range of which would thus appear to be nearly coincident with that of *A*. *punctipennis* in New England at least.

At Telos Lake, I secured also larvæ of *Culiseta impatiens* Walker and *Culex restuans* Theobald, both species of general occurrence in this region.

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<sup>&</sup>lt;sup>1</sup> Mosquitoes of North America, Vol. IV, pp. 1013 (1917).



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