

## THE VARIOUS FOODS OF WARBLERS OF THE GENUS DENDROICA

The attached spreadsheet on the various foods of warblers of the genus *Dendroica* is a compilation of the relevant information of only five books, as well as a few facts from a sixth. There is much more to be learnt by ornithologists on the food of warblers. For these two reasons, my spreadsheet is not nearly complete, and many conclusions drawn from it must therefore be viewed as within the realm of speculation. Nevertheless, here are a few such speculations:

Firstly, I call attention to the connection between the diets of some warblers and their habitats. The Yellow Warbler frequents wet areas; it eats damselflies and mayflies, whose larvae must have standing water to survive. The Yellow Warbler also eats mulberry fruit; native mulberry trees grow in lowlands, which are very often wet.

There are three warblers (namely Cape May, Blackburnian, and Bay-breasted Warblers) that feed in large part on spruce budworms; on that caterpillar's infestations are based the warblers' population increases. These warblers, which live primarily in coniferous forests, do not feed upon either the tent caterpillar or the Browntail Moth caterpillar, which feed only upon deciduous trees.

The Kirtland's Warbler breeds exclusively in young Jack Pine forests; it drinks pine sap. The Hermit Warbler too frequents coniferous forests; it eats pine seeds. Not surprisingly, neither warbler eats the tent caterpillar or Browntail Moth, though like the Cape May, Blackburnian, and Bay-breasted Warblers, they do eat other caterpillars.

Connections can also be found between a warbler's diet and its method of foraging. The Yellow-rumped Warbler performs much aerial sallying when foraging. Its diet includes a large number of flies, which are much easier to catch in the air than when landed.

The level of vegetation at which a warbler forages also plays a role in its diet. The Palm Warbler forages almost exclusively on the ground and in low vegetation. It eats grasshoppers, which are found on the ground, and raspberries.

Some of the warblers may be specialized to catch different sizes of prey. The Townsend's Warbler seems to feed mostly on very small insects, such as leafhoppers, while the Golden-cheeked Warbler eats some very large insects, such as katydids, cicadas, and walkingsticks.

As many observations as the spreadsheet can foster, it raises as many, and more, questions. How come the tree-foraging Cape May Warbler eats ground-dwelling grasshoppers and crickets? Why does the Townsend's Warbler, which does not eat any berries or seeds, eat plant galls; or does it eat only the creatures inside the galls rather than the entire things - including the plant material?

The topic of warbler diets is exceedingly interesting. I hope that the research so necessary for the conservation and understanding of these warblers and their ecosystem will be carried further. There is so much more to discover.

For bibliography, see attached spreadsheet

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Birds denoted by 4-letter Alpha Codes

By Davie Rolnick	B	B	B	B	B	B	C	C	C	G	G	H	K	M	W/Y	P	P	T	Y	A/M	Y
	B	L	L	T	T	T	M	E	S	C	R	E	I	A	P	I	R	O	W	U/Y	T
	W	B	P	B	Y	N	W	R	W	W	W	W	W	W	W	W	A	W	A	W	W
	A	W	W	W	W	W	A	W	A	A	A	A	A	A	A	A	W	A	R	A	A
<b>BERRIES, FRUITS, SEEDS</b>	X	X	X	X	?	X	X	?			?	X	X	X	X	X	X		X	X	
Bayberry					?			?			?				X						X
Black Cherry					?		X	?			?										
Blueberry					?			?			?		X								
California Peppertree					?			?			?										X
Dogwood	X				?			?			?					X					
Flowering Dogwood	X				?			?			?										
Elderberry					?		X	?			?			X							X
Elm					?			?			?										X
Fig					?			?			?										X
Fringetree					?		X	?			?										
Goldenrod					?			?			?										X
Grape				X	?		X	?			?			X		X					X
Grass					?			?			?					X					
Panicgrass					?			?			?					X					
Hercules-club					?	X		?			?										
Hornbeam					?			?			?										X
Juniper					?			?			?										X
Laurel					?			?			?										X
Mulberry	X				?			?			?								X		
Pacific Waxmyrtle					?			?			?										X
Palmetto					?			?			?										X
Persimmon					?			?			?										X
Pine					?			?			?	X				X					X
Poison Ivy					?	X		?			?					X					X
Poison Oak					?			?			?										X
Pokeberry			X		?		X	?			?										
Raspberry					?			?			?				X						
Red Cedar					?			?			?										X
Sumac					?			?			?					X					X
Sunflower					?			?			?										X
Virginia Creeper	X				?		X	?			?					X					
"Weed"					?			?			?					X					X
<b>INSECTS, SPIDERS, ETC.</b>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ants		X	X		?		X	?		X	?			X	X	X	X			X	X
Aphids			X	X	?	X		?		X	?			X	X	X			X	X	
Woolly Apple Aphid					?			?		?											X
Aphid eggs					?			?		?											X
Bees					?		X	?		?					X						
Beetles	X	X	X	X	?	X	X	?	X	X	?	X		X	X	X	X	X	X	X	X
Bark Beetles					?			?			?									X	
Borers					?			?			?								X	X	
Click Beetles					?			?			?			X							
Leaf Beetles					?			?			?			X							



