

Least Vireo be other than *Vireo bellii albatrus*, and that of the Arizona Least Vireo other than *Vireo bellii pusillus*? — J. GRINNELL, Pasadena, California.

Lawrence's and Brewster's Warblers and Mendelian Inheritance.— In any discussion of the status of Lawrence's and Brewster's Warblers it is well to bear in mind that the facts, including the much greater abundance of Brewster's, are in accord with Mendel's Law of Heredity, supposing both forms to be hybrids between *Helminthophila pinus* and *H. chrysoptera*. I have written out an hypothetical explanation of the case along these lines, signalizing the two most prominent varying characters of the birds, namely, color of underparts and presence or absence of black throat patch. Familiarity with Mendel's Law is taken for granted, and I would refer anyone to whom it is not familiar to an excellent article on the subject by W. E. Castle in Volume XXXVIII of the Proceedings of the American Academy of Arts and Sciences, January, 1903.

Let W stand for "white below"; w stand for "absence of white," *i. e.*, "yellow."

Let P stand for "plain throat"; p stand for "absence of plainness," *i. e.*, "black throat."

Then *H. chrysoptera* is pW; *H. pinus* is Pw; PW (the pure dominant) is Brewster's Warbler; pw (the pure recessive) is Lawrence's Warbler. *H. chrysoptera* × *H. pinus* is pWPw, but in plumage PW, Brewster's Warbler. All the first generation hybrids will be Brewster's Warbler in plumage. In the next generation there will be pure Golden-winged Warblers, pure Blue-winged Warblers, pure Brewster's Warblers, and pure Lawrence's Warblers; also mixed birds of the first three forms, but none of the last form, which, being recessive, comes to light only when pure. The original hybrids then (which will be all Brewster's in plumage) must be fertile with one another or with the parent species for any Lawrence's to occur; and if they are perfectly fertile Lawrence's must still remain a small minority. After the first generation the proportion of plumages of birds with mixed parentage should be: 9 Brewster's, 3 *chrysoptera*, 3 *pinus*, 1 Lawrence's. See Table.

In plumage		In plumage	
PWPW	Brewster's	PWPw	Brewster's
pw pw	Lawrence's	PWpW	"
PwPw	<i>pinus</i>	PwPW	"
pWPW	<i>chrysoptera</i>	pWPW	"
Pwpw	<i>pinus</i>	PWpw	Brewster's
pWPw	<i>chrysoptera</i>	pWPw	"
pwPW	<i>pinus</i>	pwPW	"
pwpW	<i>chrysoptera</i>	PwpW	"

9 Brewster's, 3 *chrysoptera*, 3 *pinus*, 1 Lawrence's.— JOHN TREADWELL NICHOLS, New York City.



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