

COLIAS PHILODICE IN CHIAPAS, MEXICO

THOMAS C. EMMEL
Reed College, Portland, Oregon

COLIAS PHILODICE GODART has the widest continuous range of any Coliad in North America. The species is found from the northern Arctic southward to the edge of desert areas in the Owens Valley of eastern California, the highlands of northern Arizona, and the Cochise and Rio Grande River valleys of New Mexico and Texas. In addition, three isolated populations of the species are known in the central mountains of Guatemala (Hovanitz, 1950a). The present note extends the known distribution of the species to include the republic of Mexico, and gives the frequency of white dimorphic females in the single population found.

The Mexican population of *C. philodice* was discovered in a long valley about 12.5 kilometers southeast (on Highway 190) from the plaza in San Cristobal de las Casas, central Chiapas. The valley is about a kilometer east of the highway at this point. The elevation above sea level is 7600-7700 feet, and the rolling mountains are covered with pine-oak forest, with grassy areas in the valleys.

At the time of our visit (March 26-29, 1959), these *Colias* were in full flight, and almost all specimens were fresh. The males were far more numerous than the females, but as every female seen was usually collected, the data given in Table 1 on relative abundance of the two female color phases may be considered fairly accurate considering the small number involved (for these dates). The frequency of white females in this locality is within the range of frequency (10 to 20%) found in the mountains of the western United States (Hovanitz, 1950b).

TABLE 1. Frequency of color phases of female *Colias philodice* in central Chiapas, Mexico.

Yellow Females	White Females	Total	Per cent White \pm S.E.
11	2	13	15.38 \pm 10.0%

LITERATURE CITED

- HOVANITZ, W. 1950a. The biology of *Colias* butterflies.
I. The distribution of the North American species. *Wasmann J. Biol.* 8: 49-75.
HOVANITZ, W. 1950b. The biology of *Colias* butterflies.
II. Parallel geographical variation of dimorphic color phases in North American species. *Wasmann J. Biol.* 8: 197-219.