

THE OCCURRENCE OF UNUSUAL RHOPALOCERA IN INDIANA

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The occurrence of a new species of butterfly in a given region may be accounted for in one of three ways:

First, it may be confined to a small area by geographical conditions to escape destruction from its enemies, or by a limitation in the range of its food plant. These insects may be common to us after we become familiar with their environment.

Second, it may be the result of a periodic change. This may be due to weather conditions, increase in the food supply, or decrease in enemies. Butterflies falling in this group may occur commonly one season and be entirely absent the following season.

Third, it may not come under either of the former conditions, and thus we consider it as an accidental specimen.

Species falling in the first class usually occur each year in the same restricted area and nearly in the same numbers.

The second appear as waves of various species of the same area, going beyond their usual range for several successive years until the frequency reaches a maximum and then recedes again. The waves seem to be in constant motion and, in general, occur from south to north, but frequently from north to south, and changes may occur from east to west or west to east. A great wave began in 1929, reached a maximum in 1932, and is still above normal. This wave brought to Indiana many southern species which were formerly very rare. A few examples are *Papilio cresphontes*, *Nathalis iole*, *Catopsilia eubule*, *Zerene caesonia*, *Terias nicippe*, *Terias lisa*, *Euptoieta claudia*, *Junonia coenia*, *Anaea andria* and *Libythea backmani*.

The third class applies to individual specimens. One may appear far from its regular range without apparent reason, but these occurrences may frequently be traced to severe storms.

August 2, 1932, a specimen of Bates Crescent-mark, *Phyciodes batesii* Reakirt, appeared and was captured locally. This species is eastern in range and should be found in our state, but no other records have been reported. Edwards gives Indiana as a portion of its range, and likewise Holland includes this state. Batchley says it is found in Ohio and should frequent the state.

On July 7, 1932, William Leavenworth and the author observed specimens of *Calephelis borealis* Gr. & Rob. Apparently this is the first time this species has been reported from Indiana. It was common until July 20 of that season in an area of about 60 acres. The following season I collected this species at Camp Rotary, about five miles from the former place from July 2 to July 30, while William Leavenworth and James Dailey collected specimens at the former place. In the summer of 1935 it appeared at Camp Rotary from June 27 to July 30 and was very common. This species, although not formerly recorded, seems to be locally common in wooded ravines along the valley of Sugar Creek. The butterflies breed in damp areas and then spread to wooded areas, where they rest frequently on the blooms of *Hydrangea arborescens*. Although this

species seems to be new in the state, Edwards and Holland include the state in its range and Blatchley believes it should be found here.

An example of an accidental visitor occurred in a specimen collected within the city limits of Crawfordsville in August, 1932, which proved to be *Chrysophanus mariposa* (Reakirt), Reakirt's Copper. This specimen seems to have been collected only in the west according to Holland.

Another species which probably occurred accidentally was *Thanaos funeralis* (Scud. & Burg.). This species is little known, but its range is considered to be the southwestern states. Holland believes it to be confined to Texas and Arizona but states that little is known of its range. This species was collected from red clover within the city limits of Crawfordsville.

Although the Lepidoptera have been studied a great deal, some intensive work in Indiana should bring results in revealing other new species.

References

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