

[Ed. note: — A simple explanation is that this individual was heterozygous for the presumed recessive gene for the aberration and that a somatic mutation occurred very early in embryonic development, perhaps at the four-cell stage. This could have produced homozygous recessives in all the cells descending from the mutating cell, and of course in these the aberrational gene would be expressed. C. L. REMINGTON.]

[Alternatively, the chromosome carrying the normal allele might have failed to attach to the spindle at the same division and therefore have been lost. Tissue descended from the daughter cell lacking this chromosome would contain only the mutant allele. P. F. BELLINGER]

MORE PROBLEMS WITH *PROBLEMA* IN KANSAS (HESPERIIDÆ)

by P. S. REMINGTON

In a previous paper (1956) on Hesperiidæ of the vicinity of St. Louis, Missouri, I reviewed the uses of the name *Atrytone kumskaka* (Scudder), generally presumed to be a synonym of *Problema byssus* (Edw.). *A. kumskaka* had been recorded from Kansas in 1875 by SNOW, but the specimen was reported by FIELD (1938) to be *Atrytone logan* (Edw.). Both Dr. PAUL R. EHRLICH and KENT H. WILSON of the Entomology Department of the University of Kansas have recently verified that this specimen is actually a female *A. logan*, and they say that it now bears an additional label "determined by A. W. LINDSEY."

So then the question arises, what species did SCUDDER have in mind when he described *Atrytone kumskaka* in 1887? I believe I have discovered the answer to this question right in Chancellor SNOW's back yard, so to speak. It could scarcely have been *A. logan*, which he must have been familiar with, for EDWARDS had described *logan* in 1863, twenty-four years before, and we know that EDWARDS and SCUDDER corresponded and exchanged specimens.

In the summer of 1958 I received a National Science Foundation fellowship to study at the University of Kansas for eight weeks. On several Saturdays I went collecting around Lawrence, and between June 21 and July 12 I collected four males and eight females of *P. byssus* no more than five miles west of Lawrence. They were feeding on blossoms of milkweed and Pearly Everlasting, and I think I could have taken many more had I not been diverted by numerous fine specimens of the Regal Fritillary, *Speyeria idalia* (Drury). Only later did I realize the significance of my find.

The Kansas specimens average 3 mm. wider wing spread in the males and 4 to 5 mm. wider in the females than do Illinois or Florida specimens. Dr. EHRLICH has kindly reported that the genitalia of a male Lawrence *byssus* "compares very well with the figure published by LINDSEY, BELL, and WILLIAMS." Lawrence specimens tend to be a little more strongly marked, especially the females, and the band of spots across the upper side of the fore wing is wider and lighter in the females. Could it be possible that Dr. SNOW also collected some of these skippers around Lawrence and sent them to SCUDDER in the 1870's and that SCUDDER decided that they deserved a separate name? Evidently too some collector in Iowa sent similar specimens to SCUDDER. It would be interesting to search for *byssus* in Iowa in late June and early July and see if it can be rediscovered there. SCUDDER would not be the only writer who has given specific or subspecific names to western races of skippers which also occur further east. It is often true that the western representatives tend to be larger and of more robust appearance. EHRLICH and GILLHAM mention this in naming a race of *Atrytone conspicua* from eastern Nebraska. AVERY FREEMAN has done the same with *Hesperia leonardus* Harris and *H. metea* (Scudder) from the southwest.

To sum up, then, the *Problema* problem seems to me to have resolved itself into the facts that up to the present there are only two species known in this genus that has been erected for them: *bulenta* from North Carolina and Georgia, and *byssus* from the Southeast and the middle Mississippi Valley. The western representatives of *byssus* show some differences from Florida specimens, but genitalic comparison shows they are not separate species. SCUDDER did not make this comparison and gave the name *kumskaka* to the western specimens. This name is definitely a synonym of *byssus*. The habits of *byssus* show that, although it is a swift flyer, it is extremely local and so has not been widely observed or collected. Perhaps if more of us look carefully for it, we shall extend its range. Much remains to be learned about the biology of both species of *Problema* offering challenges to future students of skippers. So there are still problems of *Problema* to be solved.

References

- Field, W. D., 1938. A manual of the butterflies and skippers of Kansas. *Bull. Univ. Kansas* 39, no. 10: 327 pp., 2 pls.
Remington, P. S., 1956. Some observations on the Hesperiiidae of the St. Louis area. *Lepid. News* 9: 190-195.

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