

NOTE

Two New Species Synonyms in North American *Baetis* Leach
(Ephemeroptera: Baetidae)

Baetis parallelus Banks was described by Banks (1924) from male adults taken in Nevada. It has remained an unfamiliar and tenuous North American species, only being reported subsequently from Alberta and British Columbia by Walley (1927) in a list of Canadian mayflies. That list contained numerous junior synonyms of a variety of *Baetis* species and many other genera, as we now understand the species composition in North America. Traver (1935) correctly noted that the male genitalia of *B. parallelus* were of the *Moffati* [*sic*] (*rhodani*) type, shared by several Holarctic species of *Baetis*, including the ubiquitous *B. tricaudatus* Dodds. In addition, putative diagnostic color pattern characteristics and hindwing venation characteristics associated with the species have been shown by workers to be variable within species. Its color pattern fits closely that of *B. intermedius* Dodds, a synonym of *B. tricaudatus* with morphologically similar larvae (Mori-hara and McCafferty 1979); and as can be seen by the rearing studies of Durfee and Kondratieff (1993, 1999), its hindwing venation is similar to that associated with *Baetis moffatti* Dodds, another synonym of *B. tricaudatus* that falls within the demonstrated range of hindwing variability in *B. tricaudatus*. Although I have been unable to see the type material of *B. parallelus*, there can be little doubt that *B. parallelus* is a junior subjective synonym of *B. tricaudatus*, **n. syn.**, in all respects falling within the range of adult variation known for the latter. Furthermore, I have recently seen, in the Purdue Entomological Research Collection (PERC),

larvae of *B. tricaudatus* taken from the Truckee River, at Reno, where the types of *B. parallelus* had been collected.

Baetis caurinus Edmunds and Allen was described by Edmunds and Allen (1957) from male adults taken near Alsea, Oregon. It also has been a tenuous and unfamiliar species, and has not been reported since its description. I have studied the holotype and numerous paratypes, deposited in PERC, and can find no consistent difference from variants of the ubiquitous North American species *B. flavistriga* McDunnough. Edmunds and Allen (1957) stated that *B. caurinus* differed from other species with the *intercalaris* (*fuscatus*) type genitalia as defined by Traver (1935) (including *B. flavistriga* and several other species recognized at that time) by the hyaline abdominal segments 1-6. Edmunds and Allen (1957) did not believe that other species with similar male genitalia occurred in western North America. I have recently seen significant collections of larval and adult *B. flavistriga* from Washington, Oregon, Idaho, California, and Nevada (all records to be formally published elsewhere). The abdominal segments of male adult *B. flavistriga* grade from distinctly tinted to hyaline in both western and eastern populations. I therefore place *B. caurinus* as a subjective junior synonym of *B. flavistriga*, **n. syn.** Although no larvae had been associated with *B. caurinus*, *Baetis levitans* McDunnough and *B. quebecensis* Hubbard are other synonyms of *B. flavistriga* (see Mori-hara and McCafferty 1979) that were based on light-abdomen variants, and in these cases, associated

larvae of all have been shown to be morphologically similar.

LITERATURE CITED

- Banks, N. 1924. Descriptions of new neuropteroid insects. *Bulletin of the Museum of Comparative Zoology* 12: 421–455.
- Durfee, R. and B. C. Kondratieff. 1993. Description of adults of *Baetis magnus* (Ephemeroptera: Baetidae). *Entomological News* 104: 227–232.
- . 1999. Notes on North American *Baetis* (Ephemeroptera: Baetidae): *Baetis moffatti* new synonym of *B. tricaudatus* and range extension for *B. bundyae*. *Entomological News* 110: 177–180.
- Edmunds, G. F. and R. K. Allen. 1957. A new species of *Baetis* from Oregon. *Journal of the Kansas Entomological Society* 30: 57–58.
- Morihara, D. K. and W. P. McCafferty. 1979. *Baetis* larvae of North America (Ephemeroptera: Baetidae). *Transactions of the American Entomological Society* 105: 139–221.
- Traver, J. R. 1935. Part III, Systematic, pp. 239–739. *In* Needham, J. G., J. R. Traver, and Y.-C. Hsu, eds. *The Biology of Mayflies*. Comstock Publishing Co., Ithaca, New York.
- Walley, G. S. 1927. Ephemeroptera, pp. 59–61. *In* Criddle, N. ed. *The entomological record, 1926*. *Annual Report of the Entomological Society of Ontario* 57: 47–62.

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