

with this smaller size is a relatively longer antennal scape and a slightly duller integument (especially on the head). The western populations are highly plastic (perhaps in response to greater variation in habitats and climate) and individuals within a single colony sample may possess either a long or short scape, or one of intermediate length.

REFERENCES

- Brown, W. L., Jr.** 1950. The status of two common North American carpenter ants. *Ent. News* 61:157-161.
- Creighton, W. S.** 1950. The ants of North America. *Bull. Mus. Comp. Zool.* 104:1-585.
- . 1952. Studies on Arizona ants (4). *Camponotus (Colobopsis) papago*, a new species from southern Arizona. *Psyche* 59:148-162.
- . 1965. Studies on southwestern ants belonging to *Camponotus*, subgenus *Myrmobrachys*. *Amer. Mus. Novit.* 2239:1-9.
- and **R. R. Snelling.** 1966. The rediscovery of *Camponotus yogi* Wheeler. *Psyche* 73:187-195.
- Gregg, R. E.** 1963. The ants of Colorado. Univ. Colo. Press, Denver, xvi + 792 pp.
- Roger, J.** 1863. Die neu aufgeführten Gattungen und Arten meins Formiciden-Verzeichnisses. *Berlin Ent. Zeit.* 7:131-214.
- Smith, M. R.** 1953. A new *Camponotus* in California apparently inhabiting live oak, *Quercus* sp. *Jour. N. Y. Ent. Soc.* 61:211-214.
- Wheeler, W. M.** 1910a. The North American forms of *Camponotus fallax* Nylander. *Jour. N. Y. Ent. Soc.* 18:216-232.
- . 1910b. The North American ants of the genus *Camponotus* Mayr. *Ann. N. Y. Acad. Sci.* 20:295-354.

THE MAYFLY GENUS HEXAGENIA IN MEXICO

(EPHEMEROPTERA: EPHEMERIDAE)

W. P. McCafferty, *Department of Zoology and Entomology,
University of Utah, Salt Lake City, Utah 84112*

All reported records of the genus *Hexagenia* Walsh in Mexico, Central and South America are of species of the subgenus *Pseudeatonica* Spieth, while those species known from America north of Mexico are all of the subgenus *Hexagenia* s.s. During the course of a generic study of the family Ephemeridae, specimens of *Hexagenia (Hexagenia) bilineata* (Say) and *H. (H.) limbata* (Serville) from Mexico have been studied as follows:

H. bilineata: El Banito Valles, San Louis Potosi, June 26, 1940, H. Hoogstraal and K. Knight, 1 male imago in the collection of the University of Utah.

H. limbata: Ajijic, Lake Chapala, Jalisco, August 23, 27, 28, 1966, Marion E.

Smith, 2 males and 1 female imago in the collection of the University of Utah; Rio Guayalejo, Tamaulipas Province, December 22, 1939, Lewis Berner, 8 immature nymphs in the collection of Jay R. Traver.

The above records represent a considerable extension of the reported range of both these species (see Spieth, 1941; Hamilton, 1959), yet the distributional extension appears to follow the pattern of many species. Spieth (loc. cit.) indicates localities in Texas where both species have been taken and also cites a New Mexico record for *H. bilineata*. *H. limbata* is also reported from Colorado, Utah, and California.

Type material of *Hexagenia (Pseudeatonica) mexicana* Eaton were the only specimens of the genus previously reported to occur in Mexico, and Eaton (1883-1888) cites only "Mexico" as the type locality for this species. It is probable that *H. (P.) mexicana* is restricted to the Neotropical regions of Mexico and that there is a natural geographic separation of the respective subgenera. Additional collecting in both Mexico and Central America is needed before our understanding of this distributional problem is complete.

It is of interest here to note that Kimmins (1960) regards *Pseudeatonica* as a full genus. This may well be the case; however, since the nymphs of *Pseudeatonica* are unknown at the present time, it remains a question as to which ranking of the taxon is correct. Edmunds and Allen (1966) have pointed out the importance of knowing the nymphal stage of mayflies before a proper classificatory arrangement can be constructed. Undoubtedly the nymphs, when known, will help clarify the status of *Pseudeatonica*.

I would like to thank Dr. George F. Edmunds, Jr., Dr. Marion E. Smith and Dr. Jay R. Traver for supplying specimens collected in Mexico.

REFERENCES

- Eaton, A. E. 1883-88. A revisional monograph of recent Ephemeridae or mayflies. Trans. Linn. Soc. Lond., Sec. Ser. Zool. 3:1-352.
- Edmunds, G. F., Jr. and R. K. Allen. 1966. The significance of nymphal stages in the study of Ephemeroptera. Ann. Ent. Soc. Amer. 59(2):300-303.
- Hamilton, E. W. 1959. A tabular summary of the biology of North American mayfly nymphs (Ephemeroptera). Iowa State Coll. Jour. Sci. 33(4):443-474.
- Kimmins, D. E. 1960. The Ephemeroptera types of species described by A. E. Eaton, R. McLachlan, and F. Walker. Bull. Brit. Mus. (Nat. Hist.) Ent. 9(4): 269-318.
- Spieth, H. T. 1941. Taxonomic studies on the Ephemeroptera, II. The genus *Hexagenia*. Am. Midland Naturalist 26:233-280.