

## Notes on *Megathymus*, with Description of a New Species (Lepidoptera, Rhopalocera, Megathymidae)

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*Megathymus neumoegeni* Edwards.

*neumoegeni* Edwards 1882, Papilio, II, 27. Type—. Brooklyn Museum.

syn. *aryxna* Dyar 1905: male, Mexico: fig. Druce, pl. 69/4 male. Type—.British Museum.

*drucei* Skinner 1911: male, N. Sonora, Mexico: fig. 1906, pl. 69/3 male. Type—.British Museum.

Confusion has existed for some years as to the status of *aryxna* Dyar and *neumoegeni* Edwards. Edwards was confused in the sexes of his specimens when he described *neumoegeni*; apparently he described his "male" and female from two females. This caused Dyar to describe the male of *neumoegeni* under the name of *aryxna*. Dyar's discussion of *aryxna* is as follows:—"This is the form figured in the Biologia Cent.-Am. Lep. Het. III, pl. 69, figs. 3 and 4. It differs from *neumoegeni* in having the fulvous markings considerably reduced, the outer band being broken into spots. I have ten specimens from Arizona from Dr. Barnes and Mr. Poling." Skinner thought that Fig. 3 (*supra*) was not *neumoegeni*, and thus named it *drucei*; and Fig. 4 was taken as the type of *aryxna*. Both of these specimens have been dissected in the British Museum and found to be *neumoegeni* males. Barnes and McDunnough were in part correct when they attempted to divide *neumoegeni* into two species, as two distinct species are involved; their usage of the name *aryxna* for one of them is, however, not valid, as it is a synonym of *neumoegeni*. Barnes and McDunnough suggested that Dyar shift his concept but this also would not have been valid.

*Megathymus evansi* new species.

This species is similar in many respects to *neumoegeni*, but there are several marked differences in both sexes. In the males, the spots on both pairs of wings are larger and the general wing shape is different. In *evansi* the dorsum of the primaries is longer than *neumoegeni* in proportion to the costa. The insect is also somewhat larger in size, averaging

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56 mm. ; whereas *neumoegeni* averages 52 mm. On the lower surface of the wings the ground color is much darker in *evansi* and the whitish discal band on the secondaries is much better marked. The females have the spots on the primaries forming a broad band connecting with the spot in the cell, and the general shape of the wing is broader in comparison with that of *neumoegeni*. There are certain differences in the male genitalia of *evansi*, the uncus being broader, with the lower clasp of the prong straight, instead of being curved as in *neumoegeni*.

On the wing it is easy to separate the two species. The broader wings with a somewhat greater expanse gives *evansi* a much larger appearance and also add to the agility of the insect. The females of *evansi* fly six to ten feet above the surface of the ground and are very quick on the wing. The females of *neumoegeni* fly much slower and nearer the ground, usually only two to three feet high, and have the habit of alighting on rocks and also on the soil.

I take pleasure in naming this species for Brig. W. H. Evans of the British Museum, as he was the first to detect its true identity.

Described from 129 males and 18 females. Twenty-four of the males were borrowed from the American Museum of Natural History, from the following localities in Arizona: Cochise County, Sept. and Oct. ; Palmerlee, Cochise County, Oct. ; Southern Arizona, Sept. 1900 (Poling) ; and Arizona, Oct. Howell Daly collected 12 males and 1 female (Sept. 11, 1950) and 29 males (Sept. 12, 1950) in Ramsey Canyon, Cochise County, Arizona. I have one male in my collection from Paradise, Ariz. (Sept. 1940) and one male. Arizona (Oct., 1904). On Sept. 11, 1950 I collected 32 males and seven females and on the following day 30 males and ten females in Ramsey Canyon, Cochise County, Arizona.

*Holotype* male, Sept. 11, 1950, Ramsey Canyon, Cochise County, Arizona (H. A. Freeman) will be placed in the American Museum of Natural History. *Allotype* female, Sept. 11, 1950, Ramsey Canyon, Cochise County, Arizona (H. A. Freeman) is in my collection. Twenty-four male *paratypes* and one female *paratype* are in the American Museum of Natural History. Forty-one male *paratypes* and one female *paratype* are in the collection of Howell Daly,

and the remaining 63 male and 16 female *paratypes* are in my collection.

In preparing this description of *evansi* the new species was compared with 134 males and 30 females of *neumoegeni* from various localities in Arizona and northern Mexico.

## Osteology of the Skull of *Phrynosoma cornutum* (Harlan)<sup>1</sup>

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The horned lizard, *Phrynosoma cornutum*, was first described by Harlan<sup>2</sup> as *Agama cornuta*; in 1831, J. E. Gray<sup>3</sup> transferred the species to the genus *Phrynosoma*. Much work has been done on the species. Many of the references to *Phrynosoma cornutum* are of a taxonomic nature, while references to its morphology are few and the material in the papers is scant. Description of the osteology of the skull are lacking.

Potter<sup>4</sup> uses *Phrynosoma cornutum* as one of his examples of the Reptilia, and his accurate descriptions in his text book and laboratory manual<sup>5</sup> are widely quoted. This is practically the only ready reference of any value on the anatomy of *Phrynosoma*.

Standard methods were used in the preparation of the materials for this study. Disarticulated skulls were prepared by the maceration of fresh materials. Preserved specimens were used for determination of gross relationships. Sagittal, parasagittal, and various oblique sections were made. Dissection of decalcified specimens, as well as dissection of frozen specimens, made it possible to trace many soft parts.

### Description of *Phrynosoma cornutum*

The horned lizard ranges from eastern Kansas (and perhaps western central Arkansas) southward through most of Texas to northern Mexico, and westward through Colorado Springs, Colo. One individual from Fort Benton, Missouri

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<sup>2</sup>Richard Harlan, *Jour. Acad. Nat. Sci. Phila.*, vol. iv, 1825, p. 299, pl. xx.

<sup>3</sup>J. E. Gray, *Syn. Rept. Griff., Cuvier's Animal Kingdom*, ix, 1831, p. 45.

<sup>4</sup>Potter, *Textbook of Zoology*, 1938, pp. 526-541.

<sup>5</sup>Potter, *Manual of Comparative Anatomy*, 1941, p. 41.