Journal of the Lepidopterists' Society
44(1), 1990, 28–31

A NEW SPECIES OF *PIRUNA* FROM MEXICO (HESPERIIDAE)

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ABSTRACT. *Piruna kemneri* is described from Oaxaca and Puebla, Mexico, the type series consisting of 18 males collected by John Kemner and one male collected by H. A. Freeman. The new species is differentiated from its most similar ally *P. haferniki* Freeman 1970 by morphological and genitalic characters. Holotype and genitalia of a paratype are illustrated.

Additional key words: *Piruna kemneri, P. haferniki, P. brunnea, P. pirus, P. cyclosticta.*

During the summers of 1987–88 John Kemner collected rather extensively over Mexico. Among the many interesting species of Hesperiidae that he collected in the state of Oaxaca was an undescribed species of *Piruna* Evans that is described here. According to Evans' (1955) arrangement this species belongs in Group H of the Hesperiinae.

Piruna kemneri Freeman, new species
(Figs. 1, 2, 3)

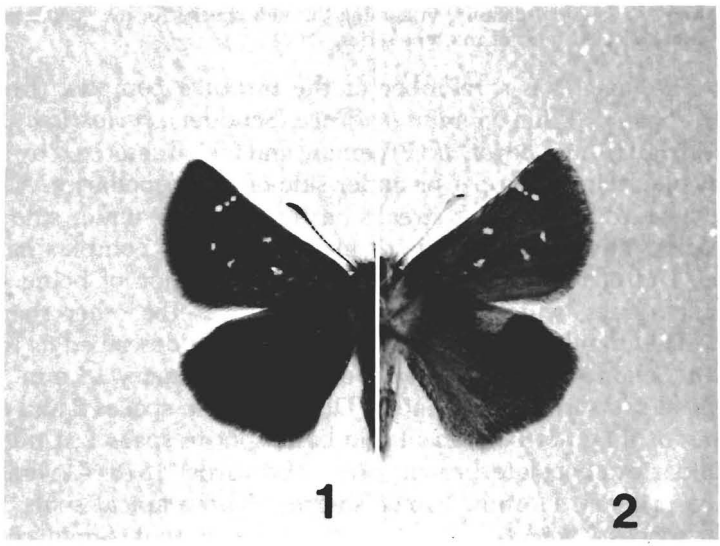
Male upper side (Fig. 1). Primaries black, with seven variable white, hyaline spots; a round or linear spot in space 2 and, midway between this spot and base of wing, another spot in same space, which may be absent in some specimens. In space 3, a small round or linear spot situated directly under apical spot in space 6. Three, small, apical spots, in line, with the one in space 7 being minute and sometimes absent. A small, round, upper cell spot. Fringe black becoming whitish at the tips. Costal margin slightly concave. Secondaries black, unmarked. Fringe black, becoming lighter at tips, uncheckered.

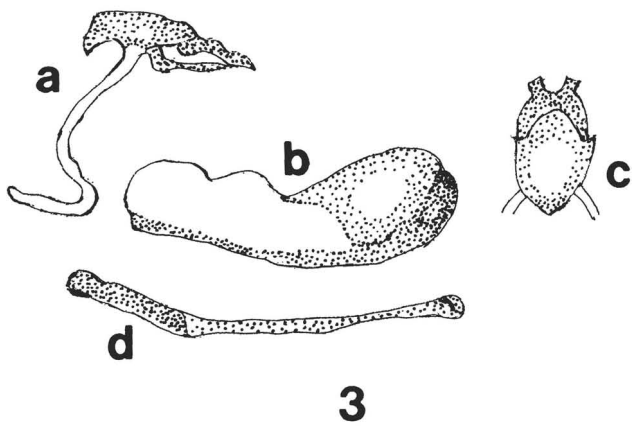
Male under side (Fig. 2). Primaries brown, lightly overscaled with golden scales, with space 1 being lighter in coloration than the rest of the wing. All spots are white, hyaline, and better defined than on upper side. Fringe dark, brownish black, slightly checkered. Secondaries brownish black, with a heavy overscaling of golden scales over the basal half of the wing and extending from anal fold to space 3. There is a heavy concentration of golden and white scales midway between the apex and base of the wing near the costa, forming an irregularly shaped blotch. The remainder of the wing brownish black. No hyaline spots present. Fringe dark brownish black, uncheckered.

Body. Thorax black, heavily overscaled with brown hairs above, lighter beneath due to brown and golden hairs present. Abdomen dark brownish-black above, lighter beneath. Head black, covered with brown hairs. Palpi black above, sordid white at base below, gray at termen, dark grayish on lateral sides. Legs brown. Antennae, both shaft and club, dark brownish black above, lighter beneath, club pale beneath, yellowish. Apiculus gold.

Wing measurements. Holotype. Primaries: base to apex, 10.5 mm; apex to outer angle, 7 mm; outer angle to base, 9 mm. Secondaries: base to end of vein 3, 8.5 mm; center of costa to anal angle, 7 mm. Total expanse: 22 mm. Average total expanse of paratypes: 22 mm (n = 17).

Types. Holotype, male, Mexico: Oaxaca: 5 miles north of Oaxaca, Hwy. 175, ca. 1800 m elev., 21 July 1987 (leg. John Kemner) in the American Museum of Natural History, New York. There are 17 male paratypes, 16 same location and collector as holotype, collected during July and August 1987–88, at present in my collection, and one male paratype from Mexico: Tehuacan, Puebla, 14 August 1964 (leg. H. A. Freeman) in the American Museum of Natural History.





FIGS. 1, 2. Upper side (Fig. 1) and under side (Fig. 2) of *Piruna kemneri* Freeman, holotype, male, Mexico: Oaxaca, 5 miles north of the city of Oaxaca, ca. 1800 m elev., 21 July 1987 (leg. John Kemner).

FIG. 3. *Piruna kemneri,* male genitalia of paratype (Genitalia Vial H-904), same location and collector as holotype, 11 July 1988. a) tegumen, uncus, gnathos, and associated structures in lateral view; b) right valva in lateral view of interior, upper part ampulla, lower part harpe; c) same as (a), in ventral view; d) aedeagus in lateral view.

Etymology. I take great pleasure in naming this new species for my good friend John Kemner who collected most of the type series.

This new species is a member of the *brunnea* complex (Freeman 1970) of *Piruna*, which contains *brunnea* (Scudder), *cyclosticta* (Dyar), *pirus* (Edwards), and *haferniki* Freeman, and is characterized by having no spots on either the upper or under side of the secondaries. All other *Piruna* have either spots or streaks on the upper or under side of the secondaries. The male genitalia of members of this complex have the terminal end of the harpe smooth with no indication of being serrate or having spines, which are present in most of the other species of *Piruna*. The members of this complex are briefly described as follows: ***brunnea*** (Scudder) 1872—Average expanse of primary 13 mm. Black. Two apical spots in spaces 6 and 8. Discal spots in spaces 2 and 3. Cell spot may or may not be present. No basal spot in space 2. Under side of secondaries chocolate brown. ***pirus*** (Edwards) 1878—Average expanse of primary 11 mm. Brownish-gray. Three apical spots. Discal spots in spaces 2 and 3 may or may not be present. Small cell spot usually present. No basal spot in space 2. Under side of secondaries ferruginous. **cyclosticta** (Dyar) 1902—Average expanse of primary 11 mm. Brownish-gray. Three apical spots. Discal spots in spaces 2 and 3 well defined. Cell spot always present. Basal spot in space 2 always present and well defined. Under side of secondaries dull brown. ***haferniki*** Freeman 1970—Average expanse of primary 11 mm. Blackish-brown. Three large apical spots, in line. Discal spots in spaces 2 and 3 well developed. Cell spot large. Basal spot in space 2 always present and well developed. Under side of secondaries overscaled over basal and submarginal areas purplish-gray leaving the center of the wing dark brown.

The most closely related species to *kemneri* is *haferniki*, from which it can be separated by the following features. In *haferniki* the apical, discal, and cell spots on the primaries are much better developed than in *kemneri*. Perhaps the easiest way to separate the two species is to compare the under side of the secondaries. *P. haferniki* has the unusual purplish-gray overscaling over the basal half of the wing and extending from the anal fold along the outer margin to space 5, leaving the discal area from space 1 to costa a broadly triangular area darker than the remainder of the wing, which lacks overscaling. *P. kemneri* has a heavy overscaling of golden scales over the basal half of wing and extending from space 1 and anal fold to space 3, leaving the remainder darker, except for the large irregularly shaped, lighter blotch midway between the apex and base on the costa, produced by a heavy concentration of golden and white overscaling. The costal margin of the primaries of *P. kemneri* is slightly concave, in contrast to all other species of *Piruna*.

The male genitalia of *kemneri* (Fig. 3) differ from *haferniki* in the following ways: the tegumen (lateral view) is broader; terminal end of divided uncus is straight and not curving laterally like *haferniki* (ventral view); ampulla is narrower at posterior end than in *haferniki* and the anterior end is broader and more upturned than in *haferniki* (lateral view); and the harpe is slightly narrower at the terminal end than in *haferniki* (lateral view). These genitalic differences are based on the examination of four *kemneri* paratypes.

ACKNOWLEDGMENTS

I thank Dr. Frederick H. Rindge of the American Museum of Natural History, New York, for the loan of *Piruna* specimens and for making the photographs of the holotype used in this article.

LITERATURE CITED

EVANS, W. H. 1955. A catalogue of the American Hesperiidae indicating the classification and nomenclature adopted in the British Museum (Natural History). Part IV. Hesperiinae and Megathyminae. British Museum, London. 499 pp., pls. 54–88.

FREEMAN, H. A. 1970. A new species of *Piruna* from Texas (Hesperiidae). J. Lepid. Soc. 24:247–249.

Received for publication 3 February 1989; revised and accepted 13 October 1989.