

## A remarkable new species of *Pedaliodes* (Lepidoptera: Nymphalidae, Satyrinae) from the Cordillera de Vilcabamba, Cuzco, Peru

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### SUMMARY

LAMAS G. 1999. A remarkable new species of *Pedaliodes* (Lepidoptera: Nymphalidae, Satyrinae) from the Cordillera de Vilcabamba, Cuzco, Peru. *Rev. per. Ent.* 41.- *Pedaliodes phoenix*, sp. n., found in the Cordillera Vilcabamba, Cuzco, Peru, at 3350 m is described and illustrated herein. It is the most attractive species of the genus, and is regarded as most closely related to another undescribed species, also known from Cuzco, but located further south. Brief observations on its habitat and behavior are also included.

Key words: Cordillera de Vilcabamba, Cuzco, new species, *Pedaliodes*, Peru, taxonomy.

### RESUMEN

LAMAS G. 1999. Una notable especie nueva de *Pedaliodes* (Lepidoptera: Nymphalidae, Satyrinae) de la Cordillera de Vilcabamba, Cuzco, Perú. *Rev. per. Ent.* 41.- Se describe e ilustra *Pedaliodes phoenix*, sp. n., un nuevo satirino hallado en la Cordillera de Vilcabamba, Cuzco, Perú, a 3350 m de altitud. Es la especie más vistosa del género, y se considera estrechamente relacionada a otra especie aún no descrita, conocida también del Cuzco, pero localizada más al sur. Se incluye breves observaciones sobre el hábitat y comportamiento de la nueva especie.

Palabras clave: Cordillera de Vilcabamba, Cuzco, especie nueva, *Pedaliodes*, Perú, taxonomía.

On June 6, 1997, a joint RAP (Rapid Assessment Program) expedition of Conservation International (Washington, DC, U.S.A.), and the Museo de Historia Natural (Lima, Peru), was transported by helicopter to the northern end of the Cordillera de Vilcabamba, a large mountain range placed between the Apurimac-Ene-Tambo and Urubamba rivers, in southeastern Peru. This mountain chain represents a northeastward extension of the main Andes into the Amazon basin, and reaches elevations above 4000 m, the highest peaks being almost at 4200 m. Most of the Cordillera is still covered with montane forests, and is largely uninhabited by man above 1500 m.

The CI/MIIN expedition camp was established at a site located at 11°40'S, 73°40'W, 3350 m elevation, where the habitat consisted of a transition from upper montane/elfin forest to «pajonal» (páramo-like vegetation). Early next day, Juan Grados and myself started surveying the butterflies of the area, and one of

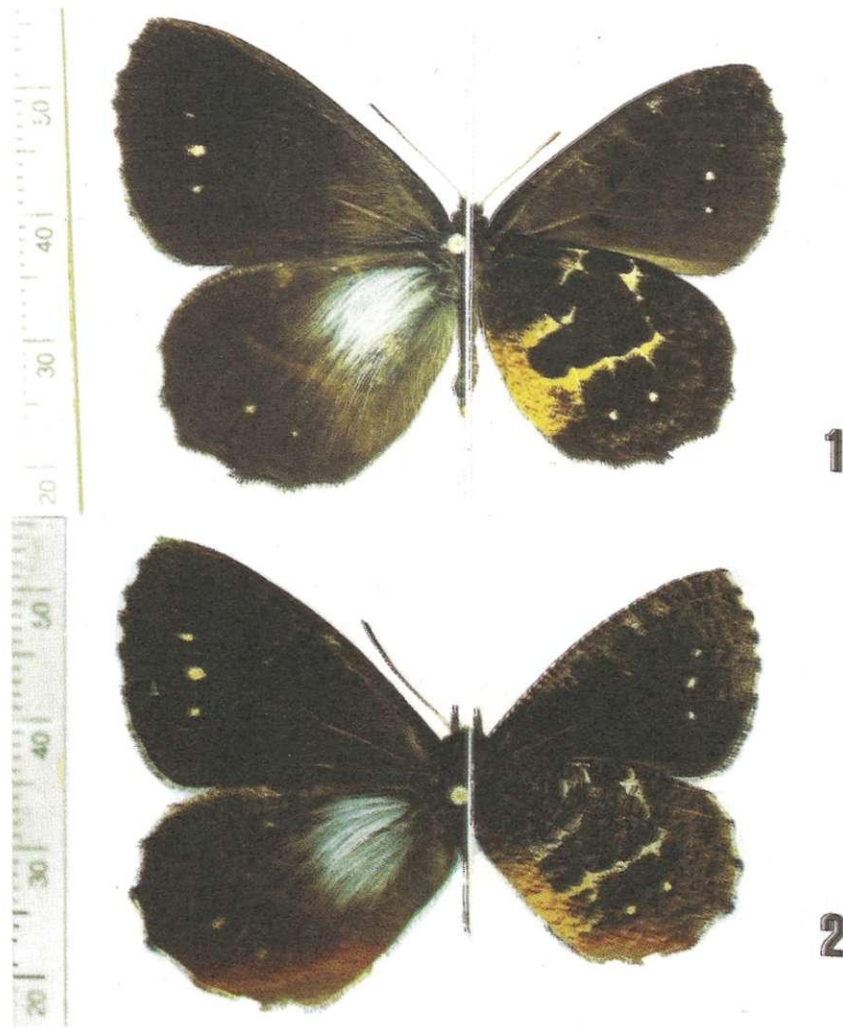
the first specimens we caught was immediately recognized as belonging to a striking new species of *Pedaliodes*, a very large and speciose (>240 species), exclusively Neotropical, genus. Eventually, this species proved to be the most abundant and ubiquitous in the area, and we managed to obtain an adequate series of specimens during our two-week stay at the site. At the end of our survey, we had recorded 29 species of butterflies, 11 of which turned out to be undescribed (LAMAS & GRADOS 1999), an astonishingly high number of novelties. It is with great pleasure that I describe this lovely new *Pedaliodes* below.

### *Pedaliodes phoenix* Lamas, sp. n.

*Diagnosis:* A medium-sized species of *Pedaliodes*, immediately recognizable by a flattened tuft of long, bluish-white, hairy scales covering the discal cell and Cu<sub>1</sub>-2A, at the base of the hindwing above, and by the yellowish inner margin, behind 2A, peppered with russet scales, on the hindwing below. Unlike any other species in the genus.

*Male* (fig. 1).- FW length: 25-29 mm (n=58). *Head:* Eyes dark brown, hairy; palpi

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FIGURES 1-2.- 1. *Pedaliodes phoenix* sp. n., holotype ♂; 2. same, paratype ♀. Dorsal left, ventral (slightly reduced) right.

2,5 times as long as head, dark brown with some yellowish scales laterally, densely hairy below; antennae reaching half costa, dark brown, checkered with orange brown. **Thorax:** Densely covered with yellowish, reddish and dark brown hairs, legs densely hairy and spiny, tibiae and tarsi with many yellowish scales. **Abdomen:** Dorsum dark brown, venter dirty yellowish brown; genitalia as shown in fig. 3. **Forewing:** Triangular, apex acute, tornus slightly obtuse, outer margin slightly convex, very slightly undulated, cilia checkered, dark brown above, with conspicuous yellowish submarginal spots in  $M_2$ - $M_3$ ,  $M_3$ - $Cu_1$ , and  $Cu_1$ - $Cu_2$ , middle one largest, in an almost straight row; costal, apical and outer areas

below conspicuously marbled with whitish, yellowish and reddish scales, submarginal whitish spots as above, slightly smaller; compact androconia in central area, invading DC between bases of  $M_3$  and  $Cu_2$ . **Hindwing:** Rounded, somewhat scalloped, cilia checkered, dark brown above, with conspicuous yellowish submarginal spots in  $M_3$ - $Cu_1$  and  $Cu_1$ - $Cu_2$ , costal margin paler; below extensively marbled with whitish, yellowish and reddish scales, yellowish inner margin behind 2A peppered with reddish-brown scales, two more or less continuous, convex, pale yellowish or whitish lines across disc; one discal, the other postdiscal, submarginal whitish spots as above, but larger.

*Female* (fig. 2).- FW length: 27-28 mm (n=3). Very similar to male, but submarginal yellow spots on FW and HW larger and light discal markings on HW below thicker; no FW androconia.

*Type-material*: Holotype ♂, PERU, Cuzco, Cordillera de Vilcabamba, 11°40'S, 73°40'W, 3350 m, 12 June 1997 (G. Lamas). Paratypes: 57 ♂, 3 ♀, same date as holotype, but dates between 7 and 20 June, and collector G. Lamas or J. Grados. Currently, all in the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru, but paratypes will be distributed to several collections in the world.

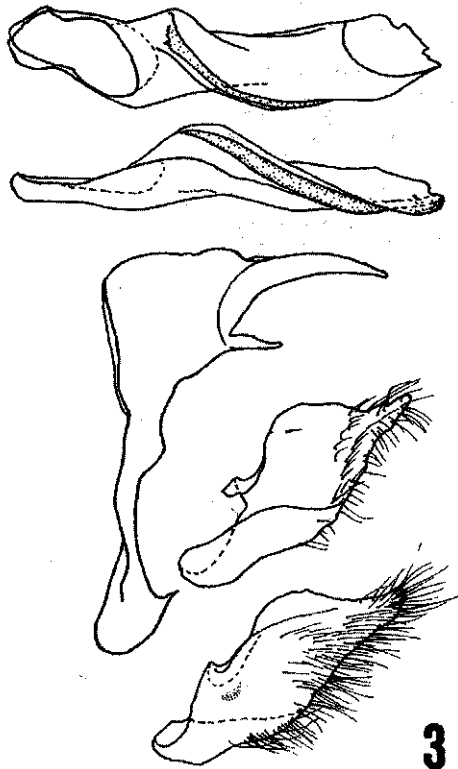


FIGURE 3.- *Pedaliodes phoenix* sp. n., male genitalia, preparation ALV 359-97 (30X): aedeagus (dorsal and lateral views, caudal end at right); tegumen, uncus, subuncus, vinculum and saccus, left side; right valva, inner view; left valva, outer view.

*Etymology*: Dedicated with love, gratitude, and admiration to Fonchii Chang. Her name, in Chinese, means «phoenix».

*Remarks*: According to male genitalic morphology and underside wing pattern, *P. phoenix* is most closely related to an undescribed species known from further south in Cuzco, at Acjanaco, 13°18'S, 71°40'W, 3200-3500 m, but the latter lacks the conspicuous hair tuft on HW above and the yellowish inner margin on HW below, and all light markings on wings below are whitish, not yellowish (VILORIA 1998, LAMAS & VILORIA, in prep.). Both *phoenix* and its putative sister species fly at the same altitude and in the same kind of habitat, a transition between upper montane/elfin forest and «pajonal». Also, both species share the same general behavior, flying close to the ground (<50 cm), in a rather fast and purposeful way, skirting the grass clumps (mostly *Calamagrostis* sp.) which cover the terrain, and settling frequently to engage in thermoregulation. However, *phoenix* is much more conspicuous in flight than the undescribed species from Acjanaco, due to the striking bluish-white hair tufts exhibited by the former, which are seen as alternating flashes among the grass clumps, even at great distances (>50 m). The purpose and function of such noticeable hair tufts in *phoenix* (autapomorphic for the genus) is unknown; as both sexes exhibit hair tufts of the same size and intensity, it is doubtful they are used in sexual recognition and/or for the dissemination of pheromones.

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#### Literature

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