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TWO NEW BUTTERFLIES FROM THE RYUKYUS

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Hesperiidae

Ochlodes asahinai sp. nov. (Fig. 1, A, B; Fig. 2, A-G, ♂ genitalia)

♂. Upperside of wings blackish brown in ground colour, with tawny markings. Forewing with discal spots in spaces 1b to 4 forming a complete band; basal half of space 4 basad the discal spot strongly suffused with tawny scales; discal spot absent in space 5; discal spots in spaces 2 and 3 semitransparent except inner and outer margins; outer margins of the same spots strongly incurved. An oblique discal stigma in spaces 1b and 2 black, prominent; outer edge of stigma rather broadly bordered with dark brown from base of vein 3 to middle of space 1b, this border dilating posteriorly. Discal spots in spaces 6 to 8 conjointed with tawny costal streak, only remaining black narrow veins. Discoidal cell wholly tawny, devoid of a dark streak along the central fold, and provided with 2 small semitransparent spots near its apex. Space 1b inside stigma and space 1a blackish brown in ground colour, strongly suffused with tawny scales. Hindwing with 6 tawny spots, 1 on apical portion of discoidal cell, other 5 in spaces 2 to 6 arranged in subparallel with outer margin of wing, but the spot in space 5 more produced outward. These tawny

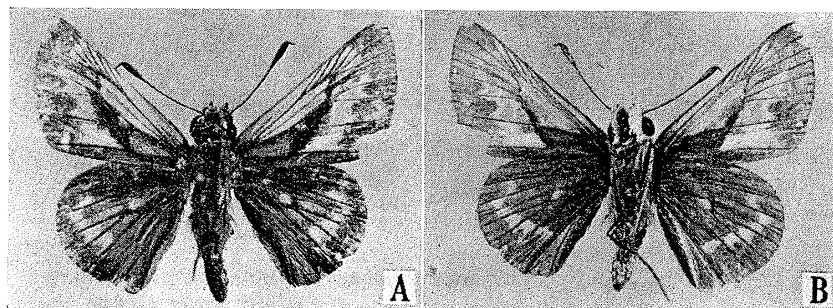


Fig. 1. *Ochlodes asahinai* sp. nov., ♂ (holotype).
(A: upperside, B: underside).

spots not sharply defined because the central area of wing densely suffused with tawny scales.

Underside. Forewing similar to upperside in colour and markings, but discal band broader and tawny area of the base of space 2 more enlarged owing to reduction of black streak which corresponds with stigma on upperside. Discal spot in space 1b paler and widely diffused outward. Hindwing blackish brown in ground colour, thinly covered with tawny scales. Markings similar to those on upperside; but disc-

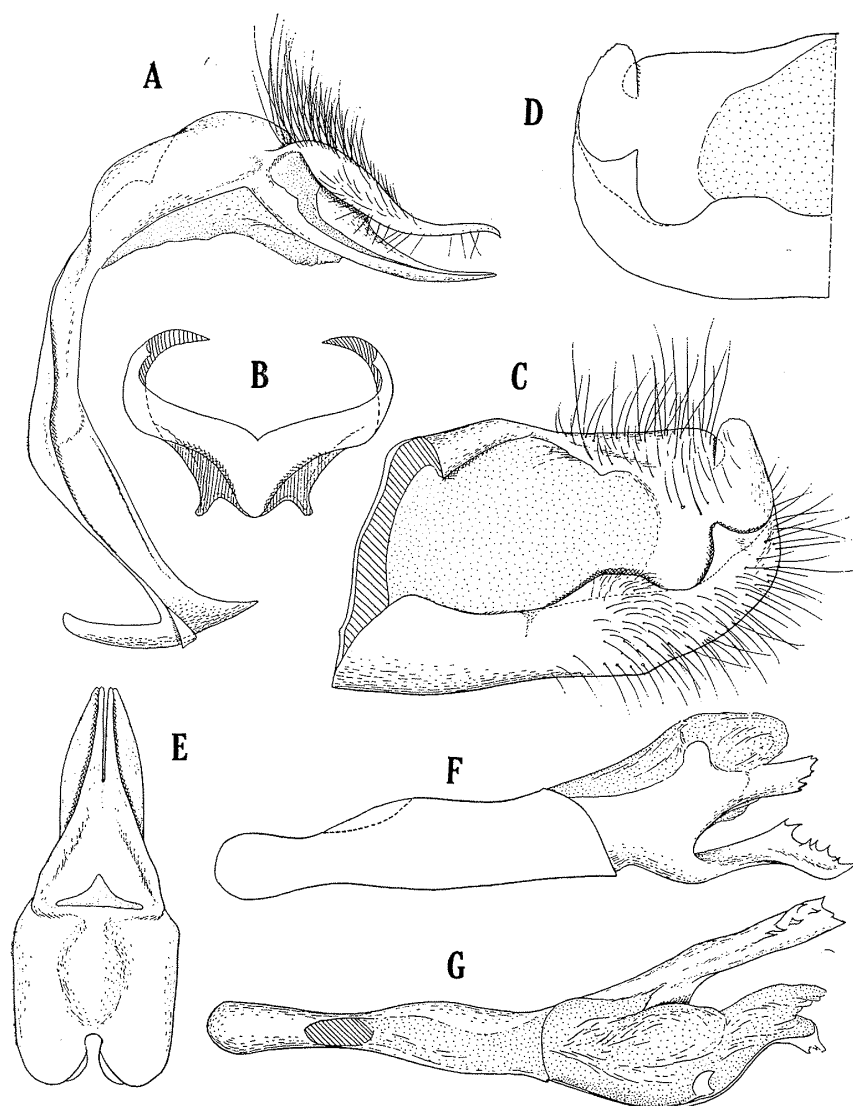
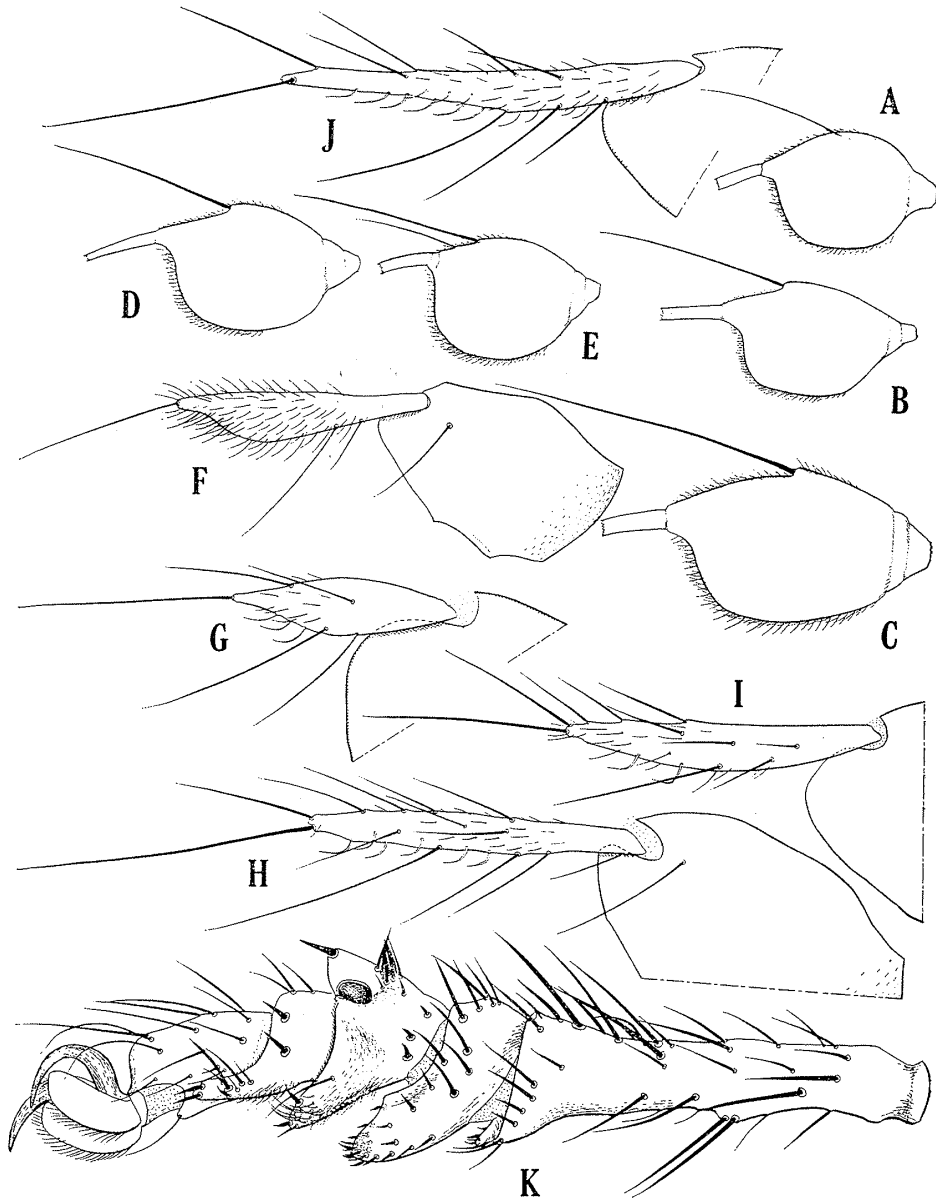


Fig. 2. Male genitalia of *Ochlodes asahinai* sp. nov. A: Ring (lateral aspect), B: Juxta (posterior aspect), C: Right valva (inner aspect), D: Left valva (apical part, inner aspect), E: Dorsum (dorsal aspect), F: Phallus (lateral aspect), G: Phallus (dorsal aspect).



Saigusa — Taxonomic studies of Empididae from the Ryukyus.

al spots 6 in number, not 5 as on upperside, from space 1b to 6, more sharply defined than on upperside for the absence of strong tawny suffusion on the central area of wing.

Male genitalia: Dorsum large; tegumen deeply incised dorsomedially on anterior margin, moderately convex above; fenestrula slender; uncus slender and sinuate in profile, viewed from above apical two-fifths separated into a pair of processes which are very slender and close to each other; brachium well developed, extending posteriorly to the level of tip of uncus, and with a tapered lateral membranous incision; vinculum moderately broad with short saccus. Valva broad, practically parallel-

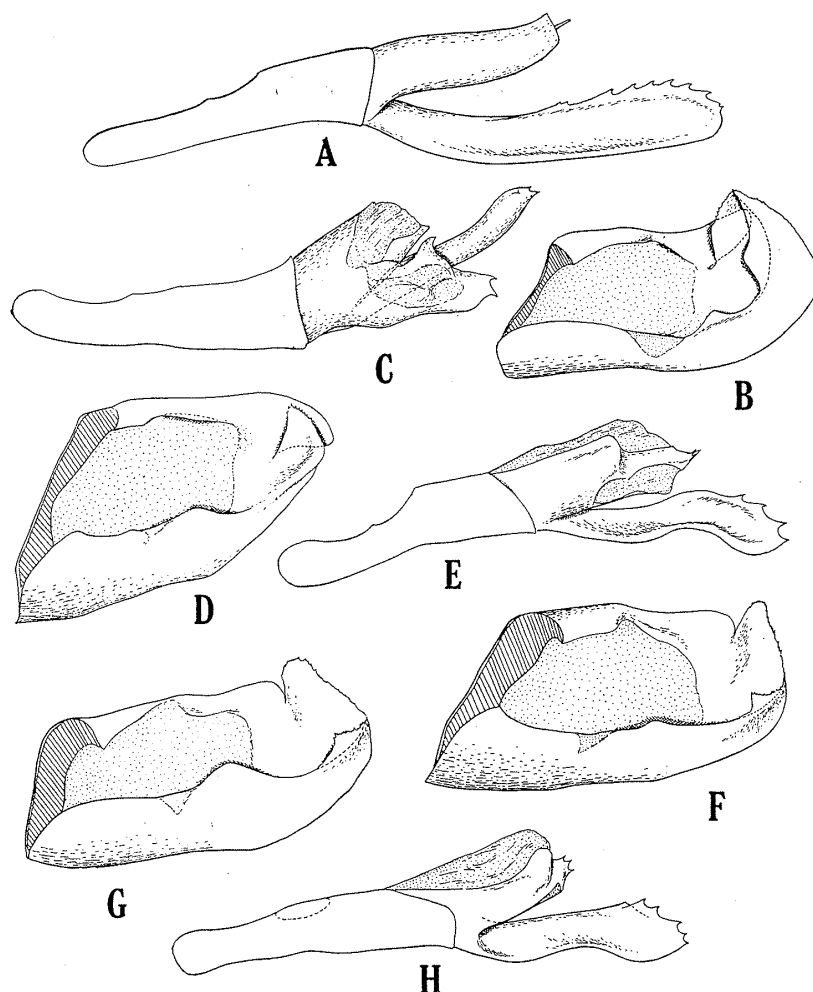


Fig. 3. Male genitalia of three species of *Ochloides*. A-B: *Ochloides ochracea rikuchina* Butler (Japan), C-D: *Ochloides venata venata* Bremer et Grey (Shanshi, N. China), E-F: *Ochloides subhyalina subhyalina* Bremer et Grey (Kwainai, N. Korea), G-H: *Ochloides subhyalina formosana* Matsumura (Formosa), A, C, E, H: Phallus (lateral aspect), B, D, F, G: Valva (inner aspect).

sided, truncate on distal margin; costa short; ampulla long and with its tip somewhat produced posteriorly, and overlapping dorsal process of harpe; harpe with an inner lamellate edge moderately produced dorsally, not serrate, and with dorsal process rather blunt at tip and very weakly serrate. Phallus moderately large; subzonal portion two-thirds as long as the full length of aedeagus; in suprazonal portion, aedeagus broadly membranous dorsally, with right preapical process rather short, slender, cylindrical, tapered apically, ornamented with several serrations; left wall of aedeagus with an apical short process which is normally turned into vesica and is furnished with several teeth; aedeagus without left preapical process. Juxta large, normal for *Ochlodes*.

The present new species seems to be most closely related to *Ochlodes subhyalina* Bremer et Gray, 1853, judging from the general appearance and male genital structure, but it may be distinguished from *subhyalina subhyalina* in the markings as follows:

1. Markings on wing tawny, more reddish and larger.
2. Discal tawny spots in spaces 6 to 8 of forewing conjointed with a tawny costal streak, while in the latter species the spots and the streak widely separated by ground colour.
3. Outer margins of tawny spots in spaces 2 and 3 on forewing strongly incurved, while in the latter each outer margin almost straight.
4. Discoidal cell is wholly tawny, devoid of dark streak along the central fold, but in the latter the dark streak in question is present.
5. Discal spot in space 1b on underside of forewing much more larger, widely diffused outward.

The male genitalia of this new species very much resembles that of *O. subhyalina* (Fig. 3, E-H) in every respect, but differs as follows:

1. Ampulla of valva well developed, more strongly produced posteriorly than in the latter species, and overlapping the tip of harpe, while in *subhyalina* ampulla never overlapping harpe.
2. Right preapical process of aedeagus distinctly shorter in proportion to the full length of aedeagus than in the latter, slender and almost cylindrical; while in *subhyalina* the process laterally compressed and elongate.
3. Inner lamellate edge of harpe more strongly produced dorsally than in the latter, but not so sharply pointed as in *O. thibetana* Oberthür, 1866.

This new species is easily distinguished from the two Far Eastern species of the genus *Ochlodes* in male genitalia as follows:

From *O. venata* Bremer et Grey, 1853 (Fig. 3, C-D):

1. Brachium with a tapered lateral membranous incision from base to near tip; while in *venata* brachium complete.
2. Valva with more truncate distal margin, process of ampulla much shorter than in *venata*.
3. Aedeagus without a short left preapical process which is always well developed in *venata*.

From *O. ochracea* Bremer, 1861 (Fig. 3, A-B):

1. Brachium with a lateral membranous incision; while in *ochracea* complete as in *venata*.
2. Uncus and brachium longer and slenderer than in *ochracea*.
3. Ampulla of valva much more weakly produced posteriorly; inner lamellate edge of harpe not extending to the tip of dorsal projection of harpe.
4. Right preapical process of aedeagus distinctly shorter and cylindrical, while in *ochracea* the process very long, laterally compressed and lamellate.

Length of forewings: 19 mm.

Distribution: The Ryukyus (Ishigaki Island).

Holotype ♂, Yonehara, Ishigaki Island, Yaeyama Group of the Ryukyus, 12. vi. 1962, S. Asahina leg.

Described from a single male specimen in rather worn condition.

The specific name is dedicated to Dr. Syoziro Asahina, a well-known Odonatologist and the collector of the unique specimen of this rare species.

It is of particular interest to record this unique species from Ishigaki Island which is considered to be subtropical in nature. The very closely allied species, *subhyalina* occurs in Formosa, in which it is found only in the alpine region above 1,500 m.

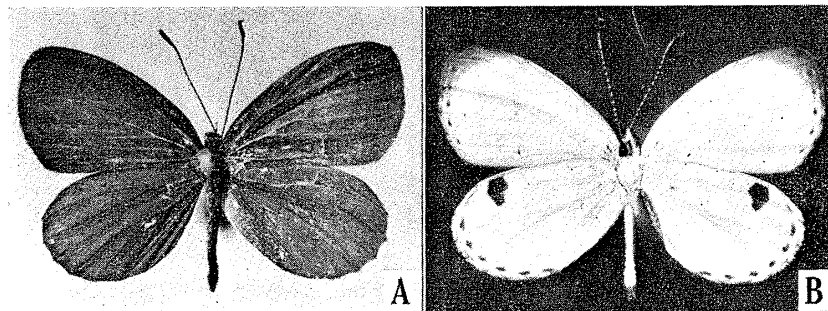


Fig. 4. *Pithecops nihana ryukyuensis* subsp. nov., ♂ (holotype).
(A: upperside, B: underside).

Lycaenidae

***Pithecops nihana ryukyuensis* subsp. nov.** (Fig. 4, A, B, ♂; Fig. 5, A-G, ♂ genitalia)

1894 *Lycaena hylax*: Fritze, Zool. Jahrb. Syst., 7: 903 (Okinawa).

1904 *Lycaena beroe*: Miyazima, Nihon Chorui Zusetsu: 166, pl. 18, fig. 11 ("Ryukyu").

♂ ♀. Upperside of wings uniformly blackish brown as in the other races. In underside it resembles *P. nihana urai* Bethune-Baker from Formosa, but differs from the latter in having inner submarginal orange-tinged bands darker in colour. The inner submarginal bands of this new subspecies are completely disappeared or rudimentary except for those on forewing apices in the spring form obtained in March and April (in such examples orange-tinged coloration is entirely absent from underside), but the bands are always present in the summer brood. The markings on forewing apex is blackish brown in this new race, while usually it has an orange-tinge in the Formosan subspecies.

Male genitalia: Ring moderately tall; socius small and blunt, without a hook; vinculum rather broad, gently tapering ventrally and without saccus; brachium moderately long, slender and weakly curved. Valva long and narrow, slightly constricted at the middle, with apical margin rounded and minutely serrate, and bearing a prominent curved harpal process which is covered with minute denticuli. Juxta large and V-shaped, with a short common stem. Phallus long and slender, gently sinuate as illustrated; subzonal portion more than three times as long as suprazonal one; sclerotization of cuticula exterior extending laterally into manica; suprazonal portion of aedeagus sharply pointed at tip, and with a dorsal perivesical area.

The subspecies extraordinarily varies in size.

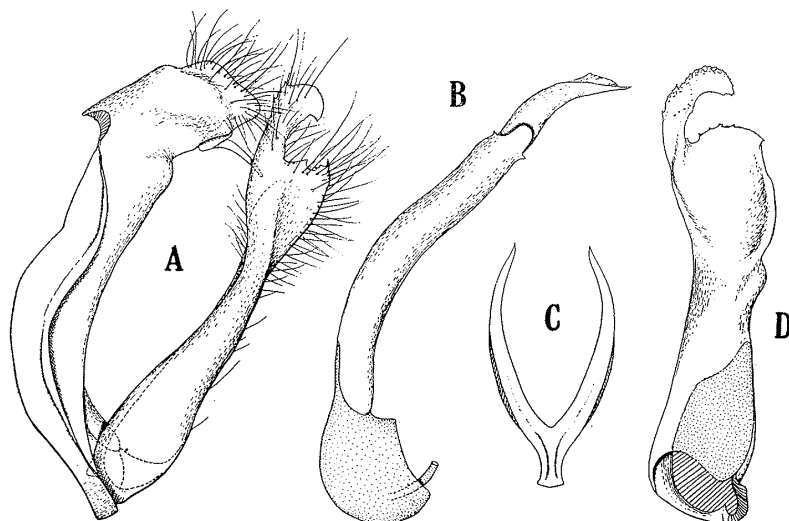


Fig. 5. Male genitalia of *Pithecops nihana ryukyuensis* subsp. nov. A: Genitalia except phallus (lateral aspect), B: Phallus (lateral aspect), C: Juxta (posterior aspect), D: Right valva (inner aspect).

Length of forewings: 8.5–13.5 mm.

Distribution: The Ryukyus (Okinawa-Honto, and Iriomote Island of Yaeyama group).

Described from 43 specimens (35♂♂, 8♀♀) from Okinawa-Honto and Iriomote Island of the Ryukyus. The holotype is selected from a series of specimens of the spring form from Okinawa-Honto. It is completely devoid of inner submarginal bands on underside except on forewing apex.

Holotype ♂, paratopotype 6♂♂ 2♀♀, Yonaha-dake, Kunigami-mura, Okinawa-Honto, the Ryukyus, 20. iv. 1962, K. Kubo leg.

Paratypes:

2♂♂ 1♀, Awa, Kunigami-mura, Okinawa-Honto, 12. ix. 1960, K. Nagamine leg.

3♂♂ 1♀, Upper stream of Fukuchi River, Kunigami-mura, Okinawa-Honto, 20. viii. 1961, I. Nakamura leg.

1♂, Yona, Kunigami-mura, Okinawa-Honto, 19. x. 1963, Y. Hirashima leg.

- 4♂♂, Hinai-daki, Iriomote Island, 13.iii.1961, K. Nagamine leg.
 3♂♂, Upper stream of Urauchi River, Iriomote Island, 5.viii.1961, I. Nakamura leg.
 10♂♂2♀♀, Inaba-daki, Iriomote Island, 8 & 12.viii.1961, I. Nakamura leg.
 4♂♂, Upper stream of Itaziki River, Iriomote Island, 9.vii.1963, Y. Miyatake leg.
 1♂, Komi-dake, Iriomote Island, 13.vii.1963, Y. Miyatake leg.
 2♂♂, Kampira-daki, Iriomote Island, 10.x.1963, K. Morimoto leg.

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摘 要

琉球産セセリチョウ科の1新種及びシジミチョウ科の1新亜種を記載した。

1. *Ochlodes asahinai* n. sp.

アサヒナキマダラセセリ (新種新称) (Fig. 1, A, B, ♂; Fig. 2, A-G, ♂交尾器)

本新種は翅斑及び♂交尾器の形態からみて *Ochlodes subhyalina* Bremer et Grey ウスパキマダラセセリに最も近縁と考えられる。ウスパキマダラセセリとの翅斑, ♂交尾器の差違及び同属のコキマダラセセリ, ヒメキマダラセセリとの♂交尾器の差違は本文中に記載, 図示した。前翅長 19 mm.

石垣島米原で1962年6月12日に朝比奈正二郎博士によつて採集された1♂ (やや飛び古した個体) によつて記載した。

Ochlodes の種は所謂旧北区系のもので琉球からの本属の発見は全く予期しなかつたものであるが, 特に石垣島のような亜熱帯的な気候を持つ地域で発見されたことは興味深い。

2. *Pithecopis nihana ryukyuensis* subsp. nov.

ウライウラボシジミ (琉球亜種) (Fig. 4, A, B, ♂; Fig. 5, A-E, ♂交尾器)

本新亜種は台湾産別亜種 *Pithecopis nihana urai* Bethune-Baker から翅裏面亜外縁内側の帯橙色条が暗色を帯び橙色味の少ない点において区別される。裏面前翅端の斑紋は黒褐色, 台湾産亜種のように橙色調を帯びない。沖縄本島で4月に発生する春型では裏面亜外縁内側の帯橙色条は前翅端を残して完全に (或は殆んど完全に) 消失し, 前翅端の色彩も黒褐色となるため, 裏面から全く橙色調の斑紋は消失する。大きさの個体差は著しく前翅長 8.5-13.5 mm. 沖縄本島及び西表島産の 37♂♂4♀♀によつて記載したが, holotype には沖縄本島国頭村与那覇岳産の♂ (1962年4月20日, 久保快哉氏採集) を選んだ。

Fritze (1894) が沖縄本島より *Lycaena hylax* として記録したもの, また宮島 (1904) が *Lycaena beroe* として記載図示し “ヘリホシジミ” の和名を与えたものは本種であると思われる。