

SHORT COMMUNICATION

First record of the genera *Bulborhodopis* and *Mimapatelarthron* from China, with description of one new species (Coleoptera: Cerambycidae)Wen-Xuan BI¹⁾ & Chang-Chin CHEN²⁾¹⁾ Room 401, No. 2, Lane 155, Lianhua South Road, Shanghai, 201100 China; e-mail: insectb@163.com; <https://orcid.org/0000-0003-1806-7679>²⁾ NPS office, Tianjin New Wei San Industrial Company, Ltd., Tianjin, China; e-mail: chen-2c@hotmail.com; <https://orcid.org/0000-0001-5771-8337>Accepted:
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Abstract. Two allied and little-known genera, *Bulborhodopis* Breuning, 1948 and *Mimapatelarthron* Breuning, 1940 (Coleoptera: Cerambycidae: Lamiinae: Desmiphorini), are newly recorded from China upon the discoveries of *Bulborhodopis barbicornis* Breuning, 1948 and *B. humeralis* sp. nov. from Yunnan, and *Mimapatelarthron laosense* Breuning, 1968 from Yunnan and Hainan. Description and illustrations of the habitus, endophallic structure and major diagnostic features for the involved taxa are provided.

Key words. Coleoptera, Cerambycidae, endophallus, new record, new species, taxonomy, China, Oriental Region

Zoobank: <http://zoobank.org/urn:lsid:zoobank.org:pub:C3A94D6F-4259-4EE3-A42E-F52C53C8B820>

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Introduction

The genus *Mimapatelarthron* was established by BREUNING (1940) based on *M. javanicum* Breuning, 1940 from West Java and *M. albonotatum* Breuning, 1940 from Tenasserim, Malay Peninsula, and now contains four species (BREUNING 1968, HOLZSCHUH 2017). The genus *Bulborhodopis* was proposed by BREUNING (1948), who designated *B. barbicornis* Breuning, 1948 from India as the type species, and HOLZSCHUH (2017) described the second species, *B. inornatus* from Laos. BREUNING (1948) compared *Bulborhodopis* with *Mimapatelarthron* suggesting a closer relationship between them and subsequently BREUNING (1975) considered them to belong to the tribe Rhodopinini. But herein, we temporarily follow TAVAKILIAN & CHEVILLOTTE (2021) to place these two genera in the tribe Desmiphorini, although their tribal status is unsatisfactory and requires further investigation.

The genera *Mimapatelarthron* and *Bulborhodopis* are mainly distinguishable by the apical maxillary and labial palpomeres showing sexual dimorphism (distally broadened in male and fusiform in female), antennal insertions close to each other, antennae partially fringed beneath, antennal scape lacking apical cicatrix, pronotum without lateral projection, pronotal disk with a large central protuberance, elytra coarsely punctate and distinctly carinate, mesotibia without external groove, tarsi five-segmented and ejaculatory duct single. *Bulborhodopis* can be further

separated from the former by antennal fringes limited to antennomeres III to V instead of being present on III to IX, and by the characters associated with the loss of flight capability (e.g., relatively shorter elytra with reduced hind wings, constricted humeri and shortened metaventricle).

In the course of the investigation on the Chinese flightless Lamiinae undertaken by the first author (i.e., BI 2016, 2018, 2020, 2021), three species of the above-mentioned genera have been recognized, of which two known species are newly recorded from China and one new species is described herein.

Material and methods

The holotype of the new species is deposited in IZAS. Other studied material belongs to the following institutional or private collections:

BMNH Natural History Museum, London, United Kingdom;
BPBM Bernice Pauahi Bishop Museum, Honolulu, USA;
CBWX Collection of Bi Wen-Xuan, Shanghai, China;
CCCC Collection of Chen Chang-Chin, Tianjin, China;
CCH Collection of Carolus Holzschuh, Villach, Austria;
CLYH Collection of Li Ying-Hui, Guangxi, China;
IZAS Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

The text of the specimen labels is quoted verbatim. All images were taken using a Canon EOS 60D camera in conjunction with a Canon MP-E 65mm f/2.8 1-5X Macro Lens. Canon MT-24EX Macro Twin Lite Flash was used as



light source. CombineZM was used for image stacking. All images were edited and grouped in Adobe Photoshop CS3.

Taxonomy

Genus *Bulborhodopis* Breuning, 1948

Bulborhodopis Breuning, 1948: 44. Type species: *Bulborhodopis barbicornis* Breuning, 1948, by original designation.

Bulborhodopis: BREUNING (1963: 494), BREUNING (1975: 3).

Bulborhodopis barbicornis Breuning, 1948

(Figs 3, 10)

Bulborhodopis barbicornis Breuning, 1948: 1.

Bulborhodopis barbicornis: BREUNING (1963: 494).

Type material examined. HOLOTYPE: INDIA: ♂, 'Assam / Patkai Mt. // Doherty // Fry Coll. / 1905. 100. // 61565 // Type [round label with red border] // *Bulborhodopis / barbicornis / mihi* Type / det. Breuning' (BMNH). Three photographs examined taken by Junsuke Yamasako in 2012.

Other material examined. CHINA: YUNNAN: 2 ♀♀, 'CHINA. Yunnan, Yingjiang / Nabang, Wajiaoshan / 750m 2017.VII.3 / leg. Wen-Xuan Bi' (CBWX).

Diagnosis. This species is characterized by antennae with the apical two-fifths of antennomere IV and the entire antennomere V abruptly thickened, distinctly broader than antennomere III, fringed beneath with fairly long hairs; pronotal protuberance smooth, without transverse wrinkles on its surface; elytra broadest in its apical third; elytral disk with punctures not appreciably becoming shallower posteriorly, and the middle dark band not interspersed with light pubescent spots.

Distribution. India: Assam (BREUNING 1948); China (new country record): Yunnan.

Bulborhodopis inornatus Holzschuh, 2017

(Fig. 11)

Bulborhodopis inornatus Holzschuh, 2017: 158.

Type material examined. HOLOTYPE: LAOS: ♂, 'N-LAOS, Phongsaly prov. / 21°41'N 102°06'–8'E, 1500m / PHONGSALY, 28.V.–20.VI. / leg. C. Holzschuh, 2003 // HOLOTYPUS / *Bulborhodopis / inornatus* n. sp. / det. C. Holzschuh 2017' (CCH). Two photographs examined provided by Carolus Holzschuh.

Distribution. Laos: Phongsaly (HOLZSCHUH 2017).

Bulborhodopis humeralis sp. nov.

(Figs 1, 2, 6, 7, 14)

Type material (39 specimens). HOLOTYPE: CHINA: YUNNAN: ♂, 'CHINA. Yunnan, Longchuan / Banggunjianshan / 1,500–2,000 m 2017. VI.24–28 / leg. Wen-Xuan Bi' (IZAS). PARATYPES: CHINA: YUNNAN: 8 ♂♂ 6 ♀♀, same data as holotype (CBWX); 5 ♀♀, same locality as holotype '1,770–1,700 m 2017.VI.12–16 / leg. Wen-Xuan Bi' (CBWX); 3 ♂♂ 1 ♀, same locality as holotype '1,770–1,700 m 2018.VI.3–9 / leg. Wen-Xuan Bi' (CBWX); 1 ♂ 1 ♀, same locality as holotype '1,770 m 2015.IX.18 / leg. Xiao-Dong Yang' (CCCC); 1 ♂, same locality as holotype '1,850 m 2015.IX.20 / leg. Yan-Quan Lu' (CCCC); 1 ♀, same locality as holotype '1,550 m 2017.VI.26 / leg. Yi-Ting Chung' (CCCC); 1 ♂, same locality as holotype '1,700 m 2017.VIII.27 / leg. Xiao-Dong Yang' (CCCC); 1 ♂, 'CHINA. Yunnan, Longchuan / Mangdong / 1,770 m 2015.IX.21 / leg. Yi-Ting Chung' (CCCC); 1 ♀, 'CHINA. Yunnan, Ruili / Bangdacun / 1,432 m 2014.IX.5 / leg. Xiao-Dong Yang' (CCCC); 1 ♀, ditto except '1,400 m 2015.IX.12 / leg. Yan-Quan Lu' (CCCC); 1 ♂ 1 ♀, ditto except '2015.IX.13' (CCCC); 1 ♀, 'CHINA. Yunnan, Yingjiang, Nabang / 1,124 m / 2015.IX.13 / leg. Xiao-Dong Yang' (CCCC); 1 ♀, 'CHINA. Yunnan / Tengchong, Wuhe / Dayakou, 1,632 m / 2020.IX.2, leg. Y.-H. Li' (CCCC); 1 ♀, 'Yunnan, Ruili, Nongdao / Denggacun / Sepengqiao

/ 23.95285°N, 97.59808°E - / 23.97518°N, 97.56944°E // 927–807 m / 2009.VIII.11 / leg. Hong-Liang Shi' (CCCC); 1 ♂, 'CHINA, Yunnan Prov. / Tengchong, Jietou / Shabadi, beating shrubs / 25.40239°N, 98.70986°E // 1,923 m, 2006.V.15 day / Yin Changmin coll.' (IZAS); 1 ♀, 'CHINA, Yunnan Prov. / Tengchong, Qushi, Xiangyangqiao, shrubs / 25.21218°N, 98.57839°E // 1,500 m, 2006.VI.4 day / Liang H.B., Hu P.' (IZAS).

Description. **Male** (Fig. 1). Body length 7.6–9.1 mm, elytral maximum width 2.5–2.9 mm. Body and appendages mostly dark brown except for antennomeres III to XI which are reddish brown. Head, pronotum and most parts of legs moderately covered with intermixed pale and light tawny pubescence, of which light tawny one vaguely forms one longitudinal stripe on each side of central pronotal protuberance. Antennae with scape, pedicel, basal three-fourths of antennomeres III and IV clothed with similarly colored pubescence as head, remainders covered with fine dark brown pubescence; antennomeres III to V fringed with pale or dark brown hairs beneath, those hairs on apical fourth of antennomere IV and entire antennomere V relatively long and completely dark colored. Scutellum densely clothed with fine tawny pubescence. Elytron covered with combination of pale, tawny, or dark brown pubescence, with one pair of pale patches extending from humeri to slightly before midlength, one narrow stripe of the same color abutting behind dark brown band occupying elytral middle third, and a few pale spots near apices, also interspersed with small light tawny spots throughout. Ventral surface of thorax mostly covered with pale pubescence, except for that on mesanepisternum and lateral sides of metasternum light tawny; each abdominal ventrites I to IV vaguely provided with pair of small glabrous spots near each lateral margin.

Head with frons and vertex sparsely punctate, punctures partially associated with pale or dark brown setae; lower eye lobes vertical, slightly longer than gena. Antennae ca. 1.3 times as long as body length; scape densely, finely punctate, moderately thickened near midlength; antennomeres III to XI gradually decreasing in width toward apex; antennomere III 2.1 times as long as scape, slightly longer than IV; antennomeres III and IV combined slightly shorter than succeeding seven antennomeres together.

Pronotum 1.2 times as long as basal width; discal protuberance developed, surface finely and transversely wrinkled, with median longitudinal groove; lateral margins weakly prominent with sparse and coarse punctures. Scutellum about twice as wide as long, posterior margin broadly rounded.

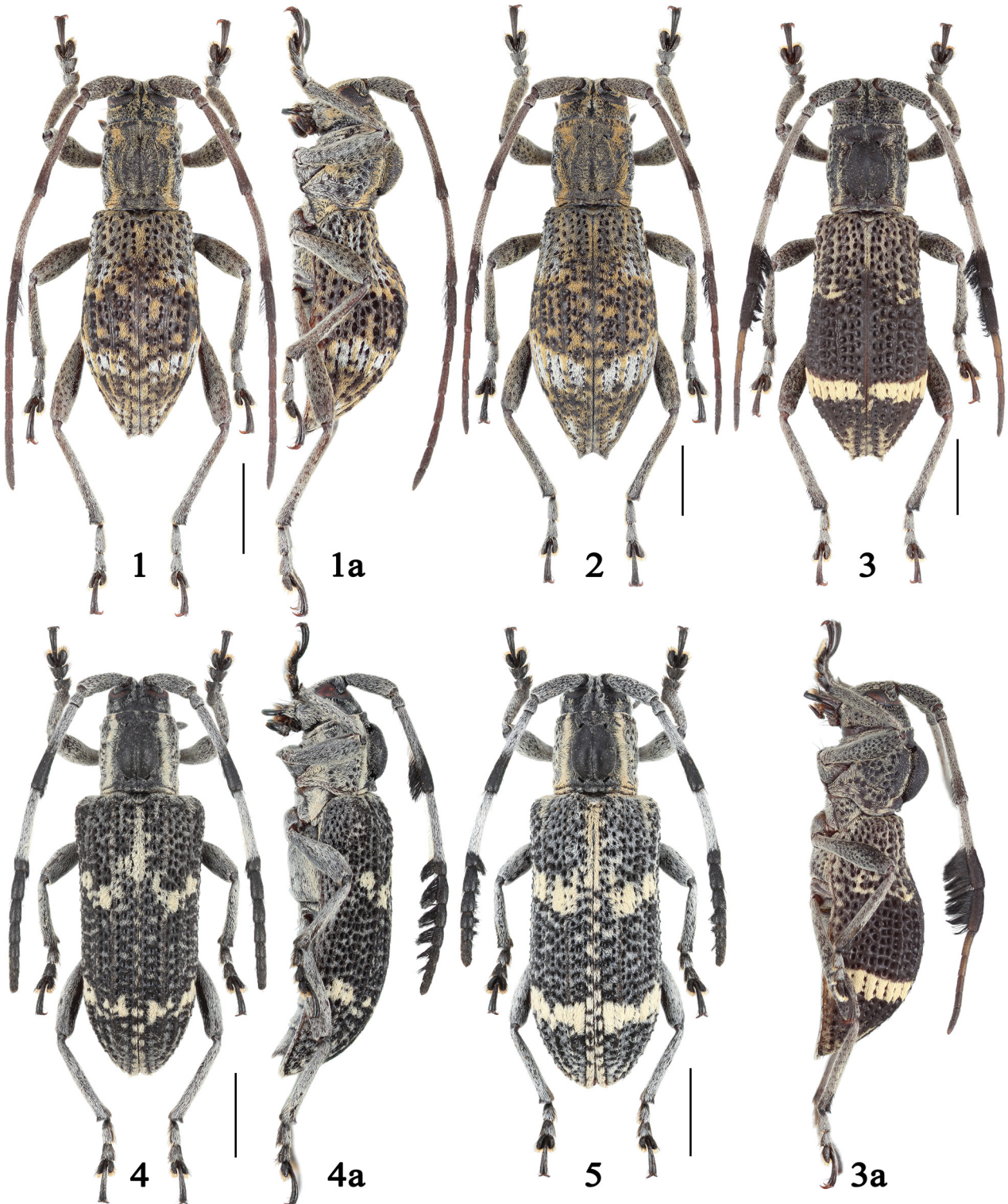
Elytra 1.9 times as long as maximum width, 1.6 times wider than pronotal base; fusiform, weakly widened from obtuse-angulate humeri to near midlength, thence convergent toward separately subacute apices, in lateral view abruptly convex behind basal depression, highest near midlength, then gradually declivous toward apex. Each elytron provided with several longitudinal rows of deep and coarse punctures, which are gradually becoming shallower distally; interspaces between each row of punctures sparsely granulated, of which the 1st, 3rd and 5th interspace are partially raised to form three carinae, and lateral two are relatively more prominent behind elytral basal third, then gradually reduced distally. Hindwings reduced, about 1.1 times as long as elytral length.

Metaventricle shortened, about 1.1 times as long as mesoventral length.

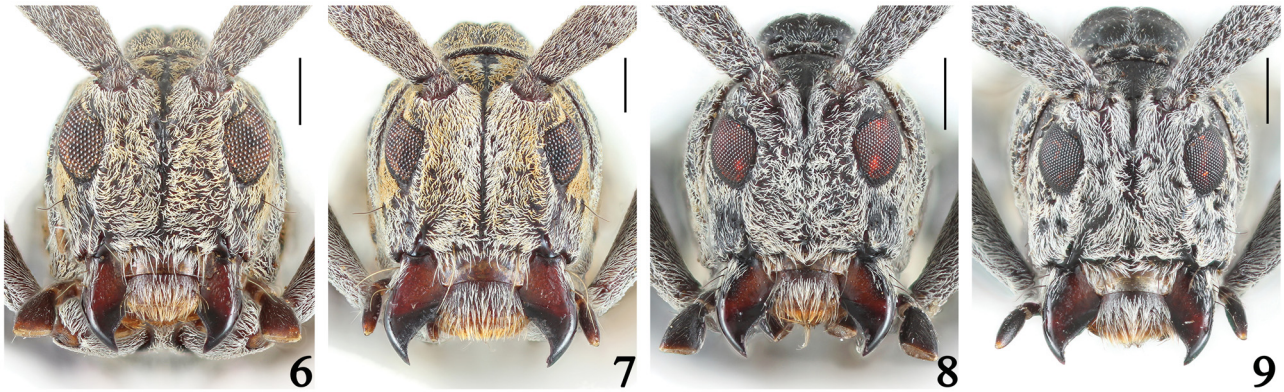
Legs moderately long and stout, femora clavate, sparsely punctate.

Male genitalia. Tergite VIII (Fig. 14a) roughly trapezoidal with lateral sides broadly rounded; anterior margin bearing sparse long setae. Tegmen (Fig. 14b) in lateral view moderately curved, rhombic in shape and widest

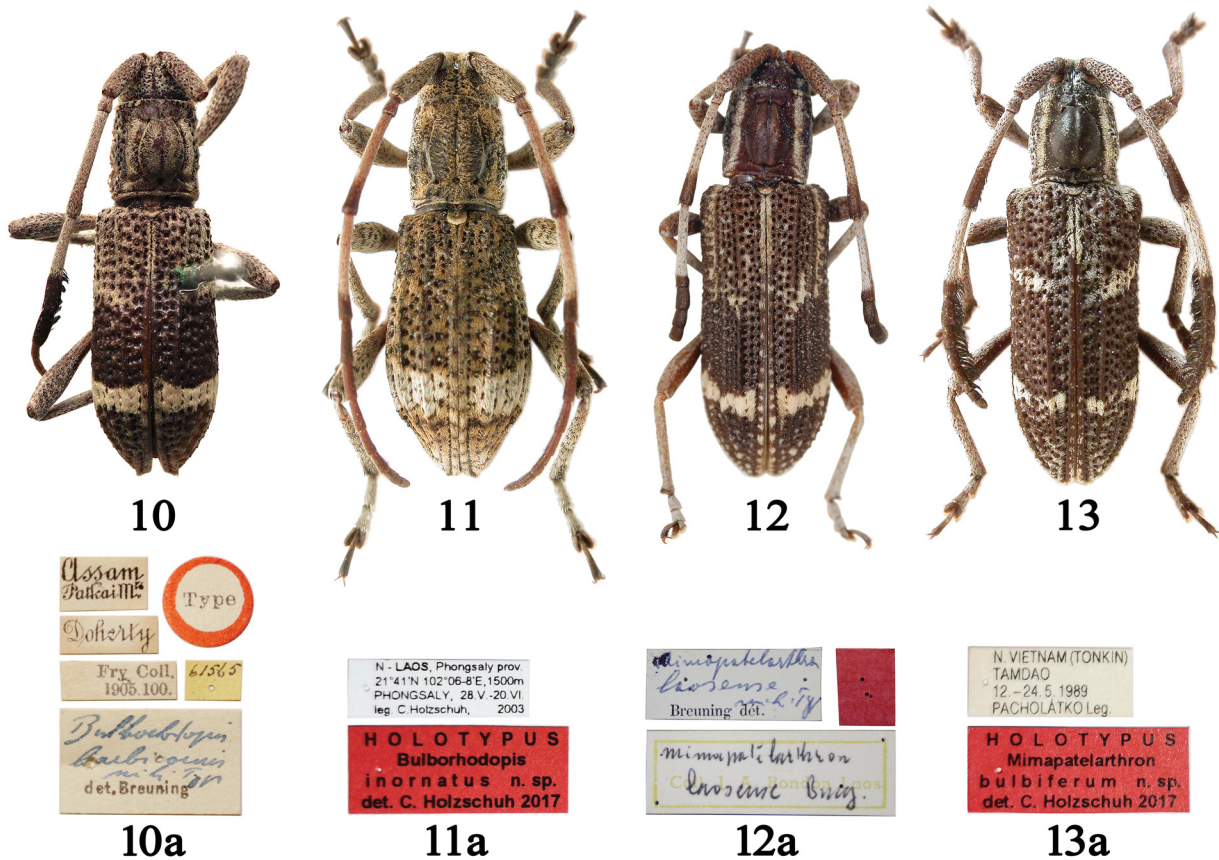
near middle in ventral view; lateral lobes thick, less than one-fourth of total length of tegmen, sparsely provided with fine setae on apex. Median lobe (Fig. 14c) slender, slightly longer than tegmen, moderately curved in lateral view; apex acuminate. Endophallus in everted condition (Fig. 14d) gently S-shaped, mostly slender except for weak swelling near distal two-fifths; crescent-shaped sclerites well developed; basal fifth coarsely wrinkled on



Figs 1–5. Habitus of *Bulborhodopis* and *Mimapatelarthon* species. 1–2 – *Bulborhodopis humeralis* sp. nov., paratype; 3 – *B. barbicornis* Breuning, 1948; 4–5 – *Mimapatelarthon bulbiferum* Holzschuh, 2017. a – lateral view. 1, 4 – male; 2, 3, 5 – female. Scale bars = 2 mm.



Figs 6–9. Frontal view of head of *Bulborhodopis* and *Mimapatellarthron* species. 6–7 – *Bulborhodopis humeralis* sp. nov.; 8–9 – *Mimapatellarthron bulbiferum* Holzschuh, 2017. 6, 8 – male; 7, 9 – female. Scale bars = 0.5 mm.



Figs 10–13. Habitus and labels of holotypes of *Bulborhodopis* and *Mimapatellarthron* species. 10 – *Bulborhodopis barbicornis* Breuning, 1948, male; 11 – *B. inornatus* Holzschuh, 2017, male; 12 – *Mimapatellarthron laosense* Breuning 1968, female; 13 – *M. bulbiferum* Holzschuh, 2017, male. a – labels.

both dorsal and ventral surfaces; ejaculatory duct single; gonopore situated at apex.

Female (Fig. 2). Body length 8.0–10.6 mm, elytral maximum width 2.8–3.7 mm. Almost identical to male in general appearance. Body relatively stout. Antennae 0.9–1.0 times as long as body length. Elytra relatively broad near midlength. Legs relatively short.

Differential diagnosis. This new species resembles *Bulborhodopis inornatus* Holzschuh, 2017 from Northern Laos, but can be readily distinguished by the elytra widest near its midlength instead in the apical third, elytral apices relatively acute, elytra provided with a pair of light pubescent patches behind the humeri, and by the presence of a

dark brown band on the middle third of elytra (absent in *B. inornatus*).

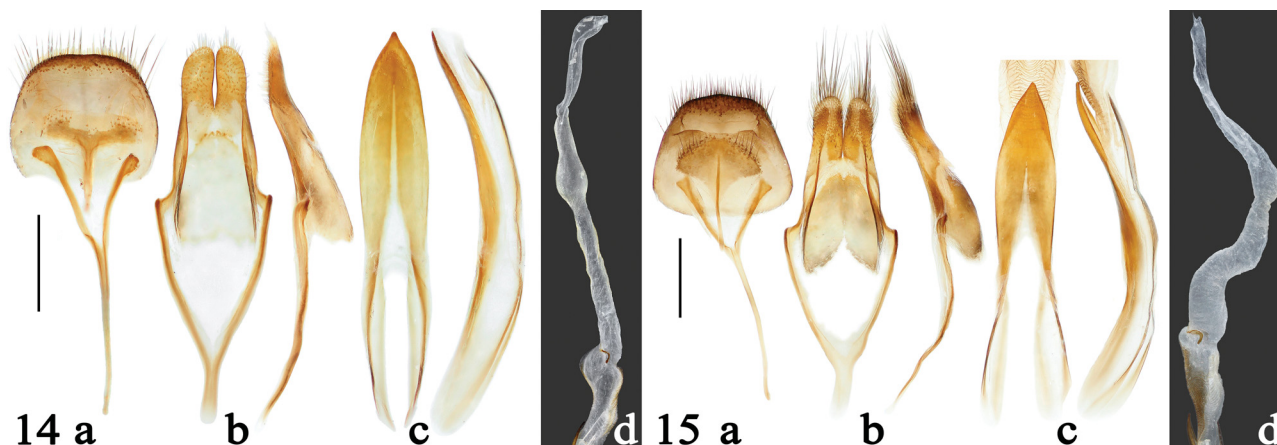
Etymology. The specific epithet is the Latin adjective *humeralis* (meaning having prominent shoulders), referring to the humeral light colored pattern of the new species.

Distribution. China: Yunnan (Longchuan County, Tengchong City and Ruili City).

Genus *Mimapatellarthron* Breuning, 1940

Mimapatellarthron Breuning, 1940: 209. Type species: *Mimapatellarthron javanicum* Breuning, 1940, by original designation.

Mimapatellarthron: BREUNING (1963: 494), RONDON & BREUNING (1970: 486, 493), BREUNING (1975: 1).



Figs 14–15. Male terminalia of *Bulborhodopis* and *Mimapatelarthron* species. 14 – *Bulborhodopis humeralis* sp. nov.; 15 – *Mimapatelarthron bulbiferum* Holzschuh, 2017. a – Tergite VIII with sternites VIII & IX in ventral view; b – tegmen in ventral view and lateral view; c – median lobe in ventral view and lateral view; d – endophallus in inflated and everted condition. Scale bars = 0.5 mm (d – not to scale).

Mimapatelarthron laosense Breuning 1968

(Fig. 12)

Mimapatelarthron laosense Breuning, 1968: 26.

Mimapatelarthron laosense: RONDON & BREUNING (1970: 493).

Type material examined. HOLOTYPE: LAOS: ♀, ‘*Mimapatelarthron / laosense* Breuning / Coll J. A. Rondon Laos // *Mimapatelarthron / laosense / mihi* Type / Breuning dét.’ (BPBM). Four photographs examined taken by Nobuo Ohbayashi and Junsuke Yamasako in 2013 and Neal Evenhuis in 2021.

Distribution. Laos: Sithandone (= Champasak, Si Phan Don) (BREUNING 1968).

Mimapatelarthron bulbiferum Holzschuh, 2017

(Figs 4, 5, 8, 9, 13)

Bulborhodopis inornatus Holzschuh, 2017: 159.

Type material examined. HOLOTYPE: VIETNAM: ♂, ‘N. VIETNAM (TONKIN) / TAMDAO / 12.–24.5. 1989 / PACHOLÁTKO Leg. // HOLOTYPE / *Mimapatelarthron / bulbiferum* n. sp. / det. C. Holzschuh 2017’ (CCH). Two photographs examined provided by Carolus Holzschuh.

Other material examined. CHINA: YUNNAN: 1 ♀, ‘CHINA. Yunnan, Funing / Lidazhen, Ligongcun / 1,370 m 2011.VI.13 / leg. Chao Li’ (CCCC). HAINAN: 1 ♂, ‘CHINA. Hainan, Ledong / Jianfengling / 1,412 m / 2020, IV-30, Leg. Y.-H. Li’ (CCCC); 2 ♀♀, ‘CHINA. Hainan, Ledong / Jianfengling / 1,420 m 2018.VI.18 / leg. Bin Liu’ (CLYH).

Complementary description. Male (Fig. 4). Body length 9.0 mm, elytral maximum width 2.9 mm.

Male genitalia. Tergite VIII (Fig. 15a) trapezoidal; anterior margin slightly prominent in middle, bearing moderately long setae. Tegmen (Fig. 15b) similar to that of *Bulborhodopis humeralis* except for lateral lobes provided with rather long and dense setae on apex. Median lobe (Fig. 14c) slightly longer than tegmen with acuminate apex. Endophallus in everted condition (Fig. 15d) similar to that of *Bulborhodopis humeralis* except for medial third relatively thicker and significantly S-shaped.

Female (Fig. 5). Body length 9.6–10.0 mm, elytral maximum width 3.0–3.2 mm.

Differential diagnosis. This species is most similar to *M. laosense* which is known so far only from the female holotype (Fig. 12). HOLZSCHUH (2017) separated it from the latter by the integument of body blackish instead of reddish-brown, presence of a transverse band in the basal

half of elytra, pronotum relatively longer, and gena significantly longer than the lower eye lobes. However, based on the comparison of good quality photographs of both holotypes and the observation of further materials, the relatively lighter coloration of the holotype of *M. laosense* is probably the result of discoloration and the pronotal shape of both species is almost identical. Therefore, the body coloration and the pronotal morphology are not suggested to be used for the specific diagnosis. This species can be further distinguished from *M. laosense* by antennomere III distinctly shorter than antennomeres V to XI combined (instead of slightly longer), and meso- and metatarsi covered with intermixed pale and dark brown pubescence (instead of uniformly pale).

Distribution. Vietnam: Vinh Phu (HOLZSCHUH 2017); China (new country record): Yunnan, Hainan.

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