

Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 7: A List of Collected Species in Shan State, Central Myanmar in July 2023

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Abstract In the course of biological inventory by FRI, Myanmar and NMNS, Japan conducted in Taunggyi and Kalaw, Shan State, Central Myanmar in Jun. 2023, 31 pselaphine species from 130 specimens were recognized.

Key words: Inventory, Pselaphinae, fauna, light trap, Taunggyi, Kalaw, Shan State.

Introduction

The fourth survey of the pselaphine inventory in Myanmar was done 19th Jun. to 6th Jul., 2023 in the biological inventory project by the Forest Research Institute (FRI), Yezin, Myanmar and the National Museum of Nature and Science (NMNS), Tsukuba, Japan. It was conducted in Shan and Mandalay States and Yezin in Nay Pyi Taw Union Territory. As the result of the survey in Shan State, 130 specimens of Pselaphines were collected, and they were identified to 31 species of 21 genera. The result was compared with that of the first to third surveys done in 2017 to 2020 in Tanintharyi Region, S Myanmar reported by Nomura and Aung (2020b, 2021a, b).

Materials and Methods

In the survey conducted in Jun. 2023, many pselaphines were collected in the western part of Shan State (Fig. 1). Most of the pselaphine specimens in this study were collected by the follow-

ing methods: portable light trap each with a fluorescent tube 4W in Nakase system (**NLT**: Fig. 2C), flight intercept traps (**FIT**: Figs. 2B, F), and hand sifting of leaf litter (**SLL**: Figs. 2A, E).

The NLTs in the system of Dr. Yuta Nakase were used for collecting pselaphines by Nomura (see Nomura, 2010, Nomura *et al.*, 2013). They were fixed or hooked on a tree and lighted in evening and they were collected in the next morning. After that, many pselaphine specimens were picked up in the sorting of collected materials. These NLTs were all settled and collected on the low position (ca. 1 m above the ground). Otherwise, some specimens were picked up from flight intercept traps after set in a bush for several days (**FIT**). Collected specimens are tentatively preserved in the collection of the National Museum of Nature and Science, Tokyo, Japan (NMNS).

The collecting data of each species shown in the part of result are abbreviated as follows:

23TG-SLL: Shwe Chan Thar Pagoda (1,705 m) (Fig. 2A), Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.769167N, 97.054722E, 23. vi. 2023, S. Nomura leg.

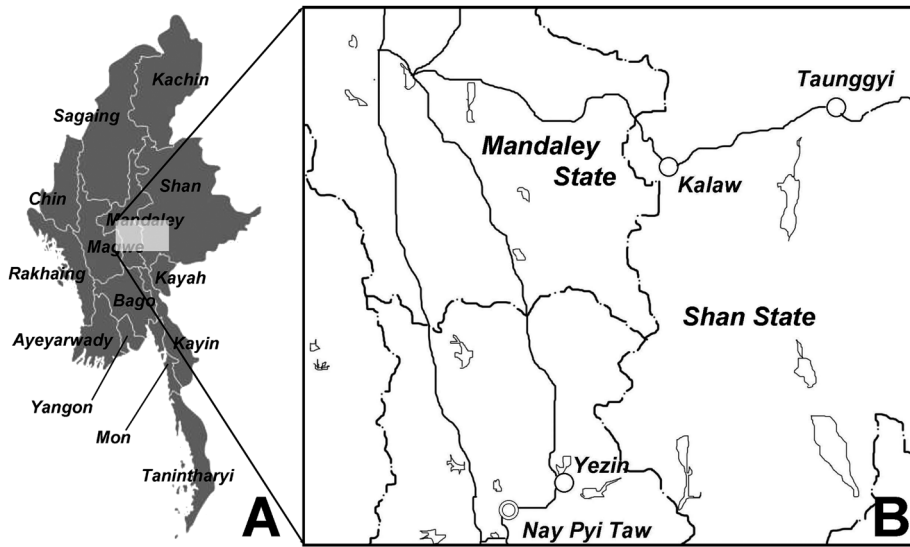


Fig. 1. Map of collecting sites of Pselaphines in Shan State. A. Position of Shan State in Myanmar; B. Collecting points in Shan State.

24TG-SLL: Shwe Bone Pwint Pagoda (1,696 m), Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.776667N, 97.048889E, 24. vi. 2023, S. Nomura leg.

25TG-SLL: N of Mya Sein Taung, (1,519 m), Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.7975N, 97.058056E, 25. vi. 2023, S. Nomura leg.

26TG-SLL: N of Mya Sein Taung (1,519 m), Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.7975N, 97.058056E, 26. vi. 2023, S. Nomura leg.

28KL-SLL: Ye Aye Lake (Yae Aye Kan) (1,389 m) (Fig. 2E), Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.598333N, 96.529722E, 28. vi. 2023, S. Nomura leg.

30KL-SLL(Mynga): Mynga V.–Pain Ne V. (950 m) (Fig. 2D), Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.68451N, 96.562688E, 30. vi. 2023, S. Nomura leg.

30KL-SLL(YYM): Yae Yaung Ma (1,039 m), Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.696132N, 96.518256E, 30. vi. 2023, S. Nomura leg.

23–26TG-FIT: 1 km N Univ. Med. Taunggyi (1,564 m) (Fig. 2B), by FIT(NG-6x3), Taung-

gyi Township, Taunggyi District, Shan State, C Myanmar, 20.766111N, 97.06E, 23–26. vi. 2023, S. Nomura leg.

28–30KL-FIT: Ye Aye Lake (Yae Aye Kan) (1,389 m) (Fig. 2F), by FIT(NG-6x3), Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.598333N, 96.529722E, 28–30. vi. 2023, S. Nomura leg.

24–25TG-NLT(upper): 2 km N Univ. Med., Taunggyi (1,681 m) (Fig. 2C), by NLTx4, Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.7725N, 97.057222E, 24–25. vi. 2023, S. Nomura leg.

24–25TG-NLT(lower): 1 km N Univ. Med. Taunggyi (1,564 m), by NLTx4, Taunggyi Township, Taunggyi District, Shan State, C Myanmar, 20.766111N, 97.06E, 24–25. vi. 2023, S. Nomura leg.

27–28KL-NLT: Kalaw Princess, Hotel (1,350 m), NLTx4: Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.628889N, 96.570556E, 27–28. vi. 2023, S. Nomura leg.

29–30KL-NLT: Kalaw Princess Hotel (1,350 m), NLTx4: Kalaw Township, Taunggyi District, Shan State, C Myanmar, 20.628889N, 96.570556E, 29–30. vi. 2023, S. Nomura leg.



Fig. 2. Habitats and collecting methods of Pselaphines in Shan State. A. collecting by shifting leaf litter (SLL) in Shwe Chan Thar Pagoda, Taunggyi; B. a FIT set in 1 km N Univ. Med. Taunggyi; C. a NLT set in 2 km N Univ. Med., Taunggyi; D. a view of collecting site in Mynga V.—Pain Ne V, Kalaw; E. collecting by SLL in Ye Aye Lake (Yae Aye Kan); F. a FIT set in 1 km N Univ. Med. Taunggyi.

For the SEM observation (Figs. 4A–D), all specimens were air dried, uncoated, and illustrated with an SEM fit with a digital microscope system (KEYENCE VHX-2000 + VHX-D510) under AV 0.9–2.0 kv. Collected specimens are

tentatively preserved in collection of the department of Zoology, National Museum of Nature and Science (NMNS), Tsukuba, Japan.

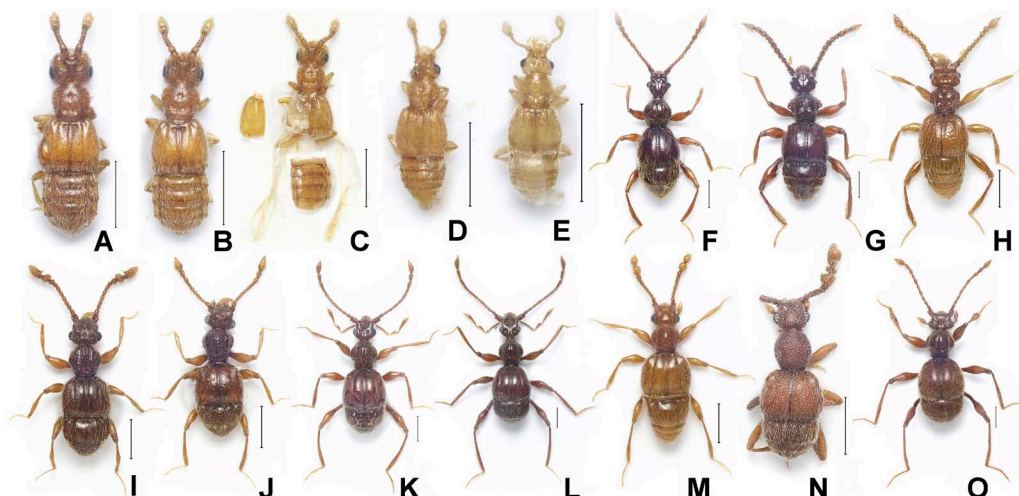


Fig. 3. Pselaphine species recognized in Shan State 1/2 (scale = 0.5 mm); A. *Pyxidicerus* sp. 2; B. *P.* sp. 3; C. *Pyxidicerina*, gen. et sp. 1; D. *Biblopectus?* sp. 1; E. *Philiopsis* sp. 1; F. *Intestinalius* sp. 2; G. *Tribasodites* sp. 5; H. *T.* sp. 6; I. *Trisinus* sp. 3; J. *T.* sp. 4; K. *Cratna cicatricosa*; L. *Cratna venusta*; M. *Trisiniotus nitidulus*; N. *Sathytes* sp. 1; O. *Batrisina*, gen. et sp. 1.

Results

A List of Pselaphine Species Collected from Shan State in June to July 2023

In the following list, newly recognized species from Myanmar is indicated by *-mark.

Supertribe Euplectitae

1. *Pyxidicerus* sp. 2* (Fig. 3A, 5A, 6A)

Specimens examined. 1 male, 28-30KL-FIT.

Remarks. According to Coulon (1989), This genus *Pyxidicerus* and the Japanese genus *Parapyxidicerus* are clearly separated from the Vietnamese genus *Pyxidicerinus* defined by Jeannel (1952), by having the 11-segmented antenna, in contrast, the latter genus has 10-segmented antenna. This species collected in Kalaw is very similar to *P.* sp. 1 collected in Yezin shown by Nomura and Aung (2024), however it differs in the shape of male genitalia.

2. *Pyxidicerus* sp. 3* (Fig. 3B, 5B)

Specimens examined. 1 male, 3 females, 28-30KL-FIT.

Remarks. This species is slightly larger than the former species, *P.* sp. 2, however, the male

genitalia is quite different from that of the former species. It is weakly constricted near base, and the triangularly broadend distad.

3. *Pyxidicerina*, gen. et sp. undetermined 1* (Fig. 3C, 5C, 6B)

Specimens examined. 1 male, 28-30KL-FIT.

Remarks. This species is similar to the foregoing two *Pyxidicerus* species in body size and shape, however it differs by having the nine-segmented antenna. The male genitalia of this species is strongly reduced to a very small (ca. 0.05 mm) sclerite as shown in Fig. 5A.

4. *Biblopectus?* sp. 1 (Fig. 3D)

Specimen examined. 1 male, 23-26TG-FIT.

Remarks. This is the common species with *B?* sp. 1 collected from Yezin, in July 2023, which is shown in Nomura and Aung (2024).

5. *Philiopsis* sp. 1* (Fig. 3E)

Specimens examined. 2 females, 28-30KL-FIT.

Remarks. The genus *Philiopsis* Raffray, 1893 is characterized by the very small (usually less than 1 mm) and elongate body, and the relatively large abdominal tergite IV, clearly longer than V.

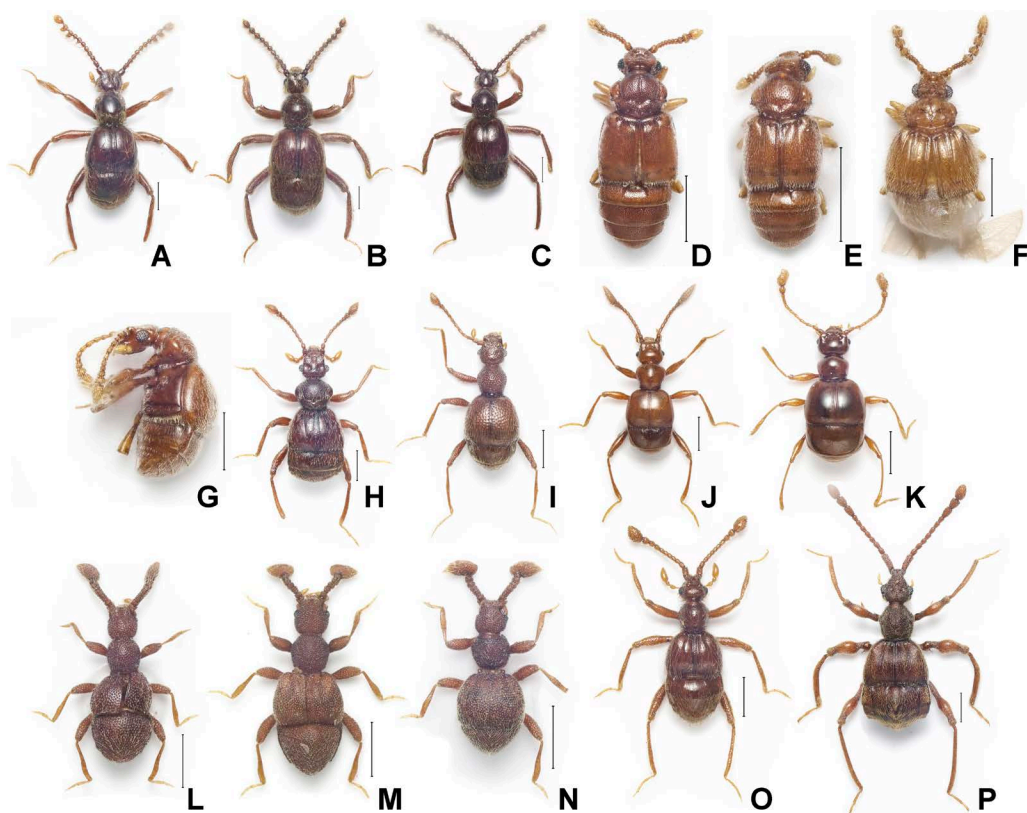


Fig. 4. Pselaphine species recognized in Shan State 2/2 (scale = 0.5 mm); A. *Harmophorus* sp. 1; B. *H.* sp. 2; C. *H.* sp. 3; D. *Pareuplectops coomani*; E. *P. tenasserimi*; F. *Imtempis* sp. 1; G. *Reichenbachella budha*; H. *Rybaxis* sp. 2; I. *Atenisodus* sp. 2; J. *Batraxis longicornis*; K. *B.* sp. 1; L. *Plagiophorus* sp. 6; M. *P.* sp. 7; N. *P.* sp. 8; O. *Saltisedes* sp. 1; P. *Pselaphodes* sp. 1.

It has not been recorded from Myanmar after Nomura and Aung (2020a).

Supertribe Batrisitae

6. *Intestinarius* sp. 2* (Fig. 3F, 5D)

Specimens examined. 2 males, 23TG-SLL; 1 female, 24TG-SLL; 1 male, 2 females, 25TG-SLL; 1 female, 26TG-SLL; 1 female, 28KL-SLL.

Remarks. This is the second species of the genus *Intestinarius* Kurbatov, 2007 from Myanmar. The first species, *I.* sp. 1 was recorded from Tanintharyi by Nomura and Aung (2021a). This species, *I.* sp. 2 is different from *I.* sp. 1 by the smaller body and the pronotum with a pair of less projected conical spines in the hind part.

7. *Tribasodites* sp. 5* (Fig. 3G, 5E, 6C, D)

Specimens examined. 2 males, 2 females, 28KL-SLL.

Remarks. This species is similar to the Japanese species *Coryphomodes dionysius* (L. W. Schaufuss, 1883) (Nomura and Inoue, 2022) in the large and stout body, and the serrate pronotum, however it is separated by the elytra each with three basal foveae (two in *C. dionysius*), and the different structure of the male genitalia. The former character is the reason why this species is not belonging to the genus *Coryphomodes*, but *Tribasodites*.

8. *Tribasodites* sp. 6* (Fig. 3H, 5F, 6E, F)

Specimens examined. 1 male, 24-25TG-NLT; 1 male, 28KL-SLL.

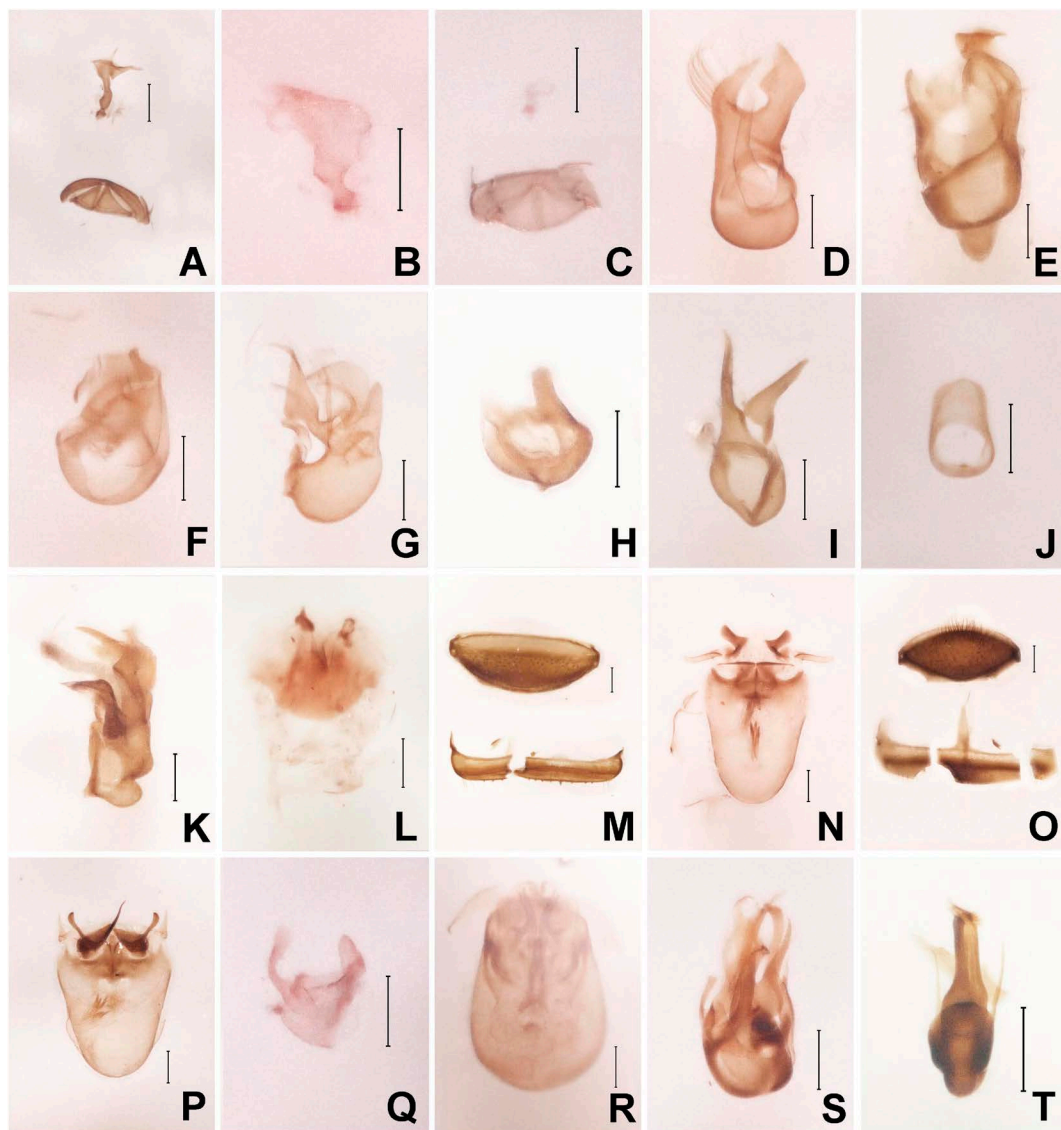


Fig. 5. Male genitalia of pselaphine species collected in Shan State excepting O and P (scale = 0.1 mm). A. *Pyxidicerus* sp. 2; B. *P.* sp. 3; C. *Pyxidicerina*, gen. et sp. 1; D. *Intestinalius* sp. 2; E. *Tribasodites* sp. 5; F. *T.* sp. 6; G. *Trisinus* sp. 3; H. *T.* sp. 4; I. *Cratna cicatricosa*; J. *Sathytes* sp. 1; K. *Batrisina*, gen. et sp.; L. *Harmophorus* sp. 1, aedeagus; M. *H.* sp. 2, abdominal segment VIII; N. ditto, aedeagus; O. *H. gibbioides* from Tanintharyi, abdominal segment VIII; P. ditto, aedeagus; Q. *Imtempis* sp. 1; R. *Atenisodus* sp. 2; S. *Plagiophorus* sp. 6; T. *P.* sp. 8.

Remarks. This species is different from the former congeneric species in the slender body and the coarsely punctate elytra (Fig. XX). It is also characterized by the head with a short transverse groove in the vertex and with a pair of circular setiferous patches on the dorsal sides of

tempora in the male.

9. *Trisinus* sp. 3* (Fig. 3I, 5G)

Specimens examined. 10 males, 10 females, 28KL-SLL; 3 males, 13 females, 30KL-SLL.

Remarks. The genus *Trisinus* was defined by

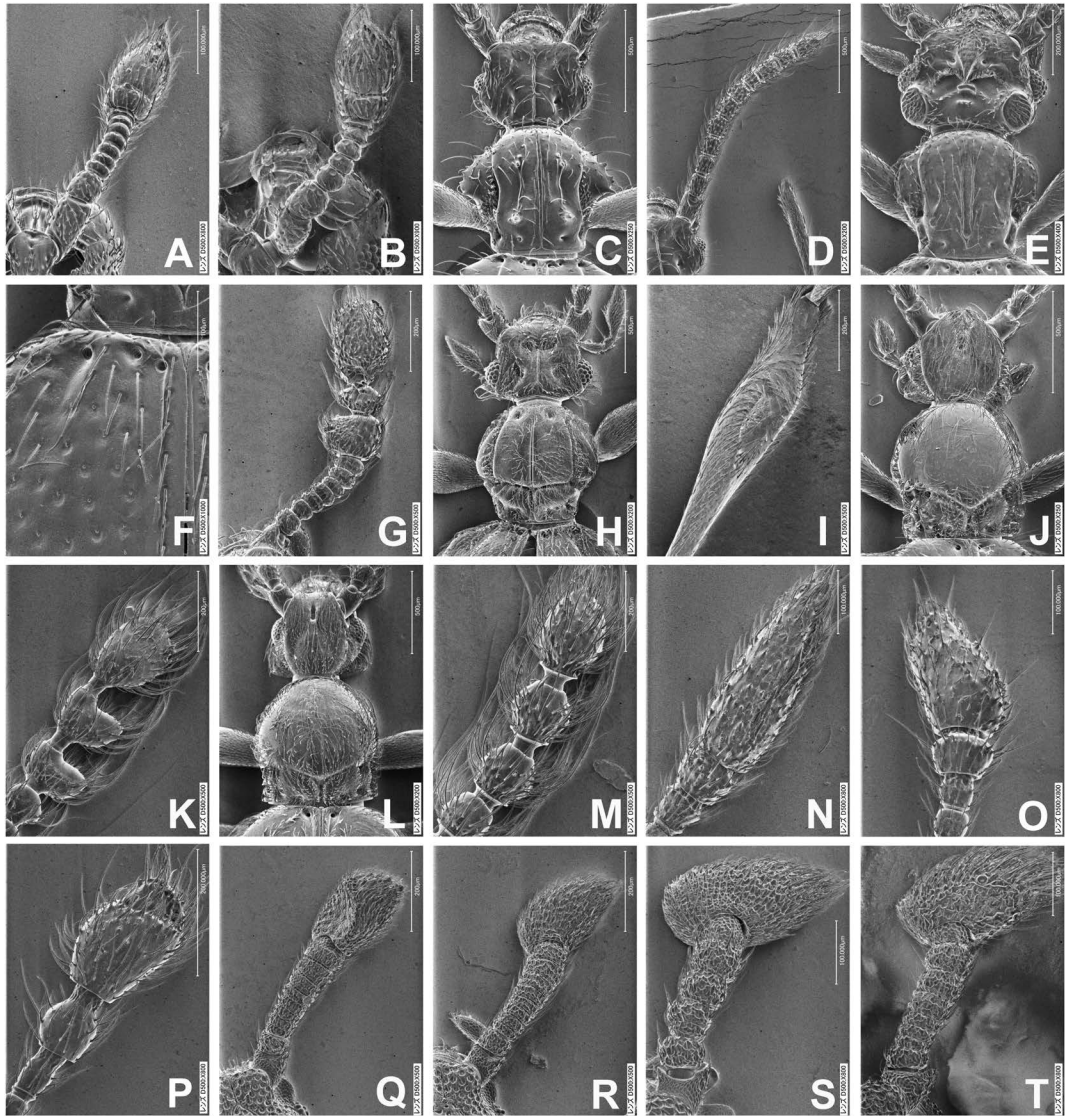


Fig. 6. SEM photos of important part of the pselaphine species collected in Shan State excepting O (scale is shown in each photo). A. *Pyxidicerus* sp. 2, right antenna; B. *Pyxidicerina*, gen. et sp. 1, *ibid.*; C. *Tribasodites* sp. 5, head and pronotum in dorsal view; D. *ditto*, right antenna; E. *T.* sp. 6, head and pronotum in dorsal view; F. *ditto*, base of left elytron; G. *Sathytes* sp. 1, right antenna; H. *Batrisina*, gen. et sp. 1, head and pronotum in dorsal view; I. *ditto*, right fore tibia; J. *Harmophorus* sp. 1, head and pronotum in dorsal view; K. *ditto*, right antennal club; L. *H.* sp. 2, head and pronotum in dorsal view; M. *ditto*, right antennal club; N. *Batrisia longicornis*, right antennal club; O. *B. raffrayana* from Yezin, right antennal club; P. *B.* sp. 1, right antennal club; Q. *Plagiophorus* sp. 6, right male antenna; R. *ditto*, right female antenna; S. *P.* sp. 7, right female antenna; T. *P.* sp. 8; right male antenna.

Raffray (1894) with the type species, *T. craterus* Raffray. It was synonymized with the genus *Batrisisoplisus* Raffray, 1908 described from Japan. It was firstly recorded from Myanmar by

Nomura and Aung (2020b). This species is characterized by the middle-sized body and the elongate antennae with swollen and denticulate segment 11 in the male.

10. *Trisinus* sp. 4* (Fig. 3J, 5H)

Specimens examined. 4 males, 6 females, 25TG-SLL; 2 males, 1 female, 26TG-SLL.

Remarks. This species is easily distinguished from the congeneric species by the elytra and abdomen each with a few long, erect hairs on dorsal side, and the abdominal tergite V to VI with a large transverse depression and protuberances on the frontal and hind margins of the depression.

11. *Cratna cicatricosa* Raffray, 1918* (Fig. 3K, 5I)

Specimens examined. 1 male, 24TG-SLL; 1 male, 28KL-SLL.

Remarks. The species *C. cicatricosa* was originally described from Laos. However, it regarded as doubtful in the revision of this genus, Löbl (1975), and it was not reconfirmed by Nomura (2019). On the other hand, it was recorded from Northern Vietnam by Nomura and Pham (2019). In the present study, this species was discovered from Myanmar for the first time.

12. *Cratna venusta* Blatný, 1925* (Fig. 3L)

Specimens examined. 1 female, 28KL-SLL; 1 male, 3 females, 30KL-SLL.

Remarks. This species is distinctly different from the other congeneric species found from Myanmar by having the large abdominal tergite IV without sexual patch on dorsal surface.

13. *Trisiniotus nitidulus* (Motschulsky, 1851) (Fig. 3M)

Specimens examined. 3 males, 24-25TG-NLT (lower); 6 males, 27-28KL-NLT; 3 males, 29-30KL-NLT.

Remarks. This is a very common species already known from Myanmar (Nomura and Aung, 2020a, 2021b).

14. *Sathytes* sp. 1* (Fig. 3N, 5J, 6G)

Specimens examined. 2 females, 23TG-SLL; 1 male, 24TG-SLL.

Remarks. The genus *Sathytes* is a commonly distributed in Southeast Asia, however it has not

been recorded from Myanmar as shown in Nomura and Aung (2020a). This record from Taunggyi is the first record of this genus from Myanmar.

15. *Batrisina*, gen. et sp. undetermined 3* (Fig. 3O, 5K, 6H, I)

Specimen examined. 1 male, 24TG-SLL.

Remarks. This is an undescribed genus already collected from China and Vietnam, it is characterized by the large body, the long and slender legs, the very long and slender antenna, and medially swollen fore tibia with setiferous patch in the male.

Supertribe Goniaceritae

16. *Harmophorus* sp. 1 (Figs. 4A, 5L, 6J, K)

Specimens examined. 3 females, 28KL-SLL.

Remarks. As the authors suggested in Nomura and Aung (2024), this genus is divided into two species groups by the structure of antennal club: the group of *H. ciliatus* (Raffray, 1894) described from Singapore and Malaysia with symmetrical antennal club, and the other group of *H. pectinatus* (Reitter, 1883) from Sumatra with asymmetrical antennal club. In Myanmar, *H. gibbioides* Motschulsky, 1851 known from Tenasserim and Tanintharyi is classified into the former group because of the symmetrical antennal club. The present species collected from Kalaw, Shan State which is same species as *H. sp. 1* collected from Yezin is classified into the latter group by the asymmetrical antennal club (Fig. 6K), whose male genitalia is shown in Fig. 5L.

17. *Harmophorus* sp. 2* (Fig. 4B, 5M, N, 6L, M)

Specimens examined. 2 males, 1 female, 24TG-SLL.

Remarks. This and the next species belong to the species-group of *P. ciliatus* with symmetrical antennal club. This species, *H. sp. 2* is very similar in body size and antennal structure to *H. gibbioides* described from Tenasserim and recorded

from Tanintharyi, S Myanmar. However, it can be separated by the different structures of the male sexual character presented on the abdominal tergite VIII shown in Fig. 5M (that of *H. gibbioides* was shown in Fig. 5O), and the male genitalia, shown in Fig. 5N (that of *H. gibbioides* was shown in Fig. 5P).

18. *Harmophorus* sp. 3* (Fig. 4C)

Specimen examined. 1 female, 28KL-SLL.

Remarks. This species belonging to the *ciliatus*-group is distinguishable from the former species by the smaller body. Its male character is still unknown.

19. *Pareuplectops coomani* Jeannel, 1957 (Fig. 4D)

Specimens examined. 1 male, 23-26TG-FIT; 3 females, 24-25TG-NLT.

Remarks. The genus *Pareuplectops* Jeannel was described on the basis of the type species *P. coomani* from Vietnam. It was revised by Kurbatov and Cuccodoro (2009) together with 11 species from Southeast Asia. This type species was recorded by Nomura and Aung (2021a) from Tanintharyi, S Myanmar.

20. *Pareuplectops tenasserimi* (Blattný, 1925) (Fig. 4E)

Specimen examined. 1 female, 23-26TG-FIT.

Remarks. This species was described by Blattný (1925) as a species of *Euplectus*. Later, the species *Euplectus novissimus* was synonymized with *P. tenasserimi* by Kurbatov and Cuccodoro (2009). It was recorded from Tanintharyi by Nomura and Aung (2021a).

21. *Imtempus* sp. 1* (Fig. 4F, 5Q)

Specimen examined. 1 male, 28-30KL-FIT.

Remarks. The genus *Imtempus* was established by Reitter (1882) on the basis of the type species *I. punctatissimus* described from the Philippines. It is characterized by the large antennal club larger than or about as long as the rest part of antenna (funicle). In this species collected from Kalaw, Myanmar, the antennal club is dis-

tinctly larger than the funicle. Additionally, the antennal club of this species is formed by four apical segments, which is clearly different from that of the type species *I. punctatissimus* formed by three apical segments.

22. *Reichenbachella budha* (Raffray, 1891) (Fig. 4G)

Specimen examined. 1 female, 29-30KL-NLT.

Remarks. This species, *R. budha* is a common species distributed in SE Asia, and is recorded from Tenasserim by Blattný (1925) and from Yangon by Nomura and Idris (2008). It is also reported from Yezin by Nomura and Aung (2024).

23. *Rybaxis* sp. 2* (Fig. 4H)

Specimens examined. 1 female, 25TG-SLL; 3 females, 28KL-SLL.

Remarks. According to Nomura and Aung (2020a), three species of the genus *Rybaxis* had been known from Myanmar: *R. decorata*, *R. frici*, and *R. tenasserimi*. Additionally, the other undescribed species, *R. sp. 1* was recorded from Yezin by Nomura and Aung (2024). This species from Shan State is easily separated from four species shown above by having the coarsely punctate pronotum.

24. *Atenisodus* sp. 2* (Fig. 4I, 5R)

Specimens examined. 1 male, 2 females, 30KL-SLL.

Remarks. This species collected from Kalaw, Shan State is easily separated from *A. sp. 1* recorded from Tanintharyi by Nomura and Aung (2020b and 2021a) by the coarsely, sparsely punctate elytra.

25. *Batraxis longicornis* Wang et Yin, 2016* (Fig. 4J, 6N)

Specimen examined. 1 male, 24TG-SLL.

Remarks. According to Nomura and Aung (2020a), only one species of the genus *Batraxis*, *B. raffrayana* (whose antennal club is shown in Fig. 6O) has been known from Myanmar. The

Chinese species, *B. longicornis* was described from Baoshan City, Yunnan Province, SW China, where is very closed to Shan State, E Myanmar. It is easily distinguished from other congeneric species by the very distinct shape of the last antennomere, and the pronotum broadened in anterior part. It is recorded by the present study from Myanmar for the first time.

26. *Batraxis* sp. 1 (Fig. 4K, 6P)

Specimens examined. 3 females, 25TG-SLL.

Remarks. Nomura and Aung (2021b) recorded this undescribed species from Tanintharyi. On the other hand, Wang and Yin (2016) described a new species, *B. antennata* from the around area of Baoshan City, Yunnan Prov., SW China, which is very close to Shan State, Myanmar. After our examination, *B.* sp. 1 from Tanintharyi and Shan State is very similar to *B. antennata* Wang et Yin in the stout and almost glabrous body, and the peanut-shape last antennomere, however, it differs by the slightly narrower body and the male genitalia with ovoid basal capsule (angulate in *B. antennata*).

27. *Plagiophorus* sp. 6* (Fig. 4L, 5S, 6Q, R)

Specimens examined. 1 female, 23TG-SLL; 2 males, 2 females, 25TG-SLL.

Remarks. The genus *Plagiophorus* is a large genus including more than 90 species, which is distributed in temperate to tropical area of Asia and Africa. From Myanmar, the type species of this genus *P. paradoxus* was described from Tenasserim as shown in Nomura and Aung (2020a) and five undescribed species have been recorded from Tanintharyi (Nomura and Aung, 2021b). This species collected from Taunggyi, Shan State is distinct in the genus in having 11-segmented antenna. Its antennomere 11 is largest, rugby ball-shaped, and bears shallow depression on the inner surface in the male, weakly convex in the female.

28. *Plagiophorus* sp. 7* (Fig. 4M, 6S)

Specimens examined. 1 female, 30KL-SLL(YMM).

Remarks. This *Plagiophorus* species is surprisingly very similar to the Japanese species, *P. fujiyamai* (Kubota) in having the quadrate head, the large eyes, and the 7-segmented antenna whose last antennomere is transverse and not so large.

29. *Plagiophorus* sp. 8* (Fig. 4N, 5T, 6T)

Specimen examined. 2 females, 30KL-SLL(Mynga).

Remarks. This species is different from the *P.* sp. 6 and 7 by having the 10-segmented antenna.

Supertribe Pselaphitae

30. *Saltisedes* sp. 1 (Fig. 4O)

Specimen examined. 1 female, 23TG-SLL.

Remarks. This species was regarded as the same species as *S.* sp. 1 recorded by Nomura and Aung (2021b) from Tanintharyi.

31. *Pselaphodes* sp. 1* (Fig. 4P)

Specimens examined. 1 female, 26TG-SLL; 1 female, 30KL-SLL (Mynga).

Remarks. According to Nomura and Aung (2020a, 2021b), the genus *Pselaphodes* has not been recorded from Myanmar. This is the first species of the genus from Myanmar, however the male character is lacking in this species.

Discussion

As the result of the survey conducted in Shan State in June to July 2023, 130 specimens of pselaphines were collected. They were classified into 31 species belonging to 21 genera (two of which are undetermined) as shown above. After the comparison with the inventory studies of this project already published parts 1–6, 23 species of which are newly recorded from Myanmar in the present study.

Within the central part of Myanmar, the results of three surveys conducted in this project were compared to each other, and tabulated in Table 1 attached herewith. Ten pselaphine species were

Table 1. Comparison of the species collected from 3 surveys in Central Myanmar.

species name	2020. 2. Yezin	2023.7. Yezin	2023.6-7. Shan State	distribution
<i>Zethopsus opacus</i>		+		Y
<i>Pyxidicerus</i> sp. 1		+		Y
<i>Pyxidicerus</i> sp. 2			+	S
<i>Pyxidicerus</i> sp. 3			+	S
<i>Pyxidicerina</i> , gen. et sp. 1			+	S
<i>Euplectus?</i> sp. 1		+		Y
<i>Biblopectus?</i> sp. 1		+	+	C
<i>Biblopectus?</i> sp. 2	+	+		Y
<i>Philiopsis</i> sp. 1			+	S
<i>Euplectodina hipposideros</i>	+			Y
<i>Methorius truncaticollis</i>		+		Y
<i>Intestinalius</i> sp. 2			+	S
<i>Tribasodites</i> sp. 5			+	S
<i>Tribasodites</i> sp. 6			+	S
<i>Trisinus</i> sp. 3			+	S
<i>Trisinus</i> sp. 4			+	S
<i>Cratna cicatricosa</i>			+	S
<i>Cratna venusta</i>			+	S
<i>Trisiniotus nitidulus</i>		+	+	C
<i>Batriscenaulax</i> sp. 2		+		Y
<i>Sathytes</i> sp. 1			+	S
<i>Batrisina</i> , gen. et sp. 3			+	S
<i>Harmophorus</i> sp. 1		+	+	C
<i>Harmophorus</i> sp. 2			+	S
<i>Harmophorus</i> sp. 3			+	S
<i>Pareuplectops coomani</i>			+	S
<i>Pareuplectops tenasserimi</i>			+	S
<i>Imtempis</i> sp. 1			+	S
<i>Trissemus clavatus</i>	+	+		Y
<i>Trissemus</i> sp. 1		+		Y
<i>Trissemus</i> sp. 2		+		Y
<i>Reichenbachia</i> sp. 1		+		Y
<i>Reichenbachella budha</i>		+	+	C
<i>Rybaxis</i> sp. 1		+		Y
<i>Rybaxis</i> sp. 2			+	S
<i>Atenisodus</i> sp. 2			+	S
<i>Batraxis raffrayana</i>	+	+		Y
<i>Batraxis longicornis</i>			+	S
<i>Batraxis</i> sp. 1			+	S
<i>Eupines sphaerica</i>	+	+		Y
<i>Eupines crinita</i>		+		Y
<i>Plagiophorus</i> sp. 6			+	S
<i>Plagiophorus</i> sp. 7			+	S
<i>Plagiophorus</i> sp. 8			+	S
<i>Pselaphus multangulus</i>	+			Y
<i>Ctenistes</i> sp. 2	+	+		Y
<i>Odontalgus costulatus</i>		+		Y
<i>Raphitreodes dentimanus</i>		+		Y
<i>Saltisedes</i> sp. 1			+	S
<i>Pselaphodes</i> sp. 1			+	S
<i>Centrophthalmus helferi</i>	+	+		Y
<i>Centrophthalmus pilosus</i>	+			Y
<i>Centrophthalmus</i> sp. 1	+	+		Y
No. of species	10	23	31	53

C (4): common; S (27): Shan State; Y(22): Yezin.

collected in Yezin in Feb. 2020 as shown in Nomura and Aung (2021c). And recently, 23 species were collected in the same place in Jul. 2023 (Nomura and Aung, 2024). In total, 26 species have been recorded from Yezin. On the other hand, 31 species are recorded from Shan State in the present study as shown above. Between Yezin and Shan State, four species are common, 27 species are found only from Shan State, and 22 species are only from Yezin. Anyway, many additional records should be necessary for enough inventory study on Pselaphinae in this area.

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References

- Blattný, I. C. 1925. Revision der Pselaphiden der collection Helfer im National-Museum in Prag. Sborník entomologického oddělení Národního musea V Praze 3 (26): 179–222.
- Coulon, G. 1989. Révision générique des Bythinoplectini Schaufuss, 1890 (=Pyxidicerini Raffray, 1903, syn. nov.) (Coleoptera, Pselaphidae, Farininae). Mémoires de la Société Royale Belge d'Entomologie 34: 1–282.
- Jeannel, R. 1952. Pselaphidae de Saïgon. Revue française d'Entomologie 19: 69–113.
- Kurbatov, S. A. and G. Cuccodoro 2009. Revision of *Pareuplectops* Jeannel and description of a new affiliated genus from Australia (Coleoptera: Staphylinidae: Pselaphinae). Revue Suisse de Zoologie, 116: 3–29.
- Löbl, I. 1975. Revision der Gattung *Cratna* Raffray (Coleoptera, Pselaphidae). Revue Suisse de Zoologie 82: 563–583.
- Nomura, S. 2010. Pselaphine species (Staphylinidae) collected by Nakase style light traps (NLT) from Ishigakijima Island, the Ryukyus, SW Japan. Coleopterists' News (172): 1–6. (In Japanese)
- Nomura, S. 2019. List of the Pselaphine beetles (Insecta, Coleoptera, Staphylinidae) collected from Central Laos in 2013–2014. Bulletin of the National Museum of Nature and Science, (A) 45: 61–72.
- Nomura, S. and M. M. Aung 2020a. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 1: A Checklist of Species. Bulletin of the National Museum of Nature and Science, (A) 46: 129–140.
- Nomura, S. and M. M. Aung 2020b. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 2: A List of Collected Species in Tanintharyi Region in January 2017. Bulletin of the National Museum of Nature and Science, (A) 46: 203–213.
- Nomura, S. and M. M. Aung 2021a. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 3: A List of Collected Species in Tanintharyi Region in November 2018. Bulletin of the National Museum of Nature and Science, (A) 47: 19–29. DOI: 10.50826/bnmnszool.47.1_19
- Nomura, S. and M. M. Aung 2021b. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 4: A List of Collected Species in Tanintharyi Region in February 2020. Bulletin of the National Museum of Nature and Science, (A) 47: 107–116. DOI: 10.50826/bnmnszool.47.2_107
- Nomura, S. and M. M. Aung 2021c. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 5: A List of Collected Species in Yezin, Nay Pyi Taw in February 2020. Bulletin of the National Museum of Nature and Science, (A), 47: 129–134. DOI: 10.50826/bnmnszool.47.3_129
- Nomura, S. and M. M. Aung 2024. Inventory Studies on the Subfamily Pselaphinae (Coleoptera, Staphylinidae) of Myanmar Part 6: A List of Collected Species in Yezin, Nay Pyi Taw in July 2023. Bulletin of the National Museum of Nature and Science, (A): 50: 127–135. DOI: 10.50826/bnmnszool.50.3_127
- Nomura, S. and A. B. Idris 2008. New records and two new synonyms of pselaphine species (Coleoptera, Staphylinidae; Pselaphinae) from Southeast Asia. Serangga, Bangi 13: 39–69.
- Nomura, S. and S. Inoue 2022. Why and how was the scientific name of the pselaphine species, *Coryphomodes dionysius* (L. W. Schaufuss, 1883) given? Newsletter of the Staphylinidological Society of Japan (49): 23–25 (In Japanese with English title).

- Nomura, S. and H. T. Pham 2019. List of Pselaphine species (Insecta, Coleoptera, Staphylinidae) collected by light traps from North Vietnam in 2014 with supplements and corrections to the checklist of Nomura (2013). *Bulletin of the National Museum of Nature and Science*, (A) 45: 73–83.
- Nomura, S., W. Sakchoowong and M. Maruyama 2013. Further study on the pselaphine fauna (Insecta, Coleoptera, Staphylinidae) of the Kaeng Krachan National Park, West Thailand in 2010-2012. *Bulletin of the National Museum of Nature and Science*, (A) 39: 73–92.
- Raffray, A. 1894. Revision des Pselaphides des îles de Singapore et de Penang. *Revue d'Entomologie* 13: 197–282.
- Reitter, E. 1882. Versuch einer systematischen Eintheilung der Clavigeriden und Pselaphiden. *Verhandlungen des Naturforschenden Vereines in Brünn* 20: 177–211.
- Wang, D. and Z. W. Yin 2016. New species and records of *Batraxis* Reitter (Coleoptera: Staphylinidae: Pselaphinae) in continental China. *Zootaxa* 4147: 443–465. DOI: 10.11646/zootaxa.4147.4.6