

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

Shûhei Nomura and Mu Mu Aung

Department of Zoology, National Museum of Nature and Science
4–1–1 Amakubo, Tsukuba, Ibaragi 305–0005, Japan

E-mail: nomura@kahaku.go.jp

Forest Research Institute, Forest Department, Ministry of Natural Resources and
Environmental Conservation, Yezin, Nay Pyi Taw, Myanmar

E-mail: mumuaung85@gmail.com

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Abstract In the course of biological inventory by FRI, Myanmar and NMNS, Japan conducted in Yezin, Nay Pyi Taw in July 2023, 23 pselaphine species from 182 specimens were recognized. Two species of which, *Methorius truncaticollis* Jeannel, 1952 and *Eupines crinita* Li et al., 2022 are recorded from Myanmar for the first time.

Key words: Inventory, Pselaphinae, fauna, light trap, Myanmar.

Introduction

The second survey of the pselaphine inventory was conducted during 7–9 vii. 2023 under the biological inventory project by the Forest Research Institute (FRI), Yezin, Myanmar and the National Museum of Nature and Science (NMNS), Tsukuba, Japan. As a result, 182 specimens of pselaphines were collected, and they were identified to 23 species belonging to 19 genera. The result was compared with that of the first survey done in 18–20. ii. 2020 at almost the same point, which was reported by Nomura and Aung (2021c).

Materials and Methods

The author Nomura visited the Forest Research Institute (Figs 1A, B, 2A–F) in Yezin, Nay Pyi Taw and collected pselaphines in two nights of 7th to 9th vii. 2023. All of the pselaphine specimens examined in this study were collected by the portable light traps in Nakase sys-

tem (NLT: Figs. 2C–F). The NLTs each with a fluorescent tube 4W in the system of Dr. Yuta Nakase were used for collecting pselaphines by

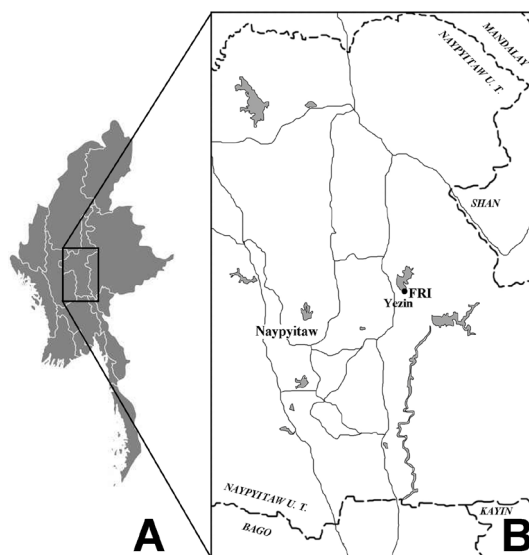


Fig. 1. Map of collecting sites of Pselaphines in Nay Pyi Taw. A. Position of Nay Pyi Taw in Myanmar; B. position of FRI in Nay Pyi Taw.

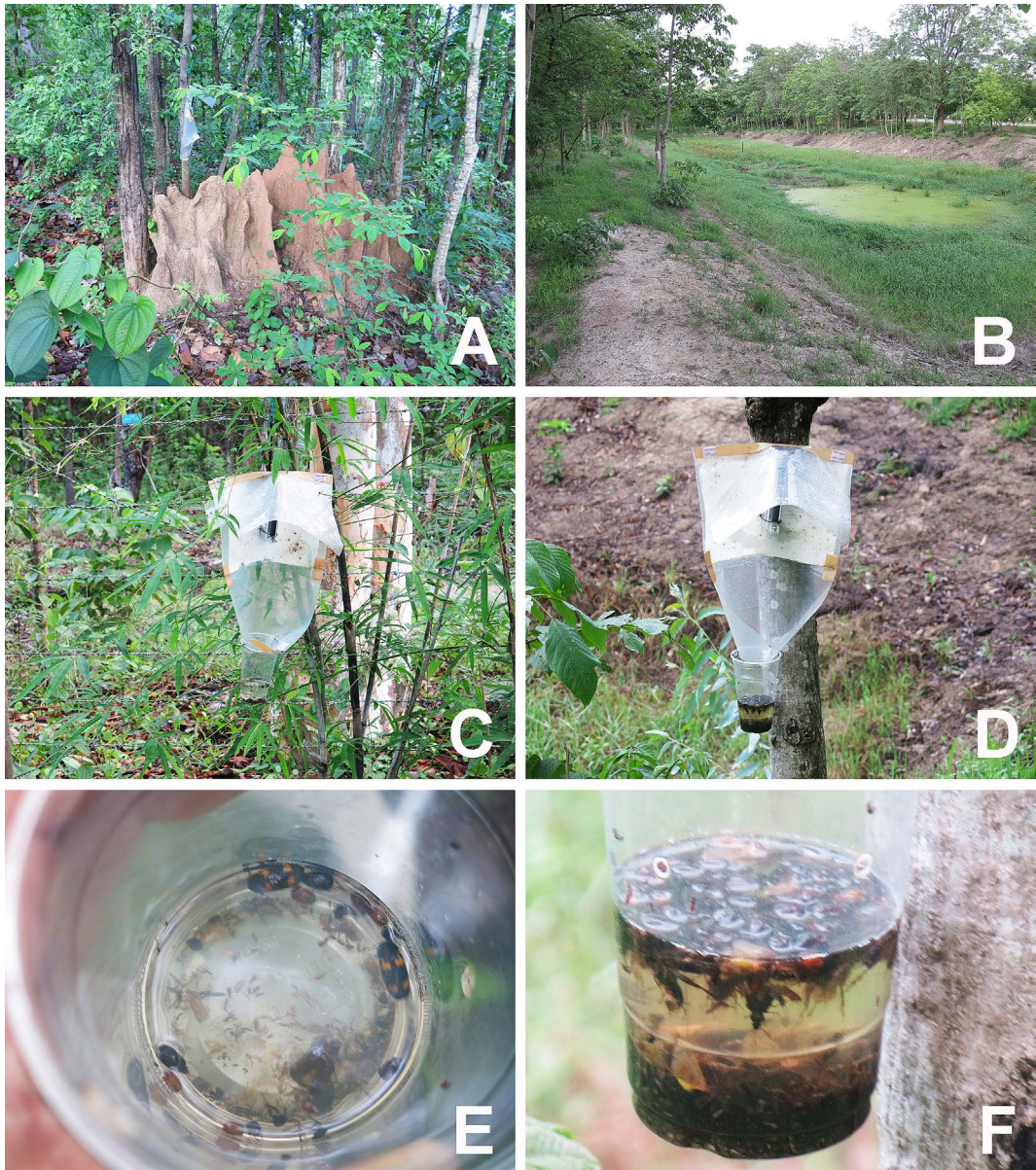


Fig. 2. Habitats and collecting methods of Pselaphines in FRI, Yezin. A. A setting condition of NLT in Yezin; B. A view of collecting site in Yezin; C. a NLT set in FRI, Yezin; D. another set; E. an enlarged view of collecting cup of NLT used in Yezin; F. another view.

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. All of these NLTs were settled and collected on the low position (ca. 1 m above the

ground: LP). Collected specimens are tentatively preserved in the collection of the National Museum of Nature and Science, Tsukuba, Japan (NMNS).

All collecting data of each species shown in the part of result are abbreviated as follows. See the foregoing part for the collecting methods

abbreviated as NLT–LP. For one night, 4 traps were set around termite mounds in the forest, and the other 4 were set around the pond on the ground of FRI.

〈NLT–LP: Nakase system light trap at low position〉

7–8TF: Forest Research Institute, at low position (around the termite mounds in the forest), by Nakase system light trap, Yezin, Nay Pyi Taw, N19°50'36.92", E96°16'43.04", ca. 143 m alt., 7–8. vii. 2023, S. Nomura leg.

7–8PO: same data as above, but around the pond.

8–9TF: same place as above, but around the termite mounds in the forest, 8–9. vii. 2023.

8–9PO: same data as above, but around the pond.

Results

A List of Pselaphine Species Collected from Yezin in July 2023

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

Supertribe Euplectitae

1. *Zethopsus opacus* (Schaufuss, 1887)* (Fig. 3A)

Specimens examined. 1 male, 8–9PO.

Remarks. This species was described from Bangkok, Thailand. It is already recorded from Tenasserim, southern Myanmar by Blattny (1925).

2. *Pyxidicerus* sp. 1* ** (Fig. 3B, 4A)

Specimens examined. 3 males, 2 females, 7–8TF.

Remarks. This species is very similar to the species, *Pyxidicerinus barbieri* described by Jeannel (1952) from Saigon (=Ho Chi Minh City), southern Vietnam in the small sized body, and the structure of the head and pronotum. However, it belongs not to the genus *Pyxidicerinus*, but *Pyxidicerus*, because it clearly has

11-segmented antenna, in contrast, the former genus has 10-segmented antenna. On the other hand, the male genitalia of this species shown in Fig. 4A has complicated structure, which is clearly different from one of the former species. It is the first record of the subtribe Pyxidicerina and the genus *Pyxidicerus* from Myanmar.

3. *Euplectus?* sp. 1* ** (Fig. 3C, D, 4B)

Specimen examined. 1 male, 8–9TF.

Remarks. This species differs from the typical species of *Euplectus* in having the smaller and slenderer body, and it is very similar to the genus *Leptoplectus*. However, it can be classified into the genus *Euplectus* by having the labrum without emargination on the frontal margin as shown in Fig. 3D.

4. *Biblopectus?* sp. 1* (Fig. 3E, 4C)

Specimen examined. 1 male, 7–8TF.

Remarks. The genus *Biblopectus* is broadly distributed in Palearctic and Oriental Regions. However, it is poorly known in South East Asia including Myanmar.

5. *Biblopectus?* sp. 2 (Fig. 3F)

Specimen examined. 1 male, 7–8TF.

Remarks. This species is similar to the former species in structure of the pronotum, however it is separated by the larger and wider body. It is already recorded from Yezin by Nomura and Aung (2021c), however its specific name was shown as "*Bibloporus?* sp. 1".

6. *Methorius truncaticollis* Jeannel, 1952* ** (Fig. 3G, 4D)

Specimen examined. 1 male, 7–8TF.

Remarks. The genus *Methorius* was defined by Raffray (1904), two member species of which were recorded from Rhodesia (Zimbabwe in the present), southeastern Africa and Vietnam. This species was described from Saigon (=Ho Chi Minh), Vietnam and recorded from Myanmar for the first time, which is characterized by the small-sized body (ca. 1 mm) and the T-shaped pronotum.

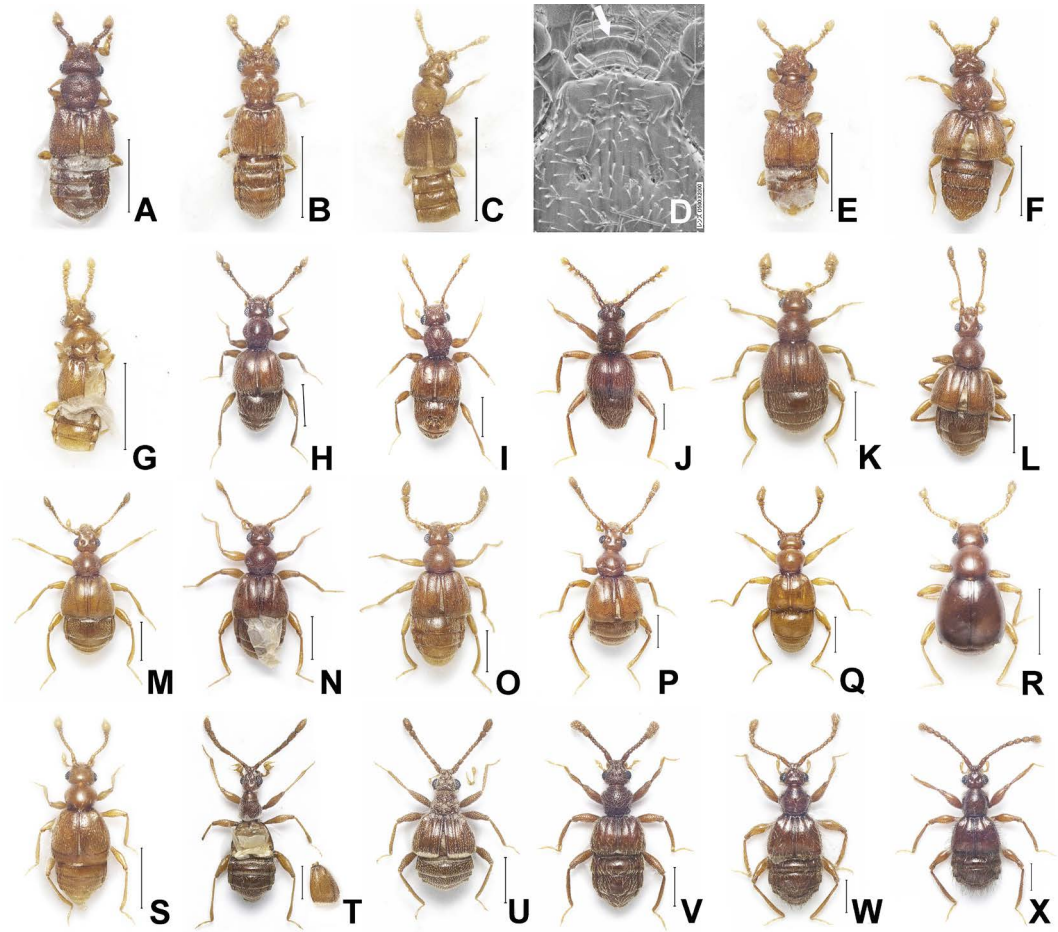


Fig. 3. Pselaphine species recognized in FRI, Yezin, Nay Pyi Taw (scale = 0.5 mm). A. *Zethopsus opacus*; B. *Pyxidicerus* sp. 1; C. *Euplectus?* sp. 1; D. SEM photo of dorsal side of the head of *E?* sp. 1; E. *Biblopectus?* sp. 1; F. *B?* sp. 2; G. *Methorius truncaticollis*; H. *Trisiniotus nitidulus*; I. *Batriscenaulax* sp. 2; J. *Harmophorus* sp. 1; K. *Trissemus clavatus*; L. *T.* sp. 1; M. *T.* sp. 2; N. *Reichenbachia* sp. 1; O. *Reichenbachella budha*; P. *Rybasis* sp. 1; Q. *Batraxis raffrayana*; R. *Eupines sphaerica*; S. *E. crinita*; T. *Ctenistes* sp. 2; U. *Odontalgus costulatus*; V. *Raphitroides dentimanus*; W. *Centrophthalmus helferi*; X. *C.* sp. 1.

Supertribe Batrisitae

7. *Trisiniotus nitidulus* (Motschulsky, 1851)* (Fig. 3H, 4E)

Specimens examined. 5 males, 7–8TF; 5 males, 7–8PO; 1 male, 8–9TF; 3 males, 8–9PO.

Remarks. This species was originally described from Tenasserim, southern Myanmar by Motschulsky (1851), and it was recorded from Tanintharyi, southern Myanmar by Nomura and Aung (2020b, 2021a). It was discovered from Yezin for the first time in the present study. It is easily distin-

guished from the similar species by the strongly swollen antennomere 10 and the pronotum with very fine longitudinal and transverse sulci on dorsal side.

8. *Batriscenaulax* sp. 2* ** (Fig. 3I, 4F)

Specimens examined. 2 males, 7–8TF.

Remarks. The genus *Batrisceneulax* is characterized by the male sexual characters, 1) the abdominal segment IV with a large excavation and setiferous patches in posterodorsal part, 2) the penicillate fore tibia near apex, and 3) the

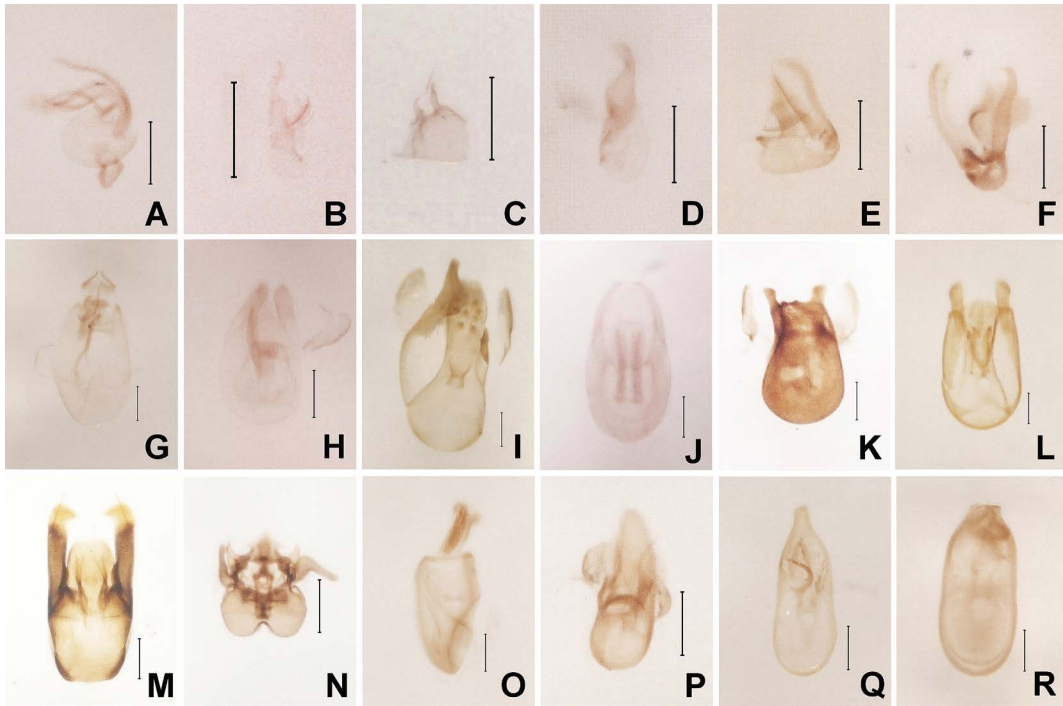


Fig. 4. Aedeagi of pselaphine species collected in FRI, Yezin, Nay Pyi Taw (scale = 0.1 mm). A. *Pyxidicerus* sp. 1; B. *Euplectus?* sp. 1; C. *Bibloplectus?* sp. 1; D. *Methorius truncaticollis*; E. *Trisiniotus nitidulus*; F. *Batriscenaulax* sp. 2; G. *Harmophorus* sp. 1; H. *Trissemus clavatus*; I. *T.* sp. 1; J. *T.* sp. 2; K. *Reichenbachia* sp. 1; L. *Reichenbachella budha*; M. *Batraxis raffrayana*; N. *Eupines sphaerica*; O. *Ctenistes* sp. 2; P. *Raphitroides dentimanus*; Q. *Centrophthalmus helferi*; R. *C.* sp. 1.

male genitalia with small basal capsule and large, elongate dorsal apophysis.

An undescribed species of this genus was recorded from Tanintharyi, southern Myanmar. This species from Yezin is different from the species from Tanintharyi in having the smooth dorsal surface of the pronotum and elytra without coarse punctures shown in the latter species.

Supertribe Goniaceritae

9. *Harmophorus* sp. 1* ** (Fig. 3J, 4G)

Specimens examined. 2 females, 7–8TF; 3 females, 7–8PO; 4 males, 8–9TF; 2 males, 2 females, 8–9PO.

Remarks. The genus *Harmophorus* is divided into two species groups by the structure of antennal club. One group including *H. ciliatus* (Raffray, 1894) described from Singapore and

Penang Is., Malaysia, whose antennal club is consisting of 3 apical segments, each of which is symmetrically ovoid. The other group including *H. pectinatus* (Reitter, 1883) described from Sumatra, Indonesia, whose apical segments of antenna are each flattened and asymmetrically extended outwards. *Harmophorus gibbioides* Motschulsky, 1851 known from Tenasserim and Tanintharyi, southern Myanmar is classified into the former group because of the symmetrical antennal club. This species collected from Yezin is classified into the latter group by the asymmetrical antennal club, whose male genitalia is shown in Fig. 4G.

10. *Trissemus clavatus* (Motschulsky, 1851) (Fig. 3K, 4H)

Specimens examined. 3 males, 8–9PO.

Remarks. This is an already known species

from Yezin (Nomura and Aung, 2021c). It was morphologically compared with the same species from the Ryukyus, Japan by Nomura (2023).

11. *Trissemus* sp. 1* ** (Fig. 3L, 4I)

Specimen examined. 1 male, 7–8TF.

Remarks. This species is larger than the former species, which differs by the large and stout body and the long and slender antenna. It is also characterized by the asymmetrical male genitalia shown in Fig. 4I.

12. *Trissemus* sp. 2* ** (Fig. 3M, 4J)

Specimen examined. ; 1 male, 5 females, 7–8PO; 1 male, 5 females, 8–9PO.

Remarks. This is a similar species to the former species, *T.* sp. 1, however it is clearly smaller than the former species, the antennal club is slenderer than it, and the different structure of the male genitalia.

13. *Reichenbachia* sp. 1* ** (Fig. 3N, 4K)

Specimen examined. 2 females, 7–8PO; 1 male, 8–9PO

Remarks. The genera *Reichenbachia* and *Reichenbachiella* are separated from *Trissemus* by having two basal foveae in each elytron (three foveae in *Trissemus*). The former genus is widely distributed in Asia with many species. This species is difficult to be separated from the congeneric species because the male sexual character is indistinct, however it is very characteristic in the structure of male genitalia.

14. *Reichenbachella budha* (Raffray, 1891)* (Fig. 3O, 4L)

Specimens examined. 1 male, 2 females, 7–8TF; 1 male, 2 females, 7–8PO; 3 males, 11 females, 8–9PO.

Remarks. The genus *Reichenbachella* was defined by Jeannel (1949) as a subgenus of *Reichenbachia*, and is separated from *Reichenbachia* by having the coarsely punctate pronotum and the male genitalia whose parameres each with one or two long setae in the basal part. This species is very common in Indochina Peninsula

by light trap. It is characterized by the middle-sized body, the weakly arcuate fore tibia with short and acute mucro at apex, and the mid tibia with a short spine near apex in the male. It has not been known from Yezin (Nomura and Aung, 2021c). The male genitalia of this species is shown in Fig. 4J, which is completely coincident with its figure from Saïgon (= Ho Chi Minh, southern Vietnam) shown by Jeannel (1952).

15. *Rybaxis* sp. 1* (Fig. 3P)

Specimen examined. 1 female, 7–8TF.

Remarks. The genus *Rybaxis* is a large genus of the tribe Brachyglutini, many species of which are large-sized and stout. The genus is characterized by the pronotum with an antebasal transverse sulcus and each elytron with 2 basal foveae. The species from Southeast Asia are characterized by having long and slender antennae. According to Nomura and Aung (2020a), three species of this genus have been known from Myanmar, all species of which are recorded from Tenasserim. The species from Yezin could not be identified with already known species because of lacking male sexual character.

16. *Batraxis raffrayana* (Blattný, 1925) (Fig. 3Q, 4M)

Specimen examined. 1 male, 8–9TF.

Remarks. This is a well-known species in Indochina Peninsula, which is recorded from Yezin by Nomura and Aung (2021c). It is characterized by the middle sized and thick body, the large abdominal segment IV weakly constricted near base, and the obliquely triangular antennomere 11.

17. *Eupines sphaerica* (Motschulsky, 1851) (Fig. 3R, 4N)

Specimens examined. 4 males, 4 females, 8–9PO.

Remarks. This is an already known species from Yezin. It is widely distributed in Southeast Asia to Oceanian Region, and also known from Yaeyama Islands, Ryukyus, southern Japan as shown in Nomura and Aung (2021c).

18. *Eupines crinita* Li, Nomura et Yin, 2022*, ** (Fig. 3S)

Specimen examined. 2 females, 7–8TF; 2 females, 7–8PO.

Remarks. This species was described from Hainan Island, southern China and Japan (Li *et al.*, 2021). This is the first record of this species from Myanmar. The species is characterized by the small and less thickened body than *E. sphaerica*, and the very sparsely pubescent dorsal surface (glabrous in *E. sphaerica*).

Supertribe Pselaphitae

19. *Ctenistes* sp. 2 (Fig. 3T, 4O)

Specimen examined. 1 male, 8–9PO.

Remarks. In Nomura and Aung (2021c), this species was already recorded from Yezin, and regarded as a different species from the formally recorded “*Ctenistes* sp. 1” from Tanintharyi, southern Myanmar shown in Nomura and Aung (2021b), which was reported by Nomura and Aung (2020b and 2021a). If so, the species should be written as “*Ctenistes* sp. 2” as shown in the present study.

20. *Odontalgus costulatus* (Motschulsky, 1851)* (Fig. 3U)

Specimen examined. 1 female, 8–9TF; 1 female, 8–9PO.

Remarks. This is the first record from Yezin. It was already recorded from Tanintharyi by Nomura and Aung (2020b), which was cited by Nomura and Aung (2021b) as “*Odontalgus vestitus* Schaufuss, 1886” by mistake. As a conclusion, two species (*O. gracilis* and *O. costulatus*) of this genus is already known from Myanmar.

21. *Raphitreodes dentimanus* (Raffray, 1890)* (Fig. 3V, 4P)

Specimens examined. 2 males, 8–9PO.

Remarks. This tmesiphorine species is already known from Myanmar as shown in Nomura and Aung (2020a). It is recorded from Yezin for the first time by the present study. This species was treated as a member of the genus *Raphitreus*

Sharp, 1883 in Nomura (2004), however it should be combined with this genus as suggested by Nomura (2013).

22. *Centrophthalmus helferi* Blattný, 1925 (Fig. 3W, 4Q)

Specimens examined. 2 males, 7–8PO; 3 males, 2 females, 8–9PO.

Remarks. Three species of the genus *Centrophthalmus* were already recorded from Yezin by Nomura and Aung (2021c). Two of which was recognized in this time. This species is separated by the latter species by the smaller body-size and the strongly narrowed male genitalia in the apical part.

23. *Centrophthalmus* sp. 1 (Fig. 3X, 4R)

Specimens examined. 6 males, 7–8PO; 2 males, 8–9TF; 31 males, 34 females, 8–9PO.

Remarks. This species is similar to the former species in some characters, however it can be distinguished by the larger body size and the less narrowed male genitalia in the apical part.

Discussion

An inventory survey was conducted in the Forest Research Institute (Figs 1B, 2A, B) in Yezin, Nay Pyi Taw in two nights of 7th to 9th vii. 2023. As the result, 23 pselaphine species were collected by the Nakase system light traps (NLTs) as shown above. which are tabulated in Table 1 and was compared with the collecting result almost in the same area and by the same method conducted in two nights from 18th to 20th Feb. 2020 already published by Nomura and Aung (2021c).

In a comparison of total number of species and specimens collected in Feb. 2020 and Jul. 2023, both numbers were clearly larger in the latter, namely, 10 species of 57 specimens in Feb. 2020, and 23 species of 182 specimens in Jul. 2023 (total numbers are 26 species of 239 specimens). The seven common species between Feb. 2020 and Jul. 2023 were as follows: *Biblopectus*? sp. 2, *Trissemus clavatus*, *Batraxis raffrayana*,

Table 1. Condition and result of light trap surveys in Yezin in Feb. 2020 and Jul. 2023.

Date	18–19. ii. 2020	19–20. ii. 2020	2020 Total	7–8. vii. 2023	7–8. vii. 2023	8–9. vii. 2023	8–9. vii. 2023	2023 Total	All total
Collected traps (set traps)	8 (8)	8 (8)		4 (4)	4 (4)	4 (4)	4 (4)		
Habitat	pond + forest	pond + forest		forest	pond	forest	pond		
Position (above the ground)	1 m	1 m		1 m	1 m	1 m	1 m		
<i>Zethopsus opacus</i>							1	1	1
<i>Pyxidicerus</i> sp. 1				5				5	5
<i>Euplectus?</i> sp. 1						1		1	1
<i>Biblopectus?</i> sp. 1				1				1	1
<i>Biblopectus?</i> sp. 2*		1	1				1	1	2
<i>Methorius truncaticollis</i>				1				1	1
<i>Euplectodina hipposideros</i>		1	1						1
<i>Trisintotus nitidulus</i>				5	5	1	3	14	14
<i>Batriscenaulax</i> sp. 2				2				2	2
<i>Harmophorus</i> sp. 1				2	3	4	4	13	13
<i>Trissemus clavatus</i> *	22	5	27				3	3	30
<i>Trissemus</i> sp. 1				1				1	1
<i>Trissemus</i> sp. 2					6		6	12	12
<i>Reichenbachia</i> sp. 1					2		1	3	3
<i>Reichenbachella budha</i>				3	5		17	25	25
<i>Rybaxis</i> sp. 1				1				1	1
<i>Batraxis raffrayana</i> *	2	1	3			1		1	4
<i>Eupines sphaerica</i> *	10	3	13				8	8	21
<i>Eupines crinita</i>				1	1		2	4	4
<i>Pselaphus multangulus</i>	1		1						1
<i>Ctenistes</i> sp. 2*		1	1				1	1	2
<i>Odontalgus costulatus</i>						1	1	2	2
<i>Raphitreodes dentimanus</i>							2	2	2
<i>Centrophthalmus helferi</i> *		2	2		2		5	7	9
<i>Centrophthalmus pilosus</i>	1		1						1
<i>Centrophthalmus</i> sp. 1*	1	6	7		6	2	65	73	80
No. of species	6	8	10	10	8	6	15	23	26
No. of specimens	37	20	57	22	30	10	120	182	239

*: common species between 2020 and 2023

Eupines sphaerica, *Ctenistes* sp. 1, *Centrophthalmus helferi*, *C.* sp. 1.

In the viewpoint of inventory, the result of this survey is remarkably significant. Sixteen species were recorded from Yezin (* -marked species in the list shown above) for the first time. Nine species were the first records from Myanmar (** -marked species in the list shown above). Two species of which are already named, namely, *Methorius truncaticollis* Jeannel, 1952 and *Eupines crinita* Li, Nomura et Yin, 2022.

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References

Blattný, I. C. 1925. Revision der Pselaphiden der collection Helfer im National-Museum in Prag. Sborník ento-

- mologického oddělení Národního musea V Praze 3 (26): 179–222.
- Jeannel, R. 1949. Les Pselaphides de l'Afrique Orientale (Coleoptera). *Memoires de Museum d'Histoire Naturelle*, Paris, (new series) 29: 1–226.
- Jeannel, R. 1952. Pselaphides de Saïgon. *Revue Française de Entomologie* 19: 69–113.
- Li, Q. Q., S. Nomura, B. Cai and Z. W. Yin 2021. A new species and a new record of *Eupines* King from China and Japan (Coleoptera, Staphylinidae, Pselaphinae). *Zootaxa* 4975: 574–580. DOI: 10.11646/zootaxa.4975.3.7
- Motschulsky, V. 1851. Énumération des nouvelles espèces de Coléoptères. *Bulletin de la Société Impériale des Naturalistes de Moscou* 24: 479–511.
- Nomura, S. 2004. Records of two pselaphine species (Coleoptera, Staphylinidae, Pselaphinae) from Vietnam and Myanmar. *Elytra*, Tokyo 32: 13–14.
- 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. 2013. A checklist of the pselaphine species (Coleoptera, Staphylinidae) from Vietnam. *Japanese Journal of Systematic Entomology* 19: 233–242.
- Nomura, S. 2023. Distributional and morphological notes on the brachyglitine Species, *Trissemus clavatus* (Motschulsky, 1851) and the allied species (Staphylinidae, Pselaphinae) with a new record from Takara-jima Island, Tokara Islands in the Ryukyus, Japan. *Elytra*, new series 13 (2): 277–284.
- 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, Series 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, Series 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, Series 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, Series 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, Series A* 47: 129–134. DOI: 10.50826/bnmnszool.47.3_129
- 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, Series A* 39: 73–92.
- Raffray, A. 1904. Genera et catalogue des Pselaphides. *Annales de la Société entomologique de France* 72: 484–604.