

Further Study on the Pselaphine Fauna (Insecta, Coleoptera, Staphylinidae) of the Kaeng Krachan National Park, West Thailand in 2010–2012

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Abstract The pselaphine fauna of Kaeng Krachan National Park, W Thailand was further studied. Thirty-six species were added and 156 pselaphine species have been recorded from the national park. The following species were newly recorded from Thailand: *Bolbozethus boosteri* Coulon, *Trissemus coomani* Jeannel, *Methorius truncaticollis* Jeannel, *Ctenistidius coomani* Jeannel.

Key words: fauna, Kaeng Krachan, Pselaphinae, Staphylinidae, Thailand.

Introduction

In Nomura *et al.* (2010), 120 pselaphine species were recorded from Kaeng Krachan National Park, W Thailand. Most of the species were collected by shifting leaf litter, Tullgren funnels and FITs (flight intercept traps). After that, faunistic survey was conducted in Kaeng Krachan, twice, 19–30th Oct. 2010 and 16–23th Mar. 2012. In these two surveys, the first author used light trap (LT) as a collecting methods of pselaphines at Kaeng Krachan. Twenty six species in Oct. 2010, and 49 species in Mar. 2012 were collected by LT. Thirty-six species were added to the pselaphine fauna of Kaeng Krachan National Park. The following four species are recorded from Thailand for the first time: *Bolbozethus boosteri* Coulon, *Methorius truncaticollis* Jeannel, *Trissemus coomani* Jeannel, and

Ctenistidius coomani Jeannel.

Materials and Methods

In the inventory survey in Kaeng Krachan (Fig. 2A), pselaphine specimens were collected by the following four collecting methods: light trap (LT), flight intercept trap (FIT), trunk window trap (TWT) and hand sorting (HS) of leaf litter and decayed wood.

Some portable light traps each with a fluorescent tube 4W in the system of Mr. Yuta Nakase (=NLT) were used for collecting pselaphines by Nomura (Fig. 2B, D). They were fixed or hooked on a tree (Fig. 2B) and lighted in evening and they were collected in the next morning. As shown in Fig 1, LTs were settled at st. A to F in Oct. 2010, and at st. G to L in Mar. 2012. Light traps by Maruyama were another type (Fig. 2C),

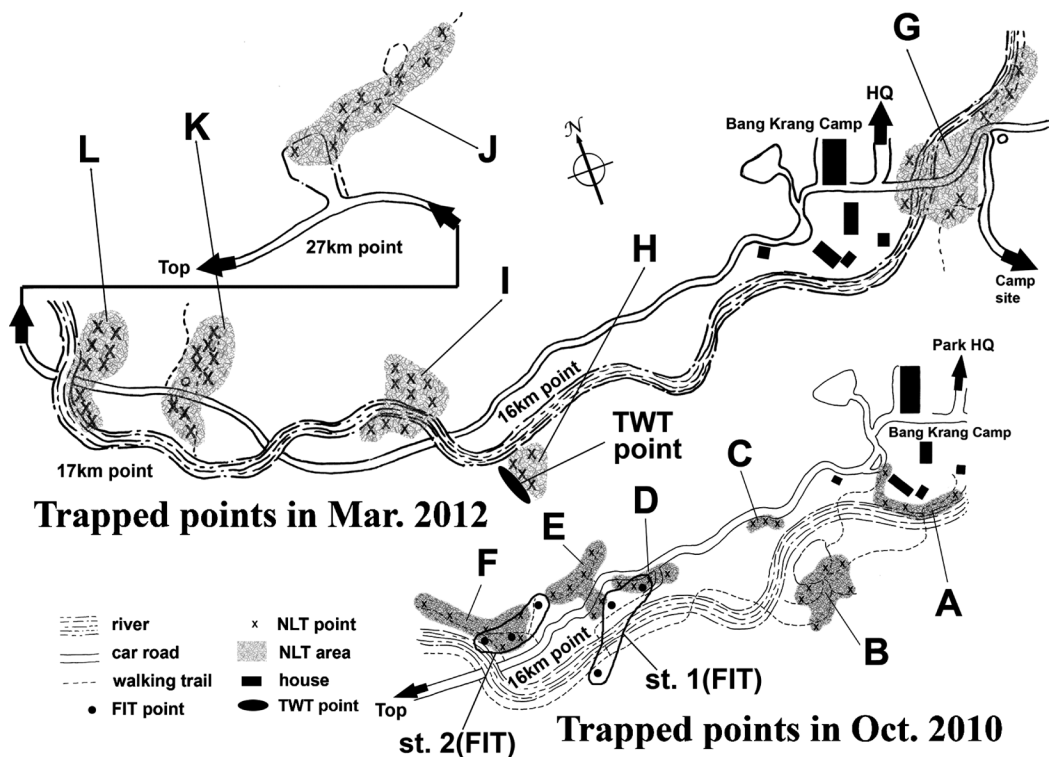


Fig. 1. A map of trapped points in Kaeng Krachan National Park in Oct. 2010 and Mar. 2012.

and High Intensity Discharge Lamp (HID) were also used by Maruyama.

Some pselaphine species were collected by FIT's named NG-5 (Fig. 2E) and NHP-1. The former type was also used for the survey in Apr. 2009 as shown in Nomura *et al.* (2010), and the latter type was already shown in Nomura *et al.* (2008). FITs were used at st. 1 and st. 2 in Fig. 1 in Oct. 2010.

Trunk window trap (TWT) was designed and published by Ohara *et al.* (2011). In this study, the first author redesigned it for pselaphines and tested it on a decayed wood at 16km point in Kaeng Krachan. The setting condition is shown in Fig. 2F.

Some specimens were collected by hand sorting (HS), namely sifting leaf litter and checking under bark and decayed wood.

A map of the collecting sites including LT and FIT points is shown in Fig. 1. LT areas are also indicated by grey on the map. Collected speci-

mens are shared by the insect collection of the Department of National Parks (DNP), Bangkok, Thailand and that of the National Museum of Nature and Science, Tokyo, Japan.

Results

A Further List of Pselaphine Species Collected from Kaeng Krachan National Park.

The unrecorded species from Kaeng Krachan by Nomura *et al.* (2010) are shown by * in the following list. The name and number of the **-marked species recorded by Nomura *et al.* (2010) should be changed in the present study (see remarks).

Supertribe Bythinoplectitae

1. *Bolbozethus boosteri* Coulon*

Specimens examined. [2012] 1 male, 16km point (st. I), by LT (1 m above the ground), 18.



Fig. 2. Snapshots of the studied field and the insect traps used there. — A, a view of Kaeng Krachan National Park (near Bang Krang Camp); B, setting of the Nakase system light trap (NLT) to the high position in Kaeng Krachan; C, light trap by Maruyama; D, NLT at the high position; E, a flight intercept trap (FIT) by Nomura; F, a trunk window trap (TWT) at 16 km point.

iii. 2012, S. Nomura leg.

Remarks. This genus including only this species is easily separated from the other genera by having the clearly large antennal segment III in the male. This species was described by Coulon (1982) from Tonkin (Hanoi), Vietnam on the

basis of the type collected by A. de Cooman.

2. *Bythinoplectina*, gen. sp. 1

Specimens examined. [2010] 1 female, 16 km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg. [2012] 1 male, 16 km point (st. 1),

by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

3. *Bythinoplectina*, gen. sp. 5

Specimens examined. [2012] 1 male, 16 km point by TWT, 16–23. iii. 2012, S. Nomura leg.

4. *Parapyxidicerus* sp. 2

Specimens examined. [2010] 1 male, Bang Krang Camp (st. B), by LT (1 m above the ground), 20. x. 2010, S. Nomura leg.; 1 male, 16 km point (st. D), by LT (1 m above the ground), 24. x. 2010, S. Nomura leg.; 1 male, same data as above (st. E), but 26. x. 2010; 3 males, same data as above (st. F), but 28. x. 2010.

5. *Parapyxidicerus* sp. 3

Specimens examined. [2012] 1 male, 27 km point (st. J), by LT (1 m above the ground), 19. iii. 2012, S. Nomura leg.

6. *Pyxidicerina*, gen. sp. 4

Specimens examined. [2012] 7 males, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 2 males, 17 km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

Supertribe Euplectitae

7. *Euplectus* sp. 5*

Specimens examined. [2012] 1 female, 16 km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.

Remarks. The genus *Euplectus* was already recorded by Nomura *et al.* (2010) together with four undescribed species. In the present study, two other species from the former recorded species.

8. *Euplectus* sp. 6*

Specimens examined. [2012] 1 female, 16 km point (st. I), by LT (1 m above the ground), 18.

iii. 2012, S. Nomura leg.

Remarks. This is one of the unrecorded species in this genus. It is characterized by the coarsely punctate head and pronotum.

9. *Leptoplectus* sp. 1*

Specimens examined. [2012] 1 male, 16 km point by TWT, 16–23. iii. 2012, S. Nomura leg.

Remarks. The genus *Leptoplectus* is recorded from this area for the first time. It differs from *Euplectus* in very small and slender body and the labrum with a small and transverse emargination on anteromedian margin.

10. *Methorius truncaticollis* Jeannel*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, same data as above, but 20. iii. 2012.

Remarks. This species was described by Jeannel (1952) from Saigon (Ho Chi-ming City), S Vietnam. It is recorded from Thailand for the first time.

11. *Amauronyx*? sp. 1

Specimens examined. [2012] 1 female, 16 km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.

12. *Pseudoplectus* sp. 1

Specimens examined. [2012] 1 female, 16 km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.

13. *Pseudoplectus*? sp. 1*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

Remarks. This species is characteristic for very small body (ca. 0.6 mm) and the large abdominal tergite IV.

14. *Pseudoplectus*? sp. 2*

Specimens examined. [2012] 1 female, 17 km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

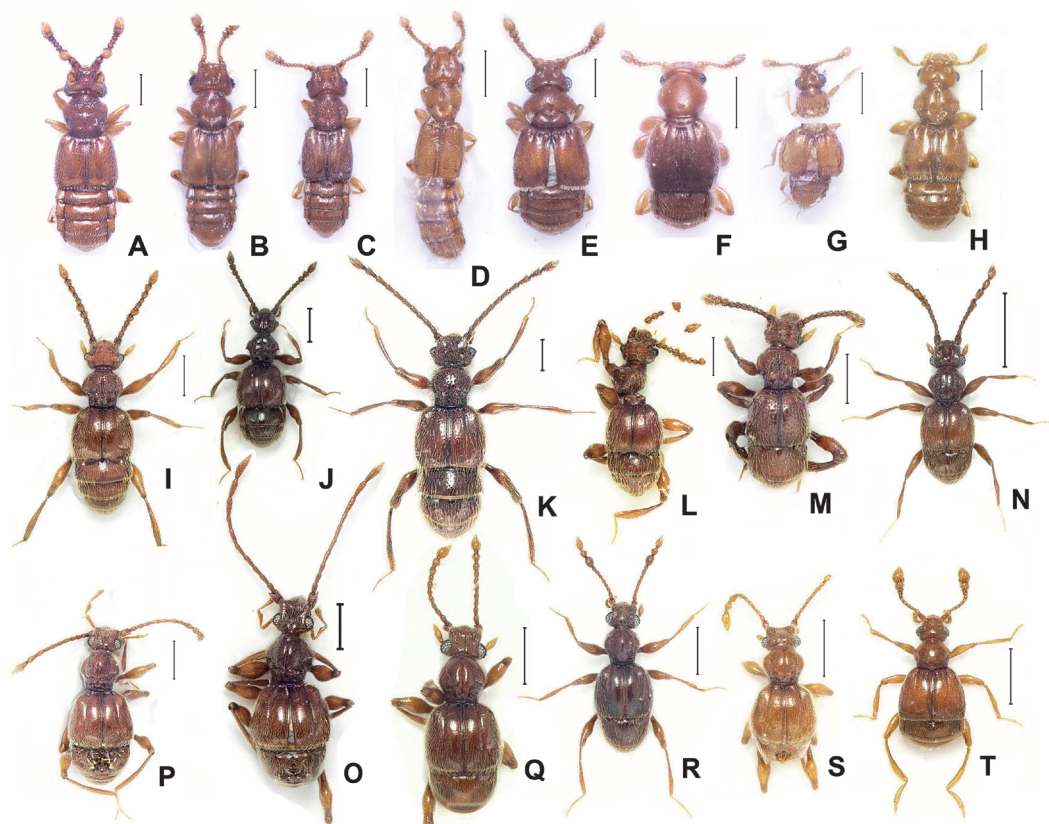


Fig. 3. Pselaphine species newly collected from the Kaeng Krachan National Park, part 1/2. — A, *Bolboze-
thus boosteri*; B, *Euplectus* sp. 5; C, *Euplectus* sp. 6; D, *Leptoplectus* sp. 1; E, *Methorius truncaticollis*; F,
Pseudoplectus? sp. 1; G, *Pseudoplectus?* sp. 2; H, *Piptoncus* sp. 1; I, *Tribasodites* sp. 13; J, *Tribasodites* sp.
14; K, *Tribasodites* sp. 15; L, *Tribasodites* sp. 16; M, *Tribasodites* sp. 17; N, *Trisinus* sp. 4; O, *Cratna* sp. 1; P,
Cratna sp. 2; Q, *Batrisiella* sp. 3; R, *Trisiniotus* sp. 1; S, *Batriscenaulax* sp. 3; T, *Trissemus coomani*.

Remarks. This is probably the smallest (ca. 0.5 mm) species in this area. It is distinct in the short and transverse head with large eyes and the subconical abdomen.

15. *Piptoncus* sp. 1*

Specimens examined. [2012] 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 16 km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

Remarks. The genus *Piptoncus* was defined by Kurbatov (1991) on the basis of the type spe-

cies, *P. duplex* described from Primorski, Far East Russia. It is characterized by the abdominal segment IV with a pair of small projections on posterolateral sides in the male.

16. *Aphilia* sp. 2

Specimens examined. [2012] 1 male, 16 km point by TWT, 16–23. iii. 2012, S. Nomura leg.

17. *Pareuplectops* sp. 1

Specimens examined. [2010] 1 male, 16 km point (st. F), by LT (1 m above the ground), 28. x. 2010, S. Nomura leg.

Supertribe Batrisitae

18. *Anama* sp. 1

Specimens examined. [2010] 1 male, 1 female, Ban Krang Camp (st. A), by LT (1 m above the ground), 19. x. 2010, S. Nomura leg.; 2 females, same data as above (st. B), but 20. x. 2010; 1 female, same data as above (st. A), but 1–5 m above the ground, 21. x. 2010; 3 females, same data as above (st. C), but 22. x. 2010; 1 female, same data as above, but 23 x. 2010; 3 males, 16km point (st. D), by LT (1 m above the ground), 24. x. 2010, S. Nomura leg.; 6 males, same data as above (st. E), but 26. x. 2010; 1 male, same data as above, but 5 m above the ground, 27. x. 2010; 5 males, 1 female, same data as above (st. F), but 1 m above the ground, 28. x. 2010; 1 male, Ban Krang Camp, by LT, 25. x. 2010, M. Maruyama leg.; 2 males, 1 female, 16km point, by LT, 26. x. 2010, M. Maruyama leg. [2012] 1 male, 1 female, 16km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.; 1 female, 16km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 female 17km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5 m above the ground; 1 female, 16km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.

19. *Tribasodites* sp. 1

Specimens examined. [2010] 1 male, 16km point (st. F), by LT (1 m above the ground), 28. x. 2010, S. Nomura leg.; 10 males, 11 females, 16km point by shifting leaf litter, 24. x. 2010, S. Nomura leg.; 3 females, 16km point from decayed wood, 27. x. 2010, S. Nomura leg.

20. *Tribasodites* sp. 2

Specimens examined. [2010] 2 females, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 7 males, 7 females, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.; 2 males, 4 females, 30km point by shifting leaf litter, 26. x. 2010, S. Nomura leg.; 1 female, 27km point from decayed wood, 21. x.

2010, S. Nomura leg.

21. *Tribasodites* sp. 4

Specimens examined. [2010] 1 male, 16km point (st. D), by LT (5 m above the ground), 25. x. 2010, S. Nomura leg.; 1 male, same data as above (st. E), but 27. x. 2010; 1 male, same data as above (st. F), but 1 m above the ground, 28. x. 2010; 1 female, same data as above, but 5 m above the ground, 29. x. 2010; 1 male, 16km point, by LT, 22. x. 2010, M. Maruyama leg.; 1 male, Ban Krang Camp, by LT, 28. x. 2010, M. Maruyama leg. [2012] 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 17km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.; 1 male, 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

22. *Tribasodites* sp. 5

Specimens examined. [2010] 1 male, 16km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.; 1 male, 16km point from decayed wood, 27. x. 2010, S. Nomura leg.

23. *Tribasodites* sp. 6

Specimens examined. [2010] 1 male, 16km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.

24. *Tribasodites* sp. 11

Specimens examined. [2010] 2 females, 16km point (st. 2) by FIT (NG-7), 20–25. x. 2010, S. Nomura leg.; 1 male, 1 female, 16km point from decayed wood, 24. x. 2010, S. Nomura leg.; 3 males, 3 females, same data as above, but, 27. x. 2010.

25. *Tribasodites* sp. 12

Specimens examined. [2010] 2 females, 16km point by shifting leaf litter, 24. x. 2010, S. Nomura leg.

26. *Tribasodites* sp. 13*

Specimens examined. [2010] 2 females,

27km point, from decayed wood, 21. x. 2010, S. Nomura leg.; 1 female, Ban Krang Camp, by sifting leaf litter, 22. x. 2010, S. Nomura leg. [2012] 1 male, Bang Krang Camp (st. G), by LT (5 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 16km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.

Remarks. The genus *Tribasodites* differs from the genus *Tribasodes* by having the head with sexual modification and the abdomen without depression at base. In Kaeng Krachan, twelve species are already known after Nomura *et al.* (2010), and five species are added in the present study.

27. *Tribasodites* sp. 14*

Specimens examined. [2010] 2 males, 11 females, Bang Krang Camp by shifting leaf litter, 23. x. 2010, S. Nomura leg.; 1 female, 27km point, from decayed wood, 21. x. 2010, S. Nomura leg.; 2 males, 30km point, by sifting leaf litter, 26. x. 2010, S. Nomura leg. [2012] 1 female, 17km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.

Remarks. This species is middle-sized and characterized by the pronotum with a pair of well projected lateral denticles at the middle.

28 *Tribasodites* sp. 15*

Specimens examined. [2010] 1 male, 16km point, from decayed wood, 24. x. 2010, S. Nomura leg. [2012] 1 female, 17km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

Remarks. This species is easily separated from the other members of this genus by the large body together with subcylindrical elytra and abdomen, the distinctly transverse head and the pronotum densely covered with short and curved hairs.

29. *Tribasodites* sp. 16*

Specimens examined. [2010] 1 male, 16km point from decayed wood, 24. x. 2010, S. Nomura leg.; 1 male, same data as above, but 27. x. 2010.

Remarks. This is a middle-sized species characterized by the antenna with strongly broadened segments V and VI and the postgenae each with short and transverse sulcus and a trichome.

30. *Tribasodites* sp. 17*

Specimens examined. [2010] 4 males, 16km point from decayed wood, 24. x. 2010, S. Nomura leg.; 5 males, 3 females, same data as above, but, 27. x. 2010.

Remarks. This species is characteristic in having the thick antenna, thick and slightly curved legs and the elytra sparsely with coarse and round punctures on dorsal side.

31. *Mnia* sp. 1

Specimens examined. [2010] 2 males, 4 females, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.

32. *Trisinus* sp. 1**

Specimens examined. [2010] 1 male, Bang Krang Camp (st. B), by LT (1 m above the ground), 20. x. 2010, S. Nomura leg.; 1 male, 16km point (st. D), by LT (1 m above the ground), 24. x. 2010, S. Nomura leg.; 1 male, same data as above (st. D), but 5 m above the ground, 25. x. 2010.; 1 female, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.; 1 male, 3 females, 30km point by shifting leaf litter, 26. x. 2010, S. Nomura leg.

Remarks. Three species of *Batrisoplisus* have already known from Kaeng Krachan by Nomura *et al.* (2010). The genus *Batrisoplisus* Raffray, 1908 was synonymized with *Trisinus* Raffray, 1894 by Yin *et al.* (2012). These three species should therefore be renamed *Trisinus* sp. 1, sp. 2 and sp. 3.

33. *Trisinus* sp. 2**

Specimens examined. [2010] 2 males, Bang Krang Camp (st. C), by LT (1–5 m above the ground), 22. x. 2010, S. Nomura leg.; 1 male, 16km point (st. E), by LT (1 m above the ground), 26. x. 2010, S. Nomura leg.; 2 males, Ban Krang Camp, by LT, 21. x. 2010, M.

Maruyama leg.; 2 males, 16 km point, by LT, 22. x. 2010, M. Maruyama leg.; 1 male, 16 km point by TWT, 16–23. iii. 2012, S. Nomura leg. [2012] 1 male, Bang Krang Camp (st. G), by LT (5 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 17 km point (st. L), by LT (5 m above the ground), 22. iii. 2012, S. Nomura leg.

34. *Trisinus* sp. 3**

Specimens examined. [2010] 1 male, 16 km point (st. D), by LT (5 m above the ground), 24. x. 2010, S. Nomura leg.; 1 male, same data as above, but 25. x. 2010. [2012] 2 males, 17 km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.

35. *Trisinus* sp. 4*

Specimens examined. [2012] 1 male, 16 km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.

Remarks. This species is new to the pselaphine fauna of Kaeng Krachan. It is characterized by the very long antennae each with sexual modification on the segments VIII to IX in the male.

36. *Cratna* sp. 1*

Specimens examined. [2010] 1 male, 16 km point (st. E), by LT (1 m above the ground), 26. x. 2010, S. Nomura leg.

Remarks. No species of the genus *Cratna* has been known from Kaeng Krachan, though each one species is recorded from Doi Inthanon and Khao Yai National Parks by Nomura *et al.* (2008). This species is characterized by the large body and very long and elongate antennae.

37. *Cratna* sp. 2*

Specimens examined. [2010] 1 male, 16 km point, by LT, 26. x. 2010, M. Maruyama leg.

Remarks. Two species of the genus *Cratna* were collected from Kaeng Krachan. They are similar to each other in having the large sexual patch on abdominal tergite IV. This species differs from sp. 1 by the small body, short antenna and the different structure of sexual patch.

38. *Trisiniotus* sp. 1*

Specimens examined. [2012] 1 male, 17 km point (st. K), by LT (5 m above the ground), 21. iii. 2012, S. Nomura leg.

Remarks. The genus *Trisiniotus* was defined by Jeannel (1960) on the basis of the type species, *T. nodicornis* from Kumaon, India. It is distinct in having the large eyes and the antenna with strongly swollen segment X in the male. This species collected from Kaeng Krachan is different from the type species by the strongly swollen segment IX larger than X.

39. *Batrasiella* sp. 1

Specimens examined. [2010] 1 male, Bang Krang Camp (st. B), by LT (1 m above the ground), 20. x. 2010, S. Nomura leg.; 2 males, same data as above (st. C), but 1–5 m above the ground, 22. x. 2010; 2 males, 16 km point (st. D), by LT (1 m above the ground), 24. x. 2010, S. Nomura leg.; 2 males, same data as above, but 5 m above the ground; 1 male, same data as above, but 25. x. 2010; 6 males, same data as above (st. E), but 1 m above the ground, 26. x. 2010.; 2 males, same data as above, but 5 m above the ground, 27. x. 2010; 2 males, same data as above (st. F), but 1 m above the ground, 28. x. 2010; 3 males, same data as above, but 5 m above the ground, 29. x. 2010; 1 male, Ban Krang Camp, by LT, 21. x. 2010, M. Maruyama leg.; 1 male, same data as above, but 16 km point, 22. x. 2010; 7 males, same data as above, but 25. x. 2010; 1 male, Ban Krang Camp, by LT (HID), 26. x. 2010, M. Maruyama leg.; 5 males, same locality as above, by LT, 28. x. 2010, M. Maruyama leg.; 5 males, same data as above, but 16 km point, 29. x. 2010.

40. *Batrasiella* sp. 3*

Specimens examined. [2010] 1 male, 16 km point (st. E), by LT (5 m above the ground), 27. x. 2010, S. Nomura leg.

Remarks. This genus is similar to *Arthromelodes* and *Batriscenaulax* in having the large sexual patch on the abdominal tergite IV, but it is separable by the antennal segment I with a conical

cal trichome at the external side of the apex. This species is characterized by the abdominal tergite IV with a transverse depression densely covered with secretory setae near apex.

41. *Physomerinus femoralis* (Motschulsky)

Specimens examined. [2010] 2 males, Bang Krang Camp (st. A), by LT (1–5 m above the ground), 21. x. 2010, S. Nomura leg.; 2 males, same data as above (st. C), but 22. x. 2010; 3 males, same data as above, but 23. x. 2010; 2 males, 16 km point (st. D), by LT (5 m above the ground), 24. x. 2010, S. Nomura leg.; 2 males, same data as above, but 25. x. 2010; 1 male, same data as above (st. E), but 1 m above the ground, 26. x. 2010.; 2 males, same data as above, but 5 m above the ground, 27. x. 2010; 1 male, same data as above (st. F), but 1 m above the ground, 28. x. 2010; 4 males, Ban Krang Camp, by LT, 25. x. 2010, M. Maruyama leg.; 1 male, same data as above, but 16 km point, 29. x. 2010. [2012] 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 16 km point (st. H), by LT (5 m above the ground), 17. iii. 2012, S. Nomura leg.; 1 male, same locality as above (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 male, same locality as above (st. I), by LT (5 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

42. *Batriscenaulax* sp. 1

Specimens examined. [2010] 1 male, Ban Krang Camp (st. A), by LT (1 m above the ground), 19. x. 2010, S. Nomura leg.; 1 male, same data as above, but 5 m above the ground; 1 male, same data as above, but 1–5 m above the ground, 21. x. 2010; 2 males, 16 km point (st. F), by LT (1 m above the ground), 28. x. 2010, S. Nomura leg.; 2 males, same data as above, but 5 m above the ground, 29. x. 2010; 1 male, Ban Krang Camp, by LT, 19. x. 2010, M. Maruyama leg.; 1 male, same data as above, but 25. x. 2010.

43. *Batriscenaulax* sp. 2

Specimens examined. [2010] 1 male, Ban Krang Camp (st. A), by LT (1 m above the ground), 19. x. 2010, S. Nomura leg.; 1 male, same data as above, but 5 m above the ground; 3 males, same data as above, but 1–5 m above the ground, 21. x. 2010; 2 males, same data as above (st. C), but 22. x. 2010; 2 males, same data as above, but 23. x. 2010; 2 males, 16 km point (st. D), by LT (5 m above the ground), 24. x. 2010, S. Nomura leg.; 1 male, same data as above, but 25. x. 2010; 1 male, same data as above (st. E), but 1 m above the ground, 26. x. 2010.; 1 male, same data as above, but 5 m above the ground, 27. x. 2010; 3 males, same data as above (st. F), but 1 m above the ground, 28. x. 2010; 4 males, same data as above, but 5 m above the ground, 29. x. 2010; 2 males, Ban Krang Camp, by LT, 19. x. 2010, M. Maruyama leg.; 1 male, same data as above, but 21. x. 2010; 1 male, same data as above, but 16 km point, 22. x. 2010; 1 male, same data as above, but 26. x. 2010; 2 males, Ban Krang Camp, by LT, 28. x. 2010, M. Maruyama leg.; 4 males, same data as above, but 16 km point, 29. x. 2010; 1 female, 16 km point from decayed wood, 27. x. 2010, S. Nomura leg.

44. *Batriscenaulax* sp. 3*

Specimens examined. [2010] 1 male, 16 km point (st. E), by LT (1 m above the ground), 26. x. 2010, S. Nomura leg.

Remarks. This species is similar to *B.* sp. 1, but is separable by the abdominal tergite IV with small and deep concavity in posteromedian part in the male.

45. *Arthromelodes* sp. 1

Specimens examined. [2010] 1 male, Bang Krang Camp (st. C), by LT (1–5 m above the ground), 22. x. 2010, S. Nomura leg.; 1 male, same locality as above (st. D), by LT, 25. x. 2010, M. Maruyama leg.; 1 male, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 1 male, 5 females, 30 km point by shifting leaf litter, 26. x. 2010, S. Nomura leg.

Supertribe Goniaceritae

46. *Harmophorus* sp. 2

Specimens examined. [2010] 1 female, Bang Krang Camp (st. B), by LT (1m above the ground), 20. x. 2010, S. Nomura leg.; 1 male, 16km point (st. 2) by FIT (NG-7), 20–25. x. 2010, S. Nomura leg.; 1 male, same data as above, but 25–29. x. 2010; 2 males, 2 females, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.; 1 female, 27km point, from decayed wood, 21. x. 2010, S. Nomura leg. [2012] 1 female, Bang Krang Camp (st. G), by LT (1m above the ground), 16. iii. 2012, S. Nomura leg.

47. *Harmophorus* sp. 3

Specimens examined. [2010] 1 male, 1 female, 16km point (st. 1) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.; 1 male, 1 female, same data as above, but st. 2, 20–25. x. 2010; 1 male, same data as above, but 25–29. x. 2010; 1 male, 30km point, by sifting leaf litter, 26. x. 2010, S. Nomura leg. [2012] 3 females, Bang Krang Camp (st. G), by LT (1m above the ground), 16. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5m above the ground; 2 females, 16km point (st. H), by LT (1m above the ground), 17. iii. 2012, S. Nomura leg.; 1 male, same data as above, but 5m above the ground, 17. iii. 2012, S. Nomura leg.; 1 male, same locality as above (st. I), by LT (1m above the ground), 18. iii. 2012, S. Nomura leg.; 1 male, 17km point (st. K), by LT (1m above the ground), 21. iii. 2012, S. Nomura leg.

48. *Harmophorus* sp. 4

Specimens examined. [2010] 1 female, Bang Krang Camp by LT, 25. x. 2010, M. Maruyama leg.; 1 female, 16km point (st. 2) by FIT (NG-7), 20–25. x. 2010, S. Nomura leg.; 1 male, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 1 male, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.

49. *Harmophorus* sp. 5

Specimens examined. [2010] 1 female, Bang Krang Camp (st. C), by LT (1–5m above the ground), 22. x. 2010, S. Nomura leg.; 1 female, 16km point (st. D), by LT (5m above the ground), 24. x. 2010, S. Nomura leg.; 1 male, same data as above, but 25. x. 2010.; 1 female, same data as above (st. E), but 27. x. 2010; 1 female, same data as above (st. F), but 1m above the ground, 28. x. 2010; 1 female, Ban Krang Camp, by LT, 25. x. 2010, M. Maruyama leg.; 4 females, 16km point, by LT, 26. x. 2010, M. Maruyama leg.; 1 male, 2 females, 30km point by shifting leaf litter, 26. x. 2010, S. Nomura leg. [2012] 1 female, Bang Krang Camp (st. G), by LT (1m above the ground), 16. iii. 2012, S. Nomura leg.; 1 female, 17km point (st. K), by LT (1m above the ground), 21. iii. 2012, S. Nomura leg.

50. *Harmophorus* sp. 6

Specimens examined. [2010] 1 female, 16km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.

51. *Sunorfa* sp. 1

Specimens examined. [2010] 1 male, 16km point, from decayed wood, 24. x. 2010, S. Nomura leg.; 1 female, same locality as above (st. F), but by LT (1m above the ground), 28. x. 2010, S. Nomura leg.; 1 female, same locality as above, but by LT, 26. x. 2010, M. Maruyama leg.; 1 male, 16km point by TWT, 16–23. iii. 2012, S. Nomura leg.; 1 female, 16km point from decayed wood, 27. x. 2010, S. Nomura leg. [2012] 1 female, 16km point (st. H), by LT (1m above the ground), 17. iii. 2012, S. Nomura leg.; 1 male, same data as above, 5m above the ground; 1 female, same locality as above (st. I), by LT (1m above the ground), 18. iii. 2012, S. Nomura leg.; 1 female, but 5m above the ground.

52. *Natyleurus* sp. 1

Specimens examined. [2010] 2 females, 27km point from decayed wood, 21. x. 2010, S. Nomura leg.

53. *Morana* sp. 2

Specimens examined. [2010] 1 male, Ban Krang Camp (st. C), by LT (1–5 m above the ground), 23. x. 2010, S. Nomura leg.; [2012] 1 male, 16 km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.

54. *Morana* sp. 3

Specimens examined. [2010] 1 male, 16 km point (st. E), by LT (1 m above the ground), 26. x. 2010, S. Nomura leg.; 1 female, same data as above (st. F), but 28. x. 2010.

55. *Trissemus coomani* Jeannel*

Specimens examined. [2012] 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 3 males, same data as above, 20. iii. 2012, S. Nomura leg.; 1 male, but 5 m above the ground.

Remarks. This species was described by Jeannel (1957) from Tonkin (Ha Noi), Vietnam. It is recorded from Thailand for the first time. Its diagnostic characters are the middle size a body, the mid tibiae each with very short mucro at apex in the male.

56. *Trissemus* sp. 1

Specimens examined. [2010] 1 male, Ban Krang Camp (st. C), by LT (1–5 m above the ground), 23. x. 2010, S. Nomura leg.; 1 female, same locality as above, by LT (HID), 26. x. 2010, M. Maruyama leg. [2012] 9 females, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5 m above the ground; 5 females, 16 km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5 m above the ground; 1 male, 16 km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 2 males, 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.; 1 male, 17 km point (st. L), by LT (5 m above the ground), 22. iii. 2012, S. Nomura leg.

57. *Trissemus* sp. 3*

Specimens examined. [2012] 1 male, 17 km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.

Remarks. This species is very similar to *T. eurycnemis* described by Jeannel, 1957 from Tonkin, Vietnam in having the distally broadened hind tibiae in the male. However, it is separated by the different form of male genitalia.

58. *Reichenbachia* sp. 1*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (5 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 male, 3 females, 17 km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5 m above the ground, 21. iii. 2012, S. Nomura leg.; 3 females, same locality as above (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.; 1 male, 1 female, same data as above, but 5 m above the ground.

Remarks. The genus *Reichenbachia* is separable from *Trissemus* in having the elytra each with two basal foveae (three foveae in *Trissemus*). From Kaeng Krachan, no species has previously been known. In the present study, three undescribed species are recognized. *R.* sp. 1 is separable from the other two species by the dull and pubescent dorsal surface of the body, the simple and slender antenna, and the mid tibiae each with a very short mucro at apex in the male.

59. *Reichenbachia* sp. 2*

Specimens examined. [2012] 2 males, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

Remarks. This species is separated from the other members of this genus by the shiny and smooth surface on the dorsal side.

60. *Reichenbachia* sp. 3*

Specimens examined. [2012] 1 male, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

Remarks. This species is distinct in the male

antennae each with thickened segment IV.

61. *Atenisodus* sp. 1*

Specimens examined. [2010] 1 female, Ban Krang Camp, by LT, 25. x. 2010, M. Maruyama leg.; 1 female, 16km point by shifting leaf litter, 24. x. 2010, S. Nomura leg. [2012] 1 female, 17km point (st. K), by LT (1m above the ground), 21. iii. 2012, S. Nomura leg.

Remarks. The genus *Atenisodus* was already recorded from Thailand (Khao Yai N. P.) by Nomura *et al.* (2008b).

62. *Batraxis raffrayana* (Blattný)

Specimens examined. [2010] 1 male, 1 female, Ban Krang Camp, by LT (1–5m above the ground), 23. x. 2010, S. Nomura leg.; 1 male, 3 females, 27km point from decayed wood, 21. x. 2010, S. Nomura leg. ; 1 male, 30km point, from decayed wood, 26. x. 2010, S. Nomura leg. [2012] 1 male, 16km point (st. I), by LT (1m above the ground), 18. iii. 2012, S. Nomura leg.

63. *Batraxis* sp. 2

Specimens examined. [2010] 10 males, 5 females, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.; 1 male, 16km point, from decayed wood, 24. x. 2010, S. Nomura leg.; 2 female, 16km point, from decayed wood, 27. x. 2010, S. Nomura leg. [2012] 1 male, 16km point by TWT, 16–23. iii. 2012, S. Nomura leg.;

64. *Batraxis* sp. 3*

Specimens examined. [2010] 1 female, 16km point (st. H), by LT (5m above the ground), 17. iii. 2012, S. Nomura leg.; 1 female, 16km point from decayed wood, 24. x. 2010, S. Nomura leg.; 3 females, same data as above, but, 27. x. 2010.

Remarks. This is the third undescribed species of the genus *Batraxis* from Kaeng Krachan. It is very similar to *B.* sp. 2 known from Kaeng Krachan by Nomura *et al.* (2010), but is separated by the small body and the different shape of the antennal club.

65. *Eupines shaerica* (Motschulsky)*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (1m above the ground), 20. iii. 2012, S. Nomura leg.

Remarks. This species is widely distributed in East to Southeast Asia. It was already recorded from Thailand by Schaufuss (1877) as shown in Nomura *et al.* (2008a).

66. *Eupines* sp. 1*

Specimens examined. [2010] 1 female, Bang Krang Camp (st. A), by LT (1–5m above the ground), 21. x. 2010, S. Nomura leg.; 2 males, 2 females, same data as above, but 23. x. 2010. [2012] 2 females, Bang Krang Camp (st. G), by LT (1m above the ground), 20. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5m above the ground.

Remarks. This species differs from the other member of the genus *Eupines* by having the small body sparsely covered with minute pubescence.

67. *Plagiophorus* sp. 2 (*Denicyathiger*)

Specimens examined. [2010] 1 female, 16km point from decayed wood, 27. x. 2010, S. Nomura leg.; 2 males, 16km point, by sifting leaf litter, 24. x. 2010, S. Nomura leg. [2012] 1 male, 16km point by TWT, 16–23. iii. 2012, S. Nomura leg.;

68. *Plagiophorus* sp. 4

Specimens examined. [2010] 1 male, 16km point by shifting leaf litter, 24. x. 2010, S. Nomura leg.

69. *Plagiophorus* sp. 6

Specimens examined. [2012] 1 female, 16km point (st. H), by LT (1m above the ground), 17. iii. 2012, S. Nomura leg.; 1 female, same locality as above (st. I), by LT (1m above the ground), 18. iii. 2012, S. Nomura leg.; 1 female, same data as above, but 5m above the ground.

70. *Plagiophorus* sp. 8 (*Paracyathiger*)

Specimens examined. [2010] 4 females, Ban

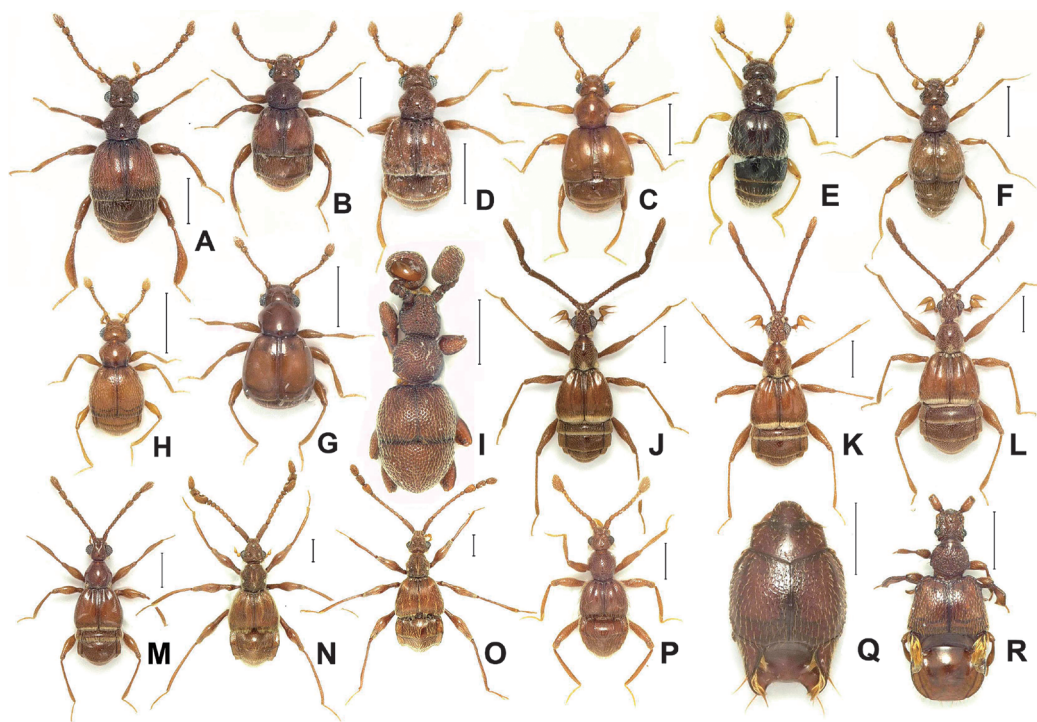


Fig. 4. Pselaphine species newly collected from the Kaeng Krachan National Park, part 2/2. — A, *Trissemus* sp. 3; B, *Reichenbachia* sp. 1; C, *Reichenbachia* sp. 2; D, *Reichenbachia* sp. 3; E, *Batraxis* sp. 3; F, *Atenisodus* sp. 1; G, *Eupines sphaerica* (Motschulsky); H, *Eupines* sp. 1; I, *Plagiophorus* sp. 14; J, *Ctenistidius coomani*, male; K, ditto, female; L, *Ctenistes* sp. 1; M, *Enoptostomus* sp. 1; N, *Pselaphodes* sp. 2; O, *Pselaphodes* sp. 3; P, *Saltisedes* sp. 1; Q, *Pseudacerus* sp. 1; R, *Mastiger* sp. 1.

Krang Camp, by sifting leaf litter, 22. x. 2010, S. Nomura leg.; 2 males, 16km point by shifting leaf litter, 24. x. 2010, S. Nomura leg.

71. *Plagiophorus* sp. 9 (*Paracyathiger*)

Specimens examined. [2010] 3 females, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 1 male, 30km point, by sifting leaf litter, 26. x. 2010, S. Nomura leg.

72. *Plagiophorus* sp. 14*

Specimens examined. [2010] 3 males, 2 females, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.

Remarks. The genus *Plagiophorus* is already known from Kaeng Krachan with thirteen undescribed species. This species is distinguished from the known species by the middle-sized body and the seven-segmented antennae each

with large and round antennal club strongly excavated on the inner side in the male.

Supertribe Pselaphitae

73. *Apharinodes* sp. 2

Specimens examined. [2010] 2 males, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 1 female, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.

74. *Pseudophanias* sp. 1

Specimens examined. [2010] 1 male, 1 female, Bang Krang Camp by shifting leaf litter, 22. x. 2010, S. Nomura leg.; 1 male, 27km point by shifting leaf litter, 21. x. 2010, S. Nomura leg.

75. *Saltisedes* sp. 1*

Specimens examined. [2010] 1 male, 1

female, 16km point from decayed wood, 24. x. 2010, S. Nomura leg.; 1 male, 1 female, same data as above, but, 27. x. 2010; 2 males, 2 females, 27km point from decayed wood, 21. x. 2010, S. Nomura leg.

Remarks. The genus *Saltisedes* was defined by Kubota (1944) with the description of the type species, *S. brunneus* from Japan. In Kaeng Krachan, this species was collected only from decayed wood.

76. *Tmesiphorus* sp. 2

Specimens examined. [2010] 1 male, 16km point (st. 2) by FIT (NG-7), 25–29. x. 2010, S. Nomura leg.; 1 female, 30km point by shifting leaf litter, 26. x. 2010, S. Nomura leg.

77. *Raphitreus* sp. 1

Specimens examined. [2010] 1 male, 16km point (st. E), by LT (1 m above the ground), 26. x. 2010, S. Nomura leg.; 1 female, 27km point from decayed wood, 21. x. 2010, S. Nomura leg.; 2 females, 30km point from decayed wood, 26. x. 2010, S. Nomura leg.

78. *Megatyrrus masumotoi* Nomura *et al.***

Specimens examined. [2010] 1 male, 16km point, by sifting leaf litter, 24. x. 2010, S. Nomura leg.

Remarks. In Nomura *et al.* (2010), this species was recorded from Kaeng Krachan as *M.* sp. 1. After that, it was described by Nomura *et al.* (2011).

79. *Pselaphodes* sp. 1

Specimens examined. [2010] 1 male, Bang Krang Camp (st. C), by LT (1–5 m above the ground), 22. x. 2010, S. Nomura leg.; 2 males, same locality as above, by LT, 25. x. 2010, M. Maruyama leg.; 1 male, same locality as above, by LT (HID), 26. x. 2010, M. Maruyama leg.; 1 male, same locality as above, by LT, 28. x. 2010, M. Maruyama leg.; 2 males, same data as above, but 16km point, 29. x. 2010. [2012] 2 males, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 2 males,

same data as above, but 5 m above the ground; 1 male, 17km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.

80. *Pselaphodes* sp. 2*

Specimens examined. [2012] 1 male, 16km point (st. H), by LT (5 m above the ground), 17. iii. 2012, S. Nomura leg.

Remarks. This species is very similar to *P.* sp. 1 in general aspect, but is separated by the distally thickened antennal segment IX with V-shaped excavation at the apex in the male.

81. *Pselaphodes* sp. 3*

Specimens examined. [2012] 1 male, 16km point (st. I), by LT (1 m above the ground), 18. iii. 2012, S. Nomura leg.; 1 male, 17km point (st. K), by LT (5 m above the ground), 21. iii. 2012, S. Nomura leg.

Remarks. This species is distinguished from the other species of *Pselaphodes* in Kaeng Krachan by the slender and subcylindrical antennal segment IX with a round tubercle on the dorsal side near the apex in the male.

82. *Labomimus* sp. 1

Specimens examined. [2012] 1 male, 16km point (st. I), by LT (5 m above the ground), 18. iii. 2012, S. Nomura leg.

83. *Centrophthalmus* sp. 1*

Specimen examined. [2010] 1 female, Ban Krang Camp, by LT, 25. x. 2010, M. Maruyama leg.

Remarks. The genus *Centrophthalmus* has been known from Thailand together with four known species as shown in Nomura *et al.* (2008a). One undescribed species was also reported from Khao Yai N. P. by Nomura *et al.* (2008b).

84. *Ctenistidius coomani* Jeanne1*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.; 1 female, 16km point (st. H), by LT (1 m above the

ground), 17. iii. 2012, S. Nomura leg.; 1 male, 2 females, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.; 1 male, 5 females, 17km point (st. K), by LT (1 m above the ground), 21. iii. 2012, S. Nomura leg.; 1 male, same locality as above (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

Remarks. This genus was defined by Jeannel (1957) together with the description of the type species, *C. coomani*. from Tonkin (Hoa Binh near Ha Noi), Vietnam. It is closely allied to the genus *Ctenistes* in having the antennae in the male each with very long and elongate club formed by four apical segments. However, the antennal club is curved between antennal segments IX and X in this genus. This genus and

this species are recorded from Thailand for the first time in the present study.

85. *Ctenistes* sp. 1*

Specimens examined. [2012] 1 female, 16km point (st. H), by LT (1 m above the ground), 17. iii. 2012, S. Nomura leg.; 1 female, 17km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

Remarks. This genus is firstly recorded from Thailand in the present study. The male character of this species is still unknown. The female is very similar to the female of *Ctenistidium coomani*, but it is separable by the maxillary palpi each with strongly swollen segment III and the almost equal abdominal segments IV and V in length.

Table 1. Condition and result of light trap survey in Kaeng Krachan National Park in Mar. 2010 (part 1/2).

Date	19th	19th	20th	21th	22th	23th	24th	24th
Collecting site	A	A	B	A	C	C	D	D
Collected traps / set traps	2/3	1/3	3/3	6/6	5/6	5/5	3/3	2/2
Position	LP	HP	LP	LP/HP	LP/HP	LP/HP	LP	HP
Climate	FN	FN	CL/FN	FN/CL	FN/CL	FN/CL	CL	CL
<i>Parapyxidicerus</i> sp. 2			1				1	
<i>Pareuplectops</i> sp. 1								
<i>Anama</i> sp. 1	2		2	1	3	1	3	
<i>Tribasodites</i> sp. 1								
<i>Tribasodites</i> sp. 4								
<i>Trisinus</i> sp. 1			1				1	
<i>Trisinus</i> sp. 2					2			
<i>Trisinus</i> sp. 3								1
<i>Cratna</i> sp. 1								
<i>Batrasiella</i> sp. 1			1		2		2	2
<i>Batrasiella</i> sp. 3*								
<i>Physomerinus femoralis</i>				2	2	3		2
<i>Batriscenaulax</i> sp. 1	1	1		1				
<i>Batriscenaulax</i> sp. 2	1	1		3	2			2
<i>Batriscenaulax</i> sp. 3*								
<i>Arthromelodes</i> sp. 1					1			
<i>Harmophorus</i> sp. 2			1					
<i>Harmophorus</i> sp. 5					1			1
<i>Sunorfa</i> sp. 1								
<i>Morana</i> sp. 2						1		
<i>Morana</i> sp. 3								
<i>Trissemus</i> sp. 1						1		
<i>Batraxis raffrayana</i>						2		
<i>Eupines</i> sp. 1*				1		4		
<i>Raphitreus</i> sp. 1								
<i>Pselaphodes</i> sp. 1					1			
Number of species	3	2	5	5	7	7	4	5
Number of specimens	4	2	6	8	14	14	7	8

86. *Enoptostomus* sp. 1*

Specimens examined. [2010] 1 male, 16 km point, by LT, 26. x. 2010, M. Maruyama leg. [2012] 1 male, 17 km point (st. L), by LT (1 m above the ground), 22. iii. 2012, S. Nomura leg.

Remarks. This is the first record of this genus from Thailand. It is easily separated from the other ctenistine genera by the small maxillary palpi, the transverse head and the large abdominal tergite V twice as long as IV.

Supertribe Clavigeritae

87. *Pseudacerus* sp. 1*

Specimens examined. [2012] 3 males, Bang Krang Camp (st. G), by LT (1 m above the ground), 16. iii. 2012, S. Nomura leg.

Remarks. The genus *Pseudacerus* was

defined by Raffray (1895) on the basis of the type species, *P. furcatus* from Singapore. It is easily separated from the other clavigerine genera by the small head with short antennae and the large abdomen with very large excavation on the posterodorsal side. This species from Kaeng Krachan is very similar to the type species, but differs by the small body and the long and arcuate spine on the posterior side of the mid trochanter in the male.

88. *Articerodes thailandicus* Nomura *et al.*

Specimens examined. [2012] 1 female, Bang Krang Camp (st. G), by LT (1 m above the ground), 20. iii. 2012, S. Nomura leg.

89. *Mastiger* sp. 1**

Specimens examined. [2012] 2 males 1

Table 2. Condition and result of light trap survey in Kaeng Krachan National Park in Oct. 2010 (part 2/2).

Date	25th	26th	27th	28th	29th	Total
Collecting site	D	E	E	F	F	
Collected traps/set traps	6/6	6/6	6/6	6/6	6/6	
Position	HP	LP	HP	LP	HP	
Climate	CL	CL/RA	CL/RA	RA/CL	CL	
<i>Parapyxidicerus</i> sp. 2		1		3		6
<i>Pareuplectops</i> sp. 1				1		1
<i>Anama</i> sp. 1		6	1	6		25
<i>Tribasodites</i> sp. 1				1		1
<i>Tribasodites</i> sp. 4	1		1	1	1	4
<i>Trisinus</i> sp. 1	1					3
<i>Trisinus</i> sp. 2		1				3
<i>Trisinus</i> sp. 3	1					2
<i>Cratna</i> sp. 1		1				1
<i>Batrasiella</i> sp. 1	1	6	2	2	3	21
<i>Batrasiella</i> sp. 3*			1			1
<i>Physomerinus femoralis</i>	2	1	2	1		15
<i>Batriscenaulax</i> sp. 1				2	2	7
<i>Batriscenaulax</i> sp. 2	1	1	1	3	4	21
<i>Batriscenaulax</i> sp. 3*		1				1
<i>Arthromelodes</i> sp. 1						1
<i>Harmophorus</i> sp. 2						1
<i>Harmophorus</i> sp. 5	1		1	1		5
<i>Sunorfa</i> sp. 1				1		1
<i>Morana</i> sp. 2						1
<i>Morana</i> sp. 3		1		1		2
<i>Trissemus</i> sp. 1						1
<i>Batraxis raffrayana</i>						2
<i>Eupines</i> sp. 1*						5
<i>Raphitreus</i> sp. 1		1				1
<i>Pselaphodes</i> sp. 1						1
Number of species	7	10	7	12	4	26
Number of specimens	8	20	9	23	10	133

Table 3. Condition and result of light trap survey in Kaeng Krachan National Park in Mar. 2012 (part 1/2).

Date	16th	16th	17th	17th	18th	18th	19th	19th
Collecting site	G	G	H	H	I	I	J	J
Collected traps/set traps	3/6	3/6	6/9	3/9	6/9	3/9	6/9	3/9
Position	LP	HP	LP	HP	LP	HP	LP	HP
Climate	RA/FN	RA/FN	FN	FN	FN	FN	FN	FN
Bythinoplectina, gen. sp. 1					1			
<i>Bolbozethus boosteri</i> *					1			
<i>Parapyxidicerus</i> sp. 3							1	
Pyxidicerina, gen. sp. 4	7							
<i>Euplectus</i> sp. 5*			1					
<i>Euplectus</i> sp. 6*					1			
<i>Methorius truncaticollis</i> *	1							
<i>Amauroyx?</i> sp. 1					1			
<i>Pseudoplectus</i> sp. 1					1			
<i>Pseudoplectus?</i> sp. 1*								
<i>Pseudoplectus?</i> sp. 2*								
<i>Piptoncus</i> sp. 1*	1					1		
<i>Anama</i> sp. 1			2		1			
<i>Tribasodites</i> sp. 4	1		1					
<i>Tribasodites</i> sp. 13*		1	1					
<i>Tribasodites</i> sp. 14*								
<i>Tribasodites</i> sp. 15*								
<i>Trisinus</i> sp. 2		1						
<i>Trisinus</i> sp. 3								
<i>Trisinus</i> sp. 4*			1					
<i>Trisiniotus</i> sp. 1*								
<i>Physomerinus femoralis</i>	1			1	1	1		
<i>Harmophorus</i> sp. 2	1							
<i>Harmophorus</i> sp. 3	3	1	2	1	1			
<i>Harmophorus</i> sp. 5	1							
<i>Sunorfa</i> sp. 1			1	1	1	1		
<i>Morana</i> sp. 2			1					
<i>Trissemus coomani</i>	1							
<i>Trissemus</i> sp. 1	10	1	5	1	1			
<i>Trissemus</i> sp. 3*								
<i>Reichenbachia</i> sp. 1*		1						
<i>Reichenbachia</i> sp. 2*								
<i>Reichenbachia</i> sp. 3*								
<i>Atenisodus</i> sp. 1*								
<i>Batraxis raffrayana</i>					1			
<i>Batraxis</i> sp. 3*					1			
<i>Eupines shaerica</i> *								
<i>Eupines</i> sp. 1*								
<i>Plagiophorus</i> sp. 6			1		1	1		
<i>Pselaphodes</i> sp. 1	2	2						
<i>Pselaphodes</i> sp. 2*				1				
<i>Pselaphodes</i> sp. 3*					1			
<i>Labomimus</i> sp. 1							1	
<i>Ctenistidius coomani</i> *	1		1					
<i>Ctenistes</i> sp. 1*			1					
<i>Enoptostomus</i> sp. 1*								
<i>Pseudacerus</i> sp. 1*	3							
<i>Articerodes thailandicus</i>								
<i>Mastiger</i> sp. 1**							3	
Number of species	13	6	12	6	14	4	2	0
Number of specimens	33	7	18	6	14	4	4	0

Table 4. Condition and result of light trap survey in Kaeng Krachan National Park in Mar. 2012 (part 2/2).

Date	20th	20th	21th	21th	22th	22th	Total
Collecting site	G	G	K	K	L	L	
Collected traps / set traps	6/9	3/9	6/9	3/9	6/9	3/9	
Position	LP	HP	LP	HP	LP	HP	
Climate	FN	FN	FN	FN	FN	FN	
<i>Bythinoplectina</i> , gen. sp. 1	1						2
<i>Bolbozethus boosteri</i> *							1
<i>Parapyxidicerus</i> sp. 3							1
Pyxidicerina, gen. sp. 4					2		9
<i>Euplectus</i> sp. 5*							1
<i>Euplectus</i> sp. 6*							1
<i>Methorius truncaticollis</i> *	1						2
<i>Amauroyx?</i> sp. 1							1
<i>Pseudoplectus</i> sp. 1							1
<i>Pseudoplectus?</i> sp. 1*	1						1
<i>Pseudoplectus?</i> sp. 2*					1		1
<i>Piptoncus</i> sp. 1*	1						3
<i>Anama</i> sp. 1					1	1	5
<i>Tribasodites</i> sp. 4	2						4
<i>Tribasodites</i> sp. 13*							2
<i>Tribasodites</i> sp. 14*			1				1
<i>Tribasodites</i> sp. 15*					1		1
<i>Trisinus</i> sp. 2						1	2
<i>Trisinus</i> sp. 3			2				2
<i>Trisinus</i> sp. 4*							1
<i>Trisiniotus</i> sp. 1*				1			1
<i>Physomerinus femoralis</i>	1						5
<i>Harmophorus</i> sp. 2							1
<i>Harmophorus</i> sp. 3			1				9
<i>Harmophorus</i> sp. 5			1				2
<i>Sunorfa</i> sp. 1							4
<i>Morana</i> sp. 2							1
<i>Trissemus coomani</i>	3	1					5
<i>Trissemus</i> sp. 1	3					1	22
<i>Trissemus</i> sp. 3*			1				1
<i>Reichenbachia</i> sp. 1*			4	1	3	2	11
<i>Reichenbachia</i> sp. 2*	2						2
<i>Reichenbachia</i> sp. 3*	1						1
<i>Atenisodus</i> sp. 1*			1				1
<i>Batraxis raffrayana</i>							1
<i>Batraxis</i> sp. 3*							1
<i>Eupines shaerica</i> *	1						1
<i>Eupines</i> sp. 1*	2	1					3
<i>Plagiophorus</i> sp. 6							3
<i>Pselaphodes</i> sp. 1			1				5
<i>Pselaphodes</i> sp. 2*							1
<i>Pselaphodes</i> sp. 3*				1			2
<i>Labomimus</i> sp. 1							1
<i>Ctenistidius coomani</i> *	3		6		1		12
<i>Ctenistes</i> sp. 1*					1		2
<i>Enoptostomus</i> sp. 1*					1		1
<i>Pseudacerus</i> sp. 1*							3
<i>Articerodes thailandicus</i>	1						1
<i>Mastiger</i> sp. 1**							3
Number of species	14	2	9	3	8	4	49
Number of specimens	23	2	18	3	11	5	148

Table 5. Comparison of numbers of pselaphine species and specimens collected by NLT in 2010 and 2012.

Month/year position N of traps	Oct. 2010			Mar. 2012			2010–2012 Common	Total 117
	LP 20	HP 21	NLT all 57	LP 39	HP 21	NLT all 60		
<i>Bythinoplectina</i> , gen. sp. 1				2		2		2
<i>Bolbozethus boosteri</i> *				1		1		1
<i>Parapyxidicerus</i> sp. 2	6		6					6
<i>Parapyxidicerus</i> sp. 3				1		1		1
<i>Pyxidicerina</i> , gen. sp. 4				9		9		9
<i>Euplectus</i> sp. 5*				1		1		1
<i>Euplectus</i> sp. 6*				1		1		1
<i>Methorius truncaticollis</i> *				2		2		2
<i>Amauroyx?</i> sp. 1				1		1		1
<i>Pseudoplectus</i> sp. 1				1		1		1
<i>Pseudoplectus?</i> sp. 1*				1		1		1
<i>Pseudoplectus?</i> sp. 2*				1		1		1
<i>Piptoncus</i> sp. 1*				3		3		3
<i>Pareuplectops</i> sp.	1		1					1
<i>Anama</i> sp. 1	19	1	25	4	1	5	+	30
<i>Tribasodites</i> sp. 1	1		1					1
<i>Tribasodites</i> sp. 4	1	3	4	4		4	+	8
<i>Tribasodites</i> sp. 13*				1	1	2		2
<i>Tribasodites</i> sp. 14*				1		1		1
<i>Tribasodites</i> sp. 15*				1		1		1
<i>Trisinus</i> sp. 1	2	1	3					3
<i>Trisinus</i> sp. 2	1		3			2	+	5
<i>Trisinus</i> sp. 3		2	2	2		2	+	4
<i>Trisinus</i> sp. 4*				1		1		1
<i>Trisiniotus</i> sp. 1*				1		1		1
<i>Cratna</i> sp. 1	1		1					1
<i>Batrasiella</i> sp. 1	11	8	21					21
<i>Batrasiella</i> sp. 3*		1	1					1
<i>Physomerinus femoralis</i>	2	6	15	3	2	5	+	20
<i>Batriscenaulax</i> sp. 1	3	3	7					7
<i>Batriscenaulax</i> sp. 2	5	9	21					21
<i>Batriscenaulax</i> sp. 3	1		1					1
<i>Arthromelodes</i> sp. 1			1					1
<i>Harmophorus</i> sp. 2	1		1	1		1	+	2
<i>Harmophorus</i> sp. 3				7	2	9		9
<i>Harmophorus</i> sp. 5	1	3	5	2		2	+	7
<i>Sunorfa</i> sp. 1	1		1	2	2	4	+	5
<i>Morana</i> sp. 2			1	1		1	+	2
<i>Morana</i> sp. 3	2		2	1				2
<i>Trissemus coomani</i> *				4	1	5		5
<i>Trissemus</i> sp. 1			1	19	3	22	+	23
<i>Trissemus</i> sp. 3*				1		1		1
<i>Reichenbachia</i> sp. 1*				7	4	11		11
<i>Reichenbachia</i> sp. 2*				2		2		2
<i>Reichenbachia</i> sp. 3*				1		1		1
<i>Atenisodus</i> sp. 1*				1		1		1
<i>Batraxis raffrayana</i>			2	1		1	+	3
<i>Batraxis</i> sp. 3*					1	1		1
<i>Eupines shaerica</i> *				1		1		1
<i>Eupines</i> sp. 1*			5	2	1	3	+	8
<i>Plagiophorus</i> sp. 6				2	1	3		3
<i>Raphitreus</i> sp. 1	1		1					1
<i>Pselaphodes</i> sp. 1			1	3	2	5	+	6
<i>Pselaphodes</i> sp. 2*					1	1		1
<i>Pselaphodes</i> sp. 3*				1	1	2		2
<i>Labomimus</i> sp. 1					1	1		1
<i>Ctenistidius coomani</i> *				12		12		12
<i>Ctenistes</i> sp. 1*				2		2		2
<i>Enoptostomus</i> sp. 1*				1		1		1
<i>Pseudacerus</i> sp. 1*				3		3		3
<i>Articerodes thailandicus</i>				1		1		1
<i>Mastiger</i> sp. 1**				3		3		3
Number of species	18	10	26	45	16	49	13	62
Number of specimens	60	37	133	122	26	148		281

female, 27 km point (st. J), by LT (1 m above the ground), 19. iii. 2012, S. Nomura leg.

Remarks. This species was reported as *M. brevicornis* in Nomura *et al.* (2010). However, it was reidentified as an undescribed species after examination of the male characters.

Result of light trap surveys in Kaeng Krachan National Park

Light trap survey by Nomura was conducted in Oct. 2010 and Mar. 2012 in the same area, in the same method and different season. The result was tabulated in the following tables 1 to 5. In these tables, the result by Maruyama' LTs is excluded. The collecting points A to L are shown in Fig. 1. The position (height from the ground) of traps was abbreviated as LP: low position (about 1 m above the ground), and HP: high position (about 5 m above the ground). The climate of the trapped night was coded as FN: fine, CL: clouded, and RA: rain.

Discussion

After the collecting surveys in 2010–2012, 36 pselaphine species were added to the fauna of Kaeng Krachan National Park. Finally, 156 pselaphine species are known from this area. In Thailand, 73 pselaphine species were recorded from Doi Inthanon National Park and 65 from Khao Yai National Park. As the result of four surveys, largest number of pselaphine species in Thailand were recognized in Kaeng Krachan National Park.

In two surveys held in 2010–2012, many pselaphine species were collected by light traps. Twenty-six species were collected in Oct. 2010 and 49 species in Mar. 2012 as shown in Table 5. Thirteen species were common between 2010 and 2012. Common species occupies 50% of collection of Oct. 2010, and 27% of that of Mar.

2012. It means that the pselaphine species of October is different from those of March more than 50%. In the other words, seasonal change of pselaphine fauna contributes the richness of biodiversity including pselaphines.

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