



Review of the genus *Anacranae* Miller, 1934 (Orthoptera: Acrididae: Catantopinae)

PATTARAWICH DAWWRUENG^{1,*}, SERGEY YU. STOROZHENKO² & CHATMONGKON SUWANNAPOOM^{3,*}

¹Rabbit in the Moon Foundation, 399, Village No.3, Suan Phueng, Ratchaburi, 70180, Thailand

✉ mapormail@gmail.com; <https://orcid.org/0000-0002-3336-7007>

²Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, 690022, Russia

✉ storozhenko@biosoil.ru; <https://orcid.org/0000-0001-9269-4043>

³School of Agriculture and Natural Resources, University of Phayao, Phayao 56000, Thailand

✉ chatmongkonup@gmail.com; <https://orcid.org/0000-0002-3342-1464>

*Corresponding author

Abstract

The genus *Anacranae* Miller includes five species distributed in Thailand, Malaysia and Vietnam. A new species, *Anacranae maculata* **sp. nov.**, is described from northern Thailand. Hitherto unknown male of *Anacranae vietnamensis* Storozhenko is described and this species is recorded from Thailand for the first time. *Anacranae beybienkoi* Storozhenko known from northeastern Thailand is also widely distributed in western and northern Thailand. *Anacranae nuda* Miller and *A. gorochovi* Storozhenko are endemic to peninsular Malaysia and South Vietnam respectively. A key to species of *Anacranae* is also given.

Key words: Acrididae, Geraniini, *Anacranae*, taxonomy, new species, new records, key, Thailand, Malaysia, Vietnam

Introduction

The genus *Anacranae* Miller, 1934 was established for *A. nuda* Miller, 1934 from Malaysia as a monotypic genus (Miller, 1934). This genus is distributed in the Southeast Asian region (Malaysia, Thailand and Vietnam). Before this study conducted, four species were described from each country (*A. nuda* Miller, 1934 from Malaysia; *A. beybienkoi* Storozhenko, 2005 from Thailand; *A. gorochovi* Storozhenko, 2002 and *A. vietnamensis* Storozhenko, 2002 from Vietnam) (Miller, 1934; Storozhenko, 2002, 2005). A new species of *Anacranae* is found in Thailand and described below. The morphological variability and distribution of some species are discussed. An original key to species is also given below.

Material and methods

The present work is based on specimens collected in Thailand by the first author and his assistant between 2021 and 2022. The specimens examined are mounted and deposited at the Agricultural University of Phayao (AUP), Phayao Province, Thailand, Rabbit in the Moon collection, Ratchaburi Province, Thailand (RIM) and the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (ZISP). Photographs of external morphology were made using a Canon EOS 400D with Canon Macro lens EF 100mm and speedlite 270EX II flash unit. Photographs of male genitalia were made using stereomicroscope Leica M80 attached with Digital Imaging Leica Flexicam C3. The final illustrations were post-processed for contrast and brightness using Adobe Photoshop 2020 software. Black and white drawings were made from Adobe Illustrator 2020.

Nomenclature is given according to rules of the International Code of the Zoological Nomenclature (ICZN, 1999). The morphological terminology and terminology of male genitalia followed those of Uvarov (1966) and

Dirsh (1956), respectively. The images of the type specimens of some species are available in the Orthoptera Species File database (Cigliano *et al.*, 2025). Measurements are given in mm.

Taxonomy

Family Acrididae MacLeay, 1821

Subfamily Catantopinae Brunner von Wattenwyl, 1893

Tribe Gereniini Brunner von Wattenwyl, 1893

Remarks. This tribe consists of 24 species in six genera distributed in South-East Asia and India, namely *Gerenia* Stål, 1878, *Anacranae* Miller, 1934, *Striatosedulia* Ingrisch, 1989, *Bibractella* Storozhenko, 2002, *Leosedulia* Storozhenko, 2009, and *Anasedulia* Dawwueng, Storozhenko et Asanok, 2015 (Stål, 1878; Miller, 1934, Ingrisch, 1989; Storozhenko, 2002, 2009; Dawwueng *et al.*, 2015; Tan *et al.*, 2016, 2017; Cigliano *et al.*, 2025). Members of this tribe are characterized by follow combination of features: Male medium-sized for subfamily; female larger and more robust. Head considerably shorter than pronotum. Frontal ridge almost parallel-sided and distinctly narrower than width of vertex between eyes. Eyes large, oval; vertical diameter of eye 2–2.2 times in male and 1.5–1.7 times in female as long as subocular furrow. Foveolae absent. Antennae filiform, 20–25-segmented. Pronotum long, crossed by three transverse furrows; prozona considerably longer than metazona; lateral carinae usually absent (well defined in *Bibractella*); median carina distinct but low (or vestigial in *Anacranae*). Prosternal spine straight, conical, with obtuse apex. Mesosternal lophi broad, widely separated. Tegmina abbreviated, touching each other in rest position, or lateral, scale-like; rare, in males of *Gerenia dorsale* (Walker, 1870), *G. intermedia* Brunner von Wattenwyl, 1893 and *G. selangorensis* Miller, 1935 from India, Myanmar and Malaysia respectively, tegmina and hind wings far surpassing apex of hind femora. Hind wings usually abbreviated or absent. Hind femora stout with upper keel serrated; lower lophi of hind knees with broadly rounded apex. Hind tibiae with 6–9 outer dorsal spines and 8–11 inner dorsal spines; outer apical dorsal spine absent. Hind tarsi short, not longer than half of hind tibiae; third segment distinctly shorter than two others together; arolium large, almost reaching apex of claws. Tympanum large, oval. Furculae on posterior margin of the male tenth tergite present or rare vestigial. Male cerci conical (in *Gerenia* and *Anacranae*) or elongated, compressed and gently incurved, in apical third suddenly narrowed (other genera). Female cerci conical with obtuse or pointed apex. Ovipositor short or rare elongated. Male genitalia: epiphallus bridge-like, ancorae present; lophi of epipallus triangle or broadly rounded; the apical valves of penis and cingular valves long; basal valves of penis connected with apical ones by flexure.

Genus *Anacranae* Miller, 1934

Anacranae Miller, 1934: 537; Willemse, 1957: 353; Otte, 1995: 269; Yin *et al.*, 1996: 53; Storozhenko, 2002: 602.

Type species: *Anacranae nuda* Miller, 1934, by original designation.

Differential diagnosis. *Anacranae* belongs to the group of Gereniini genera with scale-like tegmina which not touching each other in rest position; therefore, it easy recognizable from the genus *Gerenia* which characterized by tegmina touching each other in rest position and almost reaching or surpassing apex of abdomen. In the genus *Bibractella* median and lateral carinae of the pronotum are well defined and tegmina are very short, reaching hind margin of mesonotum only (in *Anacranae* median and lateral carinae of the pronotum absent and tegmina reaching the apex of 2nd abdominal tergite). In the genera *Sedulia* and *Leosedulia* median carina of the pronotum distinct; tegmina with large and shining black spot in central part of tegmen; ovipositor short, ventral valves with large tooth near base (in *Anacranae* median carina of the pronotum absent, tegmina scale-like without shiny black spot, and ovipositor with elongated valves, lower side of ventral valves smooth). The genus *Striatosedulia* differs from *Anacranae* by well defined median carina of the pronotum, by a row of parallel veinlets in costal field of tegmen, and by male subgenital plate terminating in two obtuse lateral lobes (in *Anacranae* costal field without veinlets and male subgenital plate with obtuse apex). *Anasedulia* is easy recognizable from *Anacranae* by follow

combination of characters: posterior margin of pronotum angularly rounded; median carina of pronotum distinct; tegmina with shining black spot and the costal field of tegmen broad with irregular veinlets; male subgenital plate with a pair of unusually long lateral lophi covered by long hair-like setae; ovipositor short, hook-like (in *Anacranae* posterior margin of pronotum broadly rounded or almost straight, tegmina without shining spot, costal field narrow, male subgenital plate conical without lateral lobes, and ovipositor with elongated valves). Moreover, the males of *Anacranae* differ from all representatives of *Gereniini* in enlarged paraprocts with distinct process of different shape on its lateral side, while in other genera paraprocts not modified.

Composition. Genus consists of four species from Thailand and Vietnam (Cigliano *et al.*, 2025). One new species is described in this work.

Key to species

- 1(6) Tegmina narrow, scale-like, black, with light stripe along the posterior (upper) margin or near the median line of tegmen.
- 2(5) Hind tibia green or yellowish green. Male hind femora green.
- 3(4) Hind tibia green. Male paraprocts with long and narrow process situated near the middle. Larger (length of body: ♂ 23, ♀ 30 mm, pronotum ♂ 4, ♀ 6 mm, tegmen ♂ 4.5, ♀ 5 mm, hind femur ♂ 14, ♀ 17 mm). *A. nuda*
- 4(3) Hind tibia yellowish green. Male paraprocts with short and wide process situated near the apex. Smaller (length of body: ♂ 20.5, ♀ 23.5 mm, pronotum ♂ 3.6, ♀ 4.5 mm, tegmen ♂ 3, ♀ 3.6 mm, hind femur ♂ 11.7, ♀ 14 mm) *A. beybienkoi*
- 5(2) Tegmina with light stripe along the median line of tegmen. Hind tibia blue. Male hind femora with two bleakish green rings. Male paraprocts with short and wide process situated at apex. *A. vietnamensis*
- 6(1) Tegmina broad, oval, completely brown or edged with black stripe.
- 7(8) Hind femora green, without spots. Tegmina brown, edged with wide black stripe (male) or light brown with narrow stripe and with blackish stripes along main vein (female) *A. gorochovi*
- 8(7) Hind femora yellowish brown with three black spots along the upper keel. Tegmina completely light brown *A. maculata* sp. nov.

Annotated list of species

Anacranae beybienkoi Storozhenko, 2005

(Figs. 1A–Q, 6A–D)

Anacranae beybienkoi Storozhenko, 2005: 79, figs. 1–14 (holotype—male, Thailand: Nakhon Ratchasima Province, environments of National Park “Khao Yai”; in ZISP).

Type material examined. Thailand: Nakhon Ratchasima Province, environments of National Park “Khao Yai”, h~500–1000 m, 26.X–4.XI 2000, male (holotype) and female (paratype), leg. A.V. Gorochoy & L. Anisyutkin (ZISP).

Other material examined. Thailand: Ratchaburi Province, Suan Phueng District, Khao Krajom “View Point”, h~800–900 m, 20.I 2021, 2 females, coll. P. Dawwrueng (RIM); Thailand: Ratchaburi Province, Suan Phueng District, Khao Krajom, Grassland around Pha Pok Dam, h~300–400 m, 11.V 2022, 1 male, 1 female, coll. P. Dawwrueng (RIM); Thailand: Chiang Rai Province, Mae Fah Luang District, Doi Tung, 1000–1250 m., 17.III 2022, 2 males, coll. P. Dawwrueng (RIM).

Remarks. We examined all additional specimens of this species from Ratchaburi and Chiang Rai Provinces. We found they matched with the morphological characters of holotype and paratype. By the coloration of antennae, shape and coloration of tegmina, coloration of all legs, mesosternal and metasternal lobes, shape of epiproct and presence of the lateral shorted spine of paraproct of male, the male genitalia complex (Figs. 1A–Q), shape of female subgenital plate and ovipositor, as well as presence of two rows of thin hairs on female 7th abdominal sternite only. The coloration of male antennae is variable: type locality specimens (northeastern Thailand) showed the male antennae with basal third light brown, their apical segments are black, but specimens from Ratchaburi Province (western Thailand) showed the basal half yellowish brown and apical half dark brown or black (Figs. 1A–B, Fig. 6A), and specimens from Chiang Rai Province (northern Thailand) showed the antennae with apical third dark brown, their basal segments are yellowish brown (Figs. 6C–D).

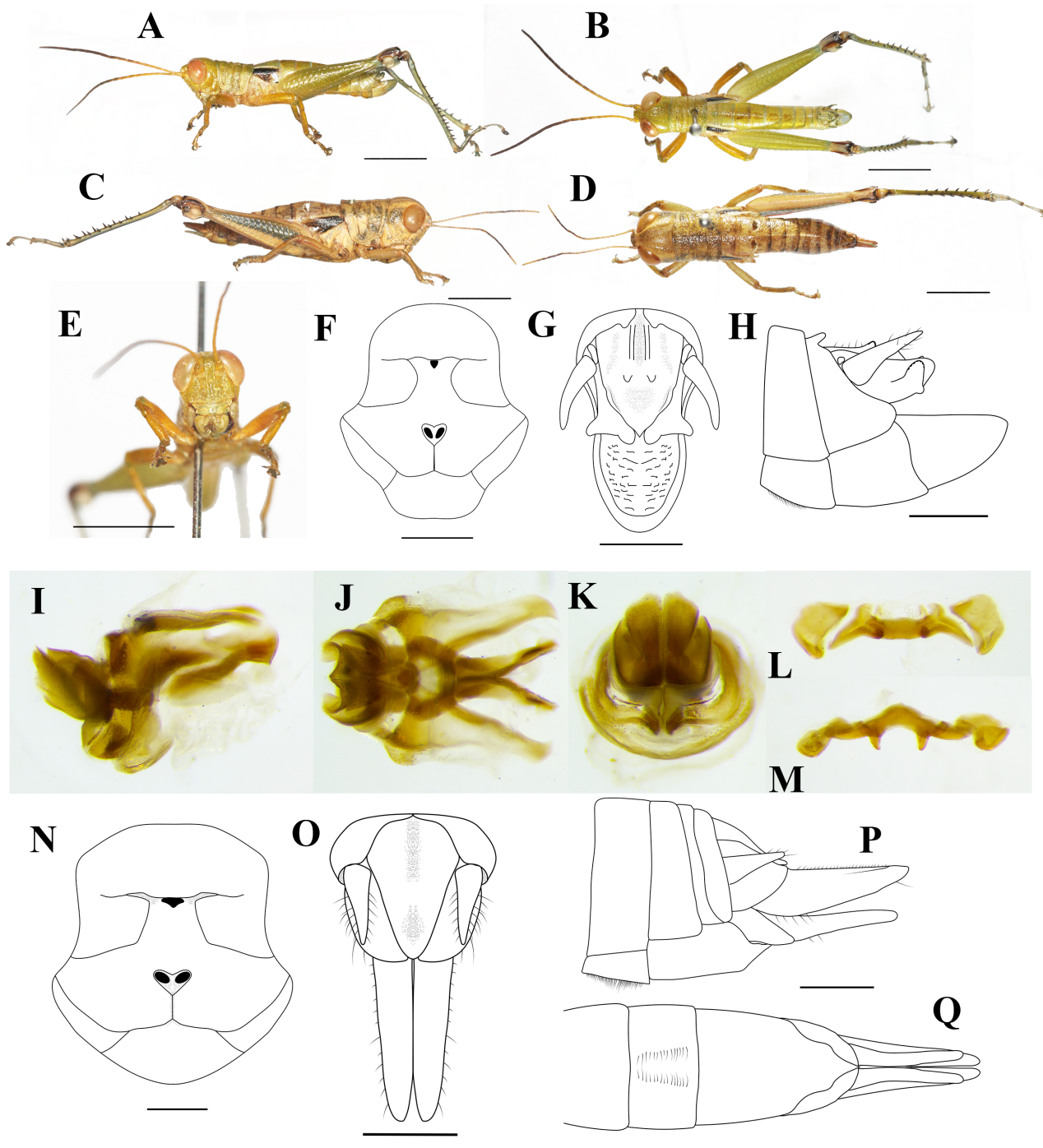


FIGURE 1. *Anacranae beybienkoi* Storozhenko, 2005. A. General habitus of male, lateral view; B. The same, dorsal view; C. General habitus of female, lateral view; D. The same, dorsal view; E. Head of male, frontal view; F. Mesosternum and metasternum of male, ventral view; G. Apex of male abdomen, dorsal view; H. The same, lateral view; I. Male genital complex, lateral view; J. The same, dorsal view; K. The same, anterior view; L. Epiphallus, dorsal view; M. The same, anterior view; N. Mesosternum and metasternum of female, ventral view; O. Apex of female abdomen, dorsal view; P. The same, lateral view; Q. The same, ventral view. Scale bars of figures A–E are 5 mm and figures F–H, N–Q are 1 mm.

Measurement. (length in mm). Body: males 17.4–20.5, females 17.7–23.5; antenna: males 15.3–22.2, females 7.6–13.6; pronotum: males 3.1–3.6, females 3.7–4.5; tegmen: males 2.3–3.2, females 2.8–3.9; hind femur: males 11.2–12.8, females 11.8–13.9.

Distribution. Thailand (Nakhon Ratchasima, Ratchaburi and Chiang Rai Provinces). Here this species is recorded from western and northern Thailand for the first time.

***Anacranae gorochovi* Storozhenko, 2002**

(Figs. 2A–L)

Anacranae gorochovi Storozhenko, 2002: 602, figs. 12–24 (holotype—male, Vietnam: Gia Lai Province, Buon Luoi; in ZISP); Kim & Pham, 2014: 54.

Type material examined. Vietnam: Gia Lai Province, 20 km N Kannak, Buon Luoi, 24–30.IV 1995, male (holotype) and female (paratype), leg. A.V. Gorochov (ZISP).

Remarks. The complete description of this species was given by Storozhenko (2002). This species is rather small for the genus (length of body: ♂ 17.5, ♀ 21.5 mm, pronotum ♂ 3.2, ♀ 4.3 mm, tegmen ♂ 4.1, ♀ 4.8 mm, hind femur ♂ 11, ♀ 12.5 mm).

Distribution. South Vietnam (Gia Lai Province).

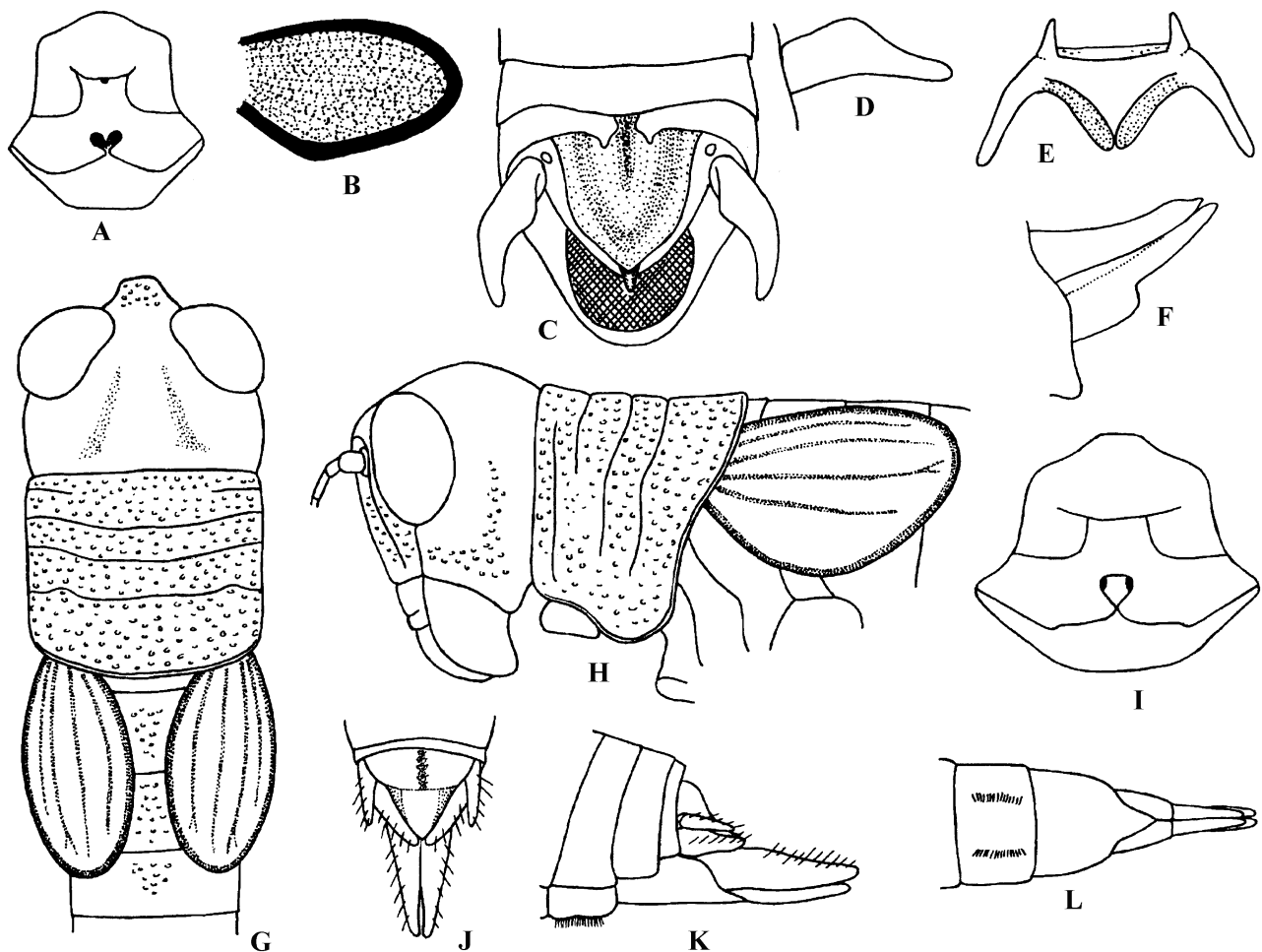


FIGURE 2. *Anacranae gorochovi* Storozhenko, 2002 (modified from Storozhenko, 2002). A. Mesosternum and metasternum of male, ventral view; B. Male tegmen; C. Apex of male abdomen, dorsal view; D. Male cercus, lateral view; E. Epiphallus, dorsal view; F. Valves of cingulum and apical valves of penis, lateral view; G. Anterior part of female body, dorsal view; H. The same, lateral view; I. Mesosternum and metasternum of female, ventral view; J. Apex of female abdomen, dorsal view; K. The same, lateral view; L. The same, ventral view.

***Anacranae nuda* Miller, 1934**

(Figs. 3A–E)

Anacranae nuda Miller, 1934: 538, fig. 4A–F, pl. 13, fig. 10 (holotype—male, Malaysia: Selangor, The Gap; in Natural History Museum, London); Willemse, 1957: 355, fig. 55A–F; Otte, 1995: 269; Yin *et al.*, 1996: 54; Tan & Kamaruddin, 2014: 15, fig. 10.

Remarks. The complete description of this species was given by Miller (1934) and Willemse (1957).

Distribution. Malaysia. Species is known from Hulu Langat District in the southeastern corner of Selangor, between Kuala Lumpur and Negeri Sembilan.

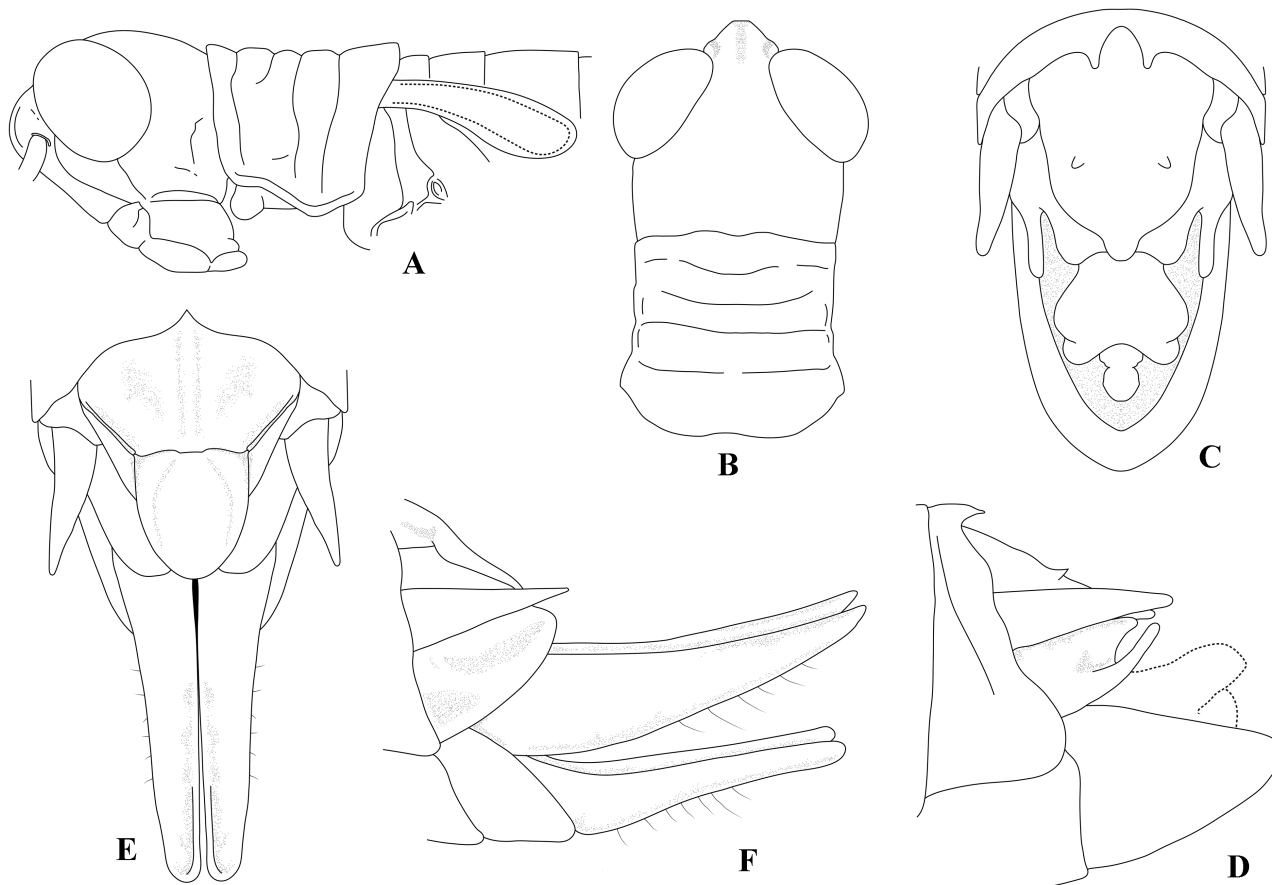


FIGURE 3. *Anacranae nuda* Miller, 1934 (modified from Willemse, 1957). A. Anterior part of male body, lateral view; B. Head and pronotum of male, dorsal view; C. Apex of male abdomen, dorsal view; D. The same, lateral view; E. Apex of female abdomen, dorsal view; F. The same, lateral view.

***Anacranae vietnamensis* Storozhenko, 2002**

(Figs. 4A–Q, 6E–F)

Anacranae vietnamensis Storozhenko, 2002: 604, figs. 26–29 (holotype—female, Vietnam: Gia Lai Province, 20 km N Kannak, Buon Luoi; in ZISP); Kim & Pham, 2014: 55.

Type material examined. Vietnam: Gia Lai Province, 20 km N Kannak, Buon Luoi, 1–10.IV 1995, female (holotype), leg A.V. Gorochoy (ZISP).

Other material examined. Thailand: Chantaburi Province, Pong Namron District, Near Klong Tani, 300–350 m, 21.VI 2020, 3 males, 2 females, coll. P. Dawwrueng (RIM); Thailand: Ratchaburi Province, Suan Phueng District, Khao Krajom, 850–900 m, 22.V 2022, 2 males, 2 females, coll. P. Dawwrueng (RIM).

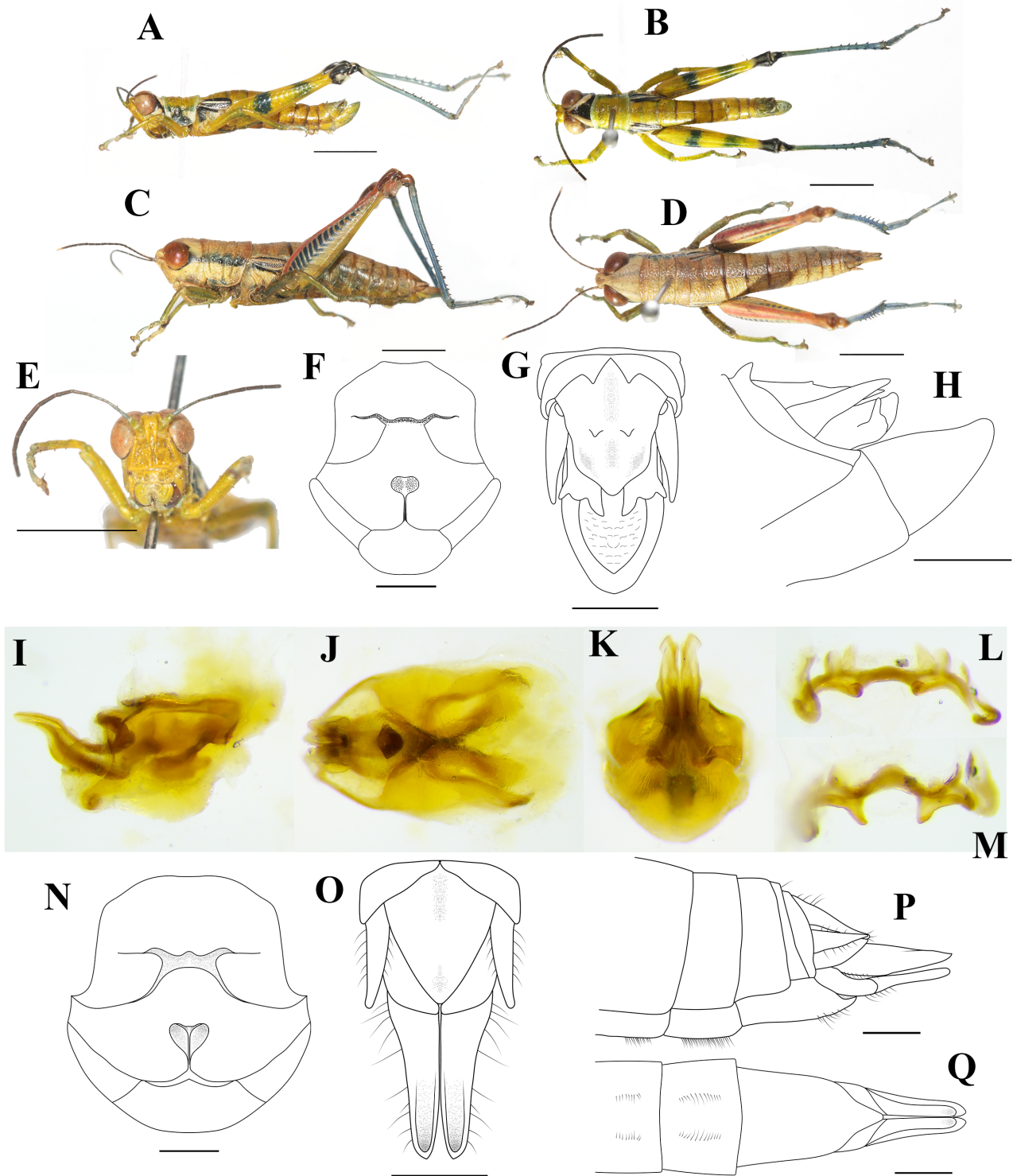


FIGURE 4. *Anacranae vietnamensis* Storozhenko, 2002. A. General habitus of male, lateral view; B. The same, dorsal view; C. General habitus of female, lateral view; D. The same, dorsal view; E. Head of male, frontal view; F. Mesosternum and metasternum of male, ventral view; G. Apex of male abdomen, dorsal view; H. The same, lateral view; I. Male genital complex, lateral view; J. The same, dorsal view; K. The same, anterior view; L. Epiphallus, dorsal view; M. The same, anterior view; N. Mesosternum and metasternum of female, ventral view; O. Apex of female abdomen, dorsal view; P. The same, lateral view; Q. The same, ventral view. Scale bars of figures A–E are 5 mm and figures F–H, N–Q are 1 mm.

Description of male (hitherto unknown). Body slender, small to medium-sized for the genus. Head as long as the pronotum (Figs. 4A–B). Frons and genae coarsely punctured (Fig. 4E); vertex and occiput smooth. Face in profile reclinate (Fig. 4A). Frontal ridge distinct to median ocellus, deeply sulcated between the antennae, slightly narrowed near median ocellus (Fig. 4E). Vertex between eyes narrower than maximal width of frontal ridge. Fastigium of vertex rather long; foveolae present (Fig. 4B). Eyes almost spherical. Antennae 22-segmented, beyond the base of hind femora. Pronotum punctured, crossed by three transverse furrows and one short transverse furrow between the first and the third furrows, pronotum strongly constricted at the fourth furrows (Figs. 4A–B); median and lateral carinae absent; prozona 2.5–3.0 times as long as metazona; anterior margin of pronotum almost straight; posterior margin of pronotum nearly truncated with shallow excise on the middle (Fig. 4B). Prosternal spine slightly flattened basally narrowing into a conical and pointed apex. Mesosternal lobes with internal margin concave, mesosternal interspace as broad as mesosternal lobe; metasternal lobes fused (Fig. 4F). Tegmina lateral, not touching each other in dorsal view, slightly beyond the apex of 2nd abdominal tergite, 2.5–2.8 times as long as wide; apex of tegmen rounded (Figs. 4A–B). Hind wings narrower than tegmina, covered under tegmina completely. Hind femora slender, 4.8–5.1 times as long as their maximal width; dorsal margin smooth; ventral genicular lobes without spine (Fig. 4A). Hind tibiae with 6 outer and 7 (8) inner dorsal spines; outer apical dorsal spine absent. Hind tarsi distinctly long, as long as the half of hind tibiae; third segment (without claws) slightly longer basitarsus; arolium large, surpassing apex of claws. Tympanum rather large, oval, covered by tegmina. 7th and 8th abdominal sternites with two subparallel rows of hairs. 10th abdominal tergite with triangular furculae on posterior margin; supra-anal plate trapezoid with shallow median groove and a pair of small conical tubercles, longer than its width near base, with obtuse triangular apex (Fig. 4G); its surface slightly concave near the base. Paraprocts with small and rather thin process on its lateral side, pointed laterad in dorsal view (Fig. 4G) and pointed upward in lateral view (Fig. 4H). Cerci slightly beyond the supra-anal plate, conical, with obtuse pointed apex, 2.7–3.0 times as long as their width near base (Figs. 4G–H). Subgenital plate long.

Epiphallus bridge-shaped; bridge narrowed and not divided; ancorae large, triangular; anterior projections slightly shorter than ancorae (Fig. 4L); posterior projections elongated into a narrow process (Fig. 4L); lophi of epiphallus rather small, triangular (Figs. 4L–M); oval sclerites very large. Cingulum sclerotized, consisting of almost straight and slightly concave near the apex of apodemes (Fig. 4J); rami narrow (Figs. 4I–K); zygoma straight, covering the arch of cingulum (Fig. 4J). Valves of cingulum long, divided, parallel-side, apically widened and lobed shape, apex obtuse rounded (Figs. 4J–K). Apical valves of penis long with rounded apex, almost as long as cingular valves (Fig. 4I); basal and apical penis valves connected by flexure.

Body and abdomen yellowish green when alive (Fig. 6E), but fade to yellowish brown after preservation (Figs. 4A–B). Dorsal side of head black with oblique white banded beside along the eyes; frons yellowish green (Fig. 4E), genae yellowish green with white oblique horizontal stripe (Fig. 4A); postocular narrowed stripe black continued to the edge of its head; mandibles yellow with brown apex (Fig. 4E). Basal third of antennae bluish grey, rest part black except two last segments bluish white (Fig. 6E). Disc of pronotum yellowish green; lateral lobes dark green with two white spots (Figs. 4A–B). Tegmina black with light stripe along median line (Fig. 4B). Fore and mid femora yellowish green; fore and mid tibia green; fore and mid tarsi bluish green. Hind femur yellowish green with two large green spots, the first one near the basal part darker than the second near apical part, these spots present on both outer and inner side (Figs. 4A–B); dorsal genicular lobe black but ventral lobe white. Hind tibia blue with black and pale base; dorsal spines with black apex. Hind tarsi blue (Figs. 4A–B). Supra-anal plate green; cerci light brown basal half and bluish green apical half; subgenital plate yellowish green (Figs. 4A–B).

Measurements (length in mm). Body: males 15.9–19.2, females 20.2–23.3; antenna: males 14.3–18.3, females 9.3–13.7; pronotum: males 2.8–3.3, females 3.3–4.5; tegmen: males 2.2–2.8, females 2.3–3.4; hind femur: males 10.0–11.3, females 12.0–12.9.

Remarks. The females from Thailand are conspecific with holotype of *A. vietnamensis* from Vietnam. In Chantaburi and Ratchaburi, both males and females were found which allows us to describe hitherto unknown males. Moreover, we also showed the live coloration of this species for the first time.

Distribution. South Vietnam (Gia Lai Province) and Thailand (new record, Chantaburi and Ratchaburi Provinces).

Anacranae maculata Dawwrueng, Storozhenko et Suwannapoom, sp. nov.

(Figs. 5A–R, 6G–H)

Type material. Holotype—male, Thailand: Chiang Rai Province, Mae Fah Luang District, Doi Tung, h~900–1000 m, 17.III 2022, coll. P. Dawwrueng (AUP-02036). Paratypes—1 female, the same locality and date with holotype, coll. P. Dawwrueng (AUP-02037); 1 female, the same locality and date with holotype, coll. P. Dawwrueng (RIM).

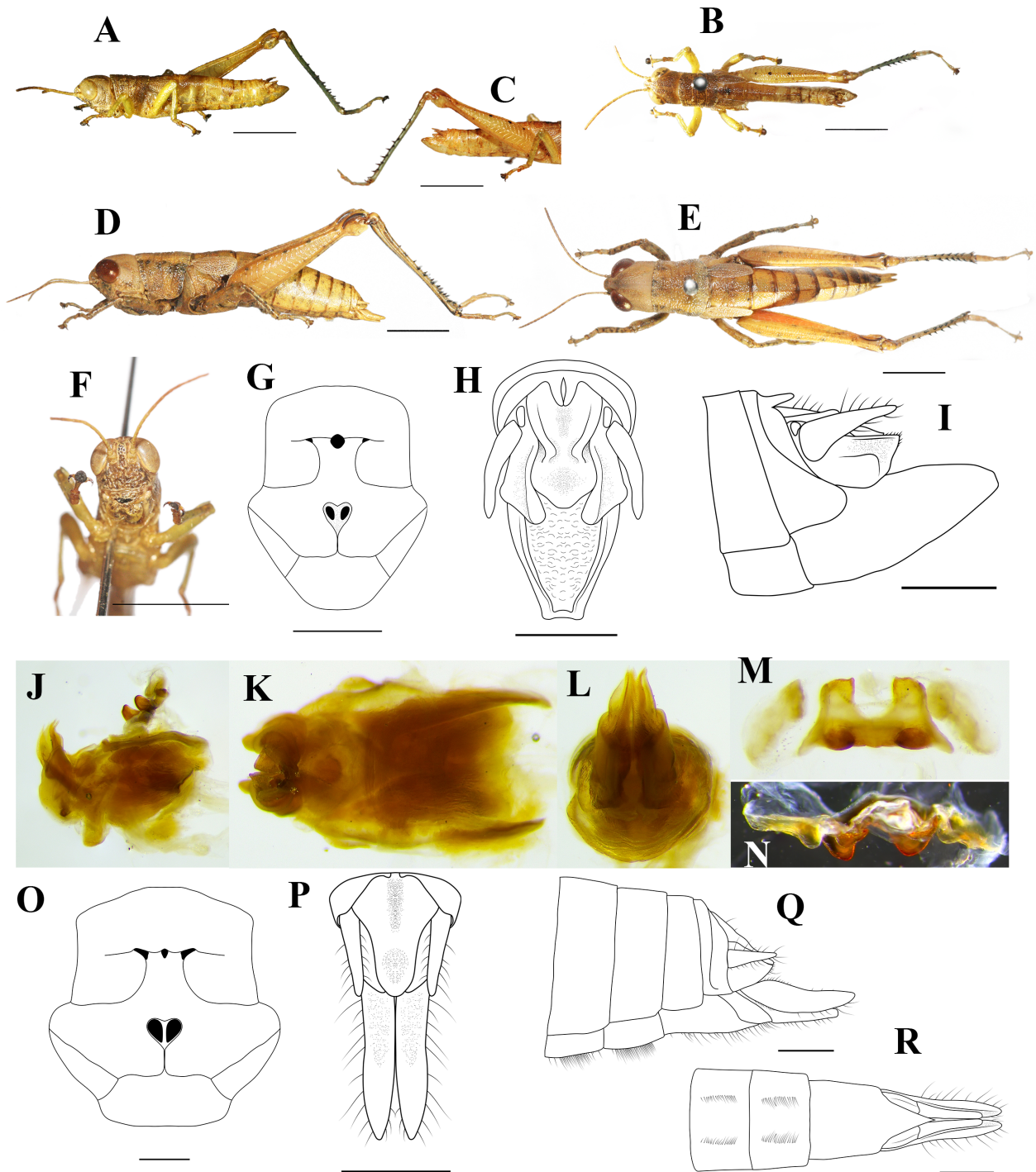


FIGURE 5. *Anacranae maculata* sp. nov. A. General habitus of male, lateral view; B. The same, dorsal view; C. Male hind femur, lateral view; D. General habitus of female, lateral view; E. The same, dorsal view; F. Head of male, frontal view; G. Mesosternum and metasternum of male, ventral view; H. Apex of male abdomen, dorsal view; I. The same, lateral view; J. Male genital complex, lateral view; K. The same, dorsal view; L. The same, anterior view; M. Epiphallus, dorsal view; N. The same, anterior view; O. Mesosternum and metasternum of female, ventral view; P. Apex of female abdomen, dorsal view; Q. The same, lateral view; R. The same, ventral view. Scale bars of figures A–F are 5 mm and figures G–I, O–R are 1 mm.

Description. Holotype. Body slender, rather small for the genus. Head slightly shorter than the pronotum (Figs. 5A–B). Frons and genae coarsely punctured (Fig. 5F); vertex and occiput punctured except median part smooth. Face in profile reclinate (Fig. 5A). Frontal ridge distinct to median ocellus, deeply sulcated between the antennae, slightly narrowed near median ocellus (Fig. 5F). Vertex between eyes slightly broader than maximal width of frontal ridge. Fastigium of vertex rather long; foveolae present (Fig. 5B). Eyes large, almost spherical. Antennae lost apical part. Pronotum punctured, crossed by three transverse furrows and one short transverse furrow between the first and the third furrows, pronotum constrict at the median half in dorsal view (Figs. 5A–B); median and lateral carinae absent; prozona 2.5 times as long as metazona; anterior margin of pronotum broadly rounded; posterior margin of pronotum nearly truncated with shallow excise on the middle (Fig. 5B). Prosternal spine slightly flattened basally narrowing into a conical and pointed apex. Mesosternal lobes with internal margin concave, mesosternal interspace narrower than mesosternal lobe; metasternal lobes fused (Fig. 5G). Tegmina lateral, not touching each other in dorsal view, reaching the apex of 2nd abdominal tergite, 2.1 times as long as wide; apex of tegmen broadly rounded (Figs. 5A–B). Hind wings narrower than tegmina, covered under tegmina completely. Hind femora slender, 5.0 times as long as their maximal width; dorsal margin finely serrate; ventral genicular lobes without spine (Fig. 5C). Hind tibiae with 6 (7) outer and 8 (9) inner dorsal spines; outer apical dorsal spine absent. Hind tarsi distinctly long, almost reaching the half of hind tibiae; third segment (without claws) slightly longer basitarsus; arolium large, surpassing apex of claws. Tympanum rather large, oval, covered by tegmina. 7th and 8th abdominal sternites with two subparallel rows of hairs. 10th abdominal tergite with long conical furculae on posterior margin, bent to each other in apical part; supra-anal plate trapezoid with shallow median groove, distinctly constricted in the median half by the lateral carinae raised to small tubercles, longer than its width near base, with obtuse rounded apex, longer than width near base (Fig. 5H). Paraprocts broad with obtuse pointed apex in lateral view, lateral side form a small tubercle (Fig. 5H). Cerci slightly beyond the supra-anal plate, conical, with obtuse pointed apex, 2.9 times as long as their width near base (Figs. 5H–I). Subgenital plate long with shallowed excision on median part (Fig. 5H).

Epiphallus bridge-shaped; bridge broad and not divided (Fig. 5M); ancorae large, obtuse triangular; anterior projections absent (Fig. 5M); posterior projections short, forming into a narrow process (Fig. 5M); lophi of epiphallus small, broadly rounded (Figs. 5M–N); oval sclerites very large. Cingulum sclerotised, consisting of almost straight apodemes (Fig. 5H); rami slightly broad (Figs. 5J–L); zygoma straight, covering the arch of cingulum (Fig. 5H). Valves of cingulum long, divided, parallel-side, median part slightly widened, apically narrowed and bent upward, apex subacute (Figs. 5J–L). Apical valves of penis long, divided, widened and lobed-like in median part, narrowed apically, almost as long as cingular valves (Fig. 5J); basal and apical penis valves connected by flexure.

Head and pronotum brownish grey; abdomen brown when alive (Fig. 6G), but fade to yellowish brown after preservation (Figs. 5A–B). Dorsal side of head dark brown; frons and genae dark brown (Fig. 5A); mandibles yellowish brown with brown apex (Fig. 5F). Antennae yellowish brown (Figs. 5A–B). Disc of pronotum and lateral lobes dark brown uniformly (Figs. 5A–B). Tegmina light brown (Fig. 5B). Fore and mid legs yellowish green. Hind femur yellowish brown with three black spots along the upper keel from basal to median part, and two inditing brownish spots near the apex (Figs. 5A–B); dorsal and ventral genicular lobes brown. Hind tibia green; dorsal spines with black apex. Hind tarsi light brown (Figs. 5A–B). 1st and 2nd abdominal tergites dark brown with large blackish spot on the median line between the apical part of 1st tergite and basal part of 2nd tergite, rest tergites brown. Supra-anal plate and paraprocts brown with dark brown small tubercles on dorsal surface of supra-anal plate; cerci light brown with brown banded near the middle; subgenital plate brown (Figs. 5A–B).

Female. Similar to male, but distinctly larger and bulge body. Head slightly shorter than the pronotum (Figs. 5D–E). Frons and genae coarsely punctured; vertex and occiput punctured except median part smooth. Face in profile reclinate (Fig. 5D). Frontal ridge distinct to median ocellus, deeply sulcated between the antennae, slightly narrowed near median ocellus. Vertex between eyes slightly broader than maximal width of frontal ridge. Fastigium of vertex rather long; foveolae present (Fig. 5D). Eyes large, almost spherical. Antennae 23-segmented. Pronotum punctured, crossed by three transverse furrows and one short transverse furrows between the first and the third furrows, pronotum constrict at the median half in dorsal view (Figs. 5D–E); median and lateral carinae absent; prozona 2.5–2.6 times as long as metazona; anterior margin of pronotum subtruncate; posterior margin of pronotum nearly truncate with shallow excise on the middle (Fig. 5E). Prosternal spine flattened from basal part to the median part, and narrowing into a conical and obtuse rounded apex. Mesosternal lobes with internal margin concave, mesosternal interspace narrower than mesosternal lobe; metasternal lobes fused (Fig. 5O). Tegmina lateral, not touching each other in dorsal view, reaching the apex of 2nd abdominal tergite, 1.7–1.9 times as long as wide; apex

of tegmen broadly rounded (Figs. 5D–E). Hind femora slender, 4.4 times as long as their maximal width; dorsal margin finely serrate; ventral genicular lobes without spine (Fig. 5D). Hind tibiae with 6 outer and 8 inner dorsal spines; outer apical dorsal spine absent. Hind tarsi distinctly long, almost reach the half of hind tibiae; third segment (without claws) slightly longer basitarsus; arolium large, surpassing apex of claws. Tympanum rather large, oval, covered by tegmina. 6th and 7th abdominal sternites with two subparallel rows of hairs. 10th abdominal tergite with paired of small lobes on posterior margin; supra-anal triangular with shallow median groove, longer than width near base (Fig. 5P). Cerci slightly beyond the supra-anal plate, conical, with obtuse rounded apex, 2.3–2.5 times as long as their width near base (Figs. 5Q–R). Subgenital plate 1.6–1.7 times longer than wide, apical part triangular with acute apex (Fig. 5R). Ovipositor short, dorsal valves thicker and longer than ventral valves, both valves smooth margins, dorsal valves slightly curved upward, but ventral valves almost straight (Figs. 5Q–R).

When alive (Fig. 6H), head with greyish dorsally, yellowish stripe behind the eyes longitudinal and continue to the pronotum; frons and genae brown; postocular grey. Antennae light brown with darker near apical part. Disc of pronotum dark brown and separated from lateral lobe of pronotum by the broad yellowish stripe that connect from the stripe behind the eyes, lateral lobe with blackish upper half and yellowish brown with scattered dark brown spots on lower half; blackish spots along both anterior margin and posterior margin of pronotum. This coloration could be faded after preservation and hard to see in dried specimens (Figs. 5D–E). Tegmina light brown. Fore and mid femur light brown with small blackish spots; fore and mid tibia brown with small blackish spots. Hind femur with the same coloration and spots presented on the male, but inner side orange brown. Hind tibia brown, dorsal spines with black apex. All tarsi light brown. Abdominal tergites brown with small black spots on the posterior margins except 10th abdominal tergite. Supra-anal plate and paraprocts brown; cerci light brown. Sternites and subgenital plate light brown. Ovipositor light brown (Figs. 5D–E).

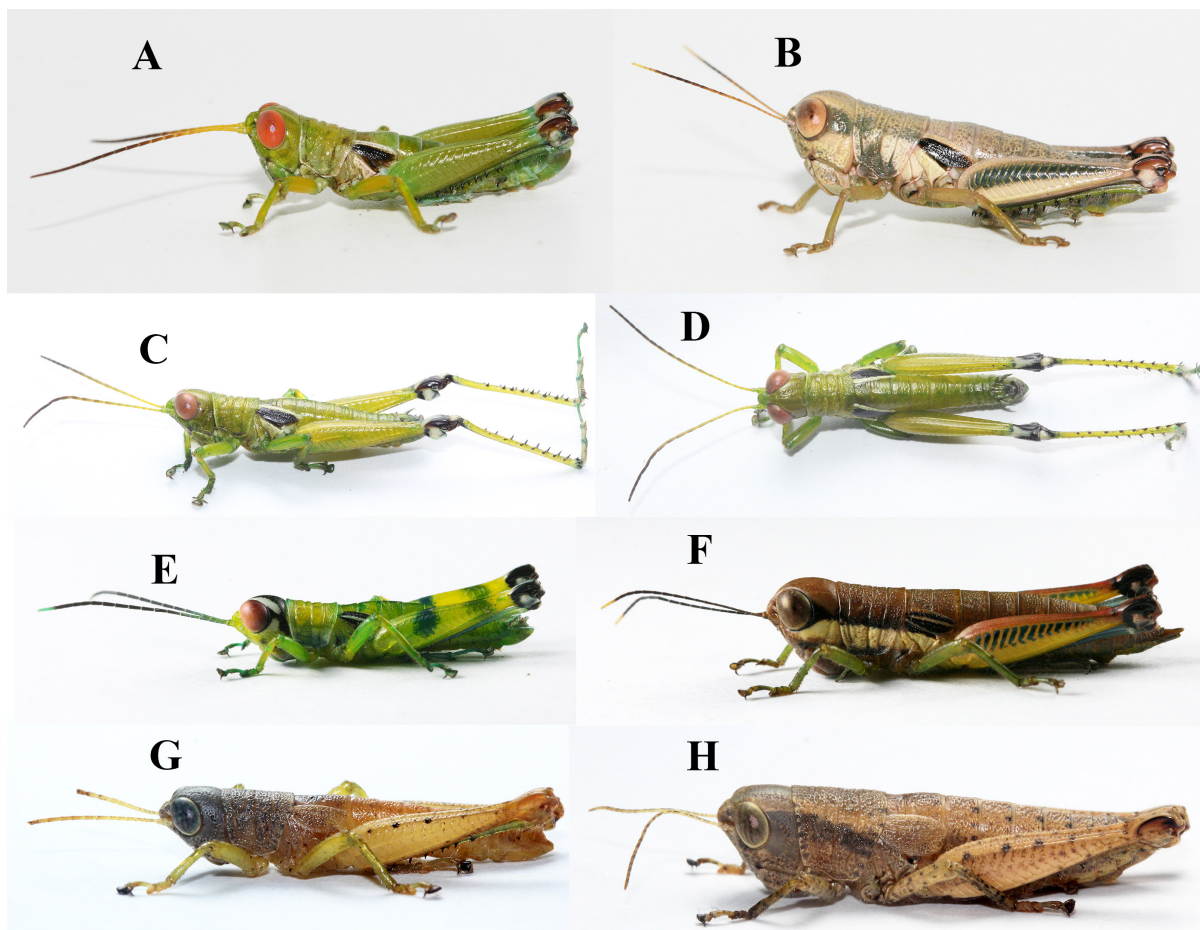


FIGURE 6. *Anacranae* spp., live coloration before preservation. A. Male of *A. beybienkoi* from Ratchaburi Province, lateral view; B. Female of *A. beybienkoi* from Ratchaburi Province, lateral view; C. Male of *A. beybienkoi* from Chiang Rai Province, lateral view; D. The same, dorsal view; E. Male of *A. vietnamensis* from Chantaburi Province, lateral view; F. Female of *A. vietnamensis* from Chantaburi Province, lateral view; G. Male of *A. maculata* **sp. nov.**, lateral view; H. Female of *A. maculata* **sp. nov.**, lateral view.

Measurements (length in mm). Body: male 17.1, females 20.8–22.1; antenna: male with apical part broken, females 10.7–13.5; pronotum: male 3.2, females 4.4–4.6; tegmen: male 2.5, females 3.6–4.2; hind femur: male 10.4, females 13.2–14.6.

Diagnosis. The new species is easily distinguished from congeners by follows combination of features: the coloration (dark brown to yellowish brown), the shape of tegmina (widened); furculae on 10th abdominal tergite of male (distinctly long); shape of male supra-anal plate (lateral margin distinctly constricted and form a small tubercles); male paraprocts (with small rounded tubercles); genital complex (long and bent upward valves of cingulum, blunt shape of epiphallus); female abdominal sternites (two row of hairs presented of 6th and 7th rows sternites); and female subgenital plate (triangular with acute apex).

Etymology. The specific epithet from the Latin word “maculatus” which gave the meaning “spot” for the presented of blackish spots on the hind femur in both sexes and on abdominal tergites in female.

Distribution. Thailand (Chiang Rai Province).

Conclusion

The majority of Gereniini are flightless grasshoppers with limited dispersal capabilities and known from the type localities only. While tegmina and wings are well developed in the genus *Gerenia*, almost all species of this genus are locally endemic also, except *G. thai* Storozhenko, 2009 and *G. ambulans* Stål, 1878 widely distributed in Southeast Asia. Five flightless species of the genus *Anacranae* known from Thailand, Vietnam and peninsular Malaysia and two of them, *A. beybienkoi* and *A. vietnamensis*, are more or less widely distributed in this region. Probably species of *Anacranae* will be found in Cambodia and Laos in the future.

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