

New species of *Palaioscaria* Günther, 1936 (Orthoptera: Tetrigidae, Batrachideinae) from New Guinea

Josef Tumbrinck



Auf der Hees 1,
D-41849 Wassenberg, GERMANY
Email: j. tumbrinck@t-online.de

SUGAPA 9(2): 29-46

Abstract: Five new species of *Palaioscaria* are described: *Palaioscaria gressitti* spec. nov., *Palaioscaria telnovi* spec. nov., *Palaioscaria karimuiensis* spec. nov., *Palaioscaria sedlaceki* spec. nov. and *Palaioscaria starmountainensis* spec. nov. A key is provided for the identification of all species of this genus and a distribution map is given.

Rangkuman: Lima spesies baru dari genus *Palaioscaria* dipertelakan: *Palaioscaria gressitti* spec. nov., *Palaioscaria telnovi* spec. nov., *Palaioscaria karimuiensis* spec. nov., *Palaioscaria sedlaceki* spec. nov., dan *Palaioscaria starmountainensis* spec. nov. Kunci identifikasi disediakan untuk semua spesies genus ini dan peta distribusi disajikan.

Key-words: Indonesia, Papua New Guinea, Papua, taxonomy, identification key, distribution.

Introduction

There are about 1800 known species worldwide within the family of Tetrigidae (Eades et al., 2015). They can be located on all continents and populate almost all climatic zones from taiga to rainforests. The only exception is New Zealand where no species of Tetrigidae have been found yet. Tetrigidae can be clearly identified by their pronotum, which typically extends far over the body. This feature is unique within the Orthoptera and allows for an unambiguous allocation to this family. Nine subfamilies of the Tetrigidae are known worldwide (Tumbrinck, 2014a). The genus *Palaioscaria* which is endemic to New Guinea belongs to the subfamily

Batrachideinae. This subfamily is characterized by the sulcus on the dorsal margin of the anterior and middle femora (fig. 9). Up to now three species of *Palaioscaria* had been described and Grant (1966) revised the genus in his work about the Pacific genera of the subfamily Batrachideinae. So far there are no references to the ecology for the examined species.

Material and methods

Material: Material from the following collections was included in this study:

- BMNH – The Natural History Museum, formerly British Museum (Natural History), London, United Kingdom
- BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii, USA
- SMTD – Staatliches Museum für Tierkunde, Leipzig, Germany
- RMNH – Naturalis Biodiversity Center, Leiden, The Netherlands
- NMEG – Naturkundemuseum Erfurt, Germany
- ZMHU – Zoologisches Museum der Humboldt Universität, currently Museum für Naturkunde der Humboldt-Universität zu Berlin, Berlin, Germany.

New type material is deposited in the following additional collections:

- AMS – Australian Museum, Sydney, New South Wales, Australia
- ANIC – Australian National Insect Collection, CSIRO, Canberra City, Australian Capital Territory, Australia
- ANSP – Academy of Natural Sciences, Philadelphia, Pennsylvania, U.S.A
- BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii, USA
- CJT – Collection Josef Tumbrinck, Wassenberg, Germany
- IRSNB – Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgique
- MNCN – Museo Nacional de Ciencias Naturales, Madrid, Spain
- MNHN – Muséum National d'Histoire Naturelle, Paris, France
- MSNG – Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy
- NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden
- ZFMK – Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany.

Localities were georeferenced as accurately as possible and have been marked with square brackets.

Measurements: The morphological characters and measurements are described in detail in the revision of the Cladonotinae of South-East Asia and Australia (Tumbrinck, 2014a). The following measurements are generally recorded in this work: Pronotum length: in dorsal view in midline from the anterior to the posterior margin. Pronotum lobe width: in dorsal view the distance between the most extended margins of the ventral projections.

Pronotum height: in lateral view from the ventral margin of the lateral lobes vertically upwards to the dorsal margin of the pronotum.

Postfemur length: in lateral view the greatest length from the tip of the dorso-basal lobe to the end of the knee.

Postfemur width: in lateral view the greatest width (height).

Tegmen length: in lateral view the length of the hardened part, which is in situ visible beneath the pronotum.

Hind wing length: from the base of the visible part of the tegmen to the apex of the hind wing.

Vertex width: in dorsal view between the hind margins of the lateral carinae of the vertex, including the carinae.

Eye width: in dorsal view from just behind the hind margins of the lateral carinae outwards finding the longest diameter.

Genus *Palaioscaria* Günther, 1936

Type species: *Palaioscaria calosoma* (Günther, 1934)

The genus was established by Günther (1936) under the name *Palaioscaria*. Based on Neave (1939) some authors (Steinmann (1970a, 1970b), Yin & al. (1996)) referred to the name incorrectly with *Palaisioscaria*. Otte (1997) took over the incorrect name. The proper name is still *Palaioscaria*.

Description

The head is somewhat extended, the eyes being higher than a tangent across the posterior part of the pronotum. The eyes are globular and their dorsal margin is higher than the fastigium. The upper margin of the antennal grooves is slightly in excess of the lower margin of the eyes or a little higher. The antennae are very long, with more than 20 segments. The scutellum is smaller than an antennal groove. The anterior apex of the pronotum is extended to a spine, ascending and sometimes extending over the head. The prozonal and interhumeral carinae are obsolete. The shoulders are almost absent. The lateral lobes, in dorsal view, curved laterally. The tegmen are very small (fig. 11) and the hind wings are as long as or longer than the pronotal process. The infrascapular area is relatively small. The tegminal and the ventral sinus are absent. The hind femorae are slender and the antegenicular teeth are absent. The anterior and middle femora have a sulcus on the dorsal margin (fig. 9) and a spine at the hind apex of the dorsal margin (fig. 9). The second segment of the tarsi is extended. The pulvilli are conspicuously rounded. The male genitalia can be divided in a subgenital plate, pallial valves, pallial hooks and a chitinous collar (Widdows & Wick, 1959). The morphology of the genitalia of *Palaioscaria* is different. The pallial valves are coadunate and under them is a sclerotized apparatus, may be the modified pallial hooks (fig. 12 A-F).

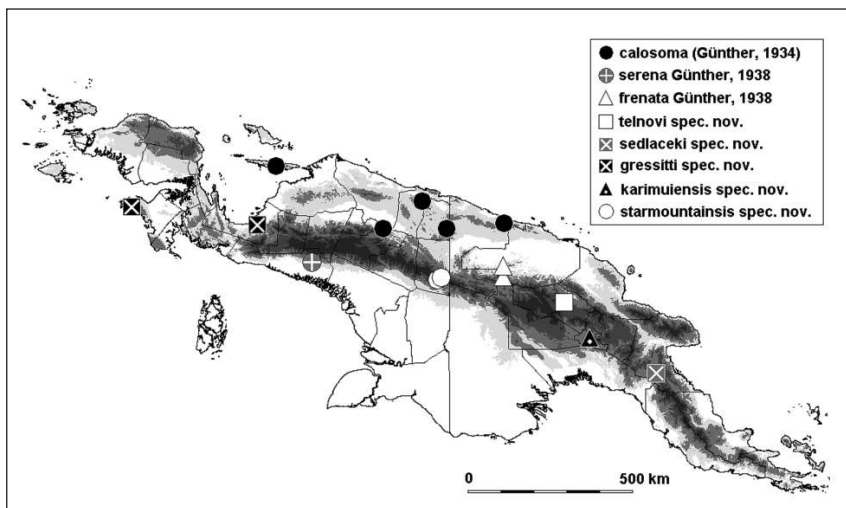
Most species are partially coloured in red, yellow, green or black. There are no pictures of living specimens, but it is assumed that a lot of them are vividly coloured.

Discussion

Only one other endemic genus of the Batrachideinae is known from New Guinea: *Wiemersiella* Tumbrinck, 2014 with two species was found in the eastern parts of Papua New Guinea (Tumbrinck, 2014b). In this new genus flight organs are absent. From South East Asia and Australia only three other genera of Batrachideinae are known. Firstly *Saussurella* Bolívar, 1887 with ten species widespread through tropical Asia including Java and Borneo. In this genus flight organs are fully developed and the tegmen are larger with a conspicuous dark spot. The tegminal sinus is present. Secondly there is *Vingselina* Sjöstedt, 1921 with five stout micropronotal species from Australia lacking flight organs. The third genus *Vilma* Steinmann, 1973 is found in the Solomon Islands, its single species *V. willemsei* (Günther, 1937) being wingless, the anterior apex of the pronotum being extended in a spine curved down over the head.

Distribution

The genus *Palaioscaria* is endemic to New Guinea. Most species are found in different mountains at an altitude between 500 and 2.100 m. However, there is no information about the habitat of these species. An additional specimen, a younger larve, was found in the Tamarau Mts in the north of Bird's Head Peninsula (0°49'24"S, 132°29'48"E), where no other specimens were found until now.



Map 1. Distribution of *Palaioscaria*-species in New Guinea

Currently recognised species

Palaioscaria calosoma (Günther, 1934)

(figs 1, 12 E)

Günther (1934) described *Saussurella calosoma* and in 1936 he established the genus *Palaioscaria* with *Palaioscaria calosoma* as the type species. Grant (1966) designated the lectotype. He synonymized the subspecies *Palaioscaria calosoma intermedia* (Willemse, 1961) with *Palaioscaria calosoma calosoma*, because he stated that the holotype was a larval specimen. I did not locate this specimen in the Dutch collections. Lectotype: ♂, Papua New Guinea, East Sepik Prov., Torricelli-Gebirge, 980 m, 1910, leg. Schlaginhaufen, SMTD.

Paralectotypes: 2 ♀♀ + 3 ♂♂, Papua New Guinea, East Sepik Prov., Torricelli-Gebirge, 600-780 m, 1910, leg. Schlaginhaufen, SMTD.

Additional material: 2 ♀♀, Indonesia, Prov. Papua, Araucaria Camp [3°30'S, 139°11'E], 800 m, 10.+24.III.1939, leg. L. J. Toxopeus, RMNH. 2 ♂♂, Indonesia, Prov. Papua, Araucaria Camp [3°30'S, 139°11'E], 800 m, 11.+14.III.1939, leg. L. J. Toxopeus, RMNH. 1 ♂, Indonesia, Prov. Papua, Waris S. of Hollandia [3°30'S, 140°55'E], 450 - 500 m, 16.-23.VIII.1959, leg. T. C. Maa, BPBM. 1 ♂, Indonesia, Prov. Papua, Japen, Central Range, Mt Oud, Camp 3, 3500 ft, XI.1938, leg. L. E. Cheesman, BMNH. 1 ♀, Indonesia, Prov. Papua, Boven Sermowai rivier [2°45'S, 140°15'E], 1400 m, 8.VI.1911, leg. P. N. v. Kampen, RMNH.

Note: The anterior pronotal spine of the specimen from Japen (Mt Oud) is stronger increasing. However, it is not possible to establish a new species because there are no other specific characteristics to distinguish it from *Palaioscaria calosoma*. More material and further research is needed establish its status.

Palaioscaria frenata Günther, 1938

(figs 2, 12 D)

Lectotype: ♂, Papua New Guinea, East Sepik Prov., Lordberg [4°50'S, 142°29'E], 1000 m, 08.XII.1912, leg. S. G. Bürgers, ZMHU.

Paralectotypes: 2 ♀♀, Papua New Guinea, East Sepik Prov., Lordberg [4°50'S, 142°29'E], 1000 m, 08.XII.1912, leg. S. G. Bürgers, ZMHU. 1 ♀ + 1 ♂, Papua New Guinea, East Sepik Prov., Lordberg [4°50'S, 142°29'E], 1000 m, 29.-30.XI.1912, leg. S. G. Bürgers, ZMHU.

1 ♀ + 3 ♂♂, Papua New Guinea, East Sepik Prov., Lordberg [4°50'S, 142°29'E], 29.XI.-2.XII.1912, leg. S. G. Bürgers, ZMHU (1 ♂ SMTD). 1 ♀ Papua New Guinea, East Sepik Prov., Lordberg [4°50'S, 142°29'E], 1000 m, 17.XII.1912, leg. S. G. Bürgers, ZMHU. 1 ♀, Papua New Guinea, East Sepik Prov., Standlager am Aprifluß [4°32'S, 142°29'E], 21.XII.1912, leg. S. G. Bürgers, ZMHU. 2 ♀♀ + 1 ♂, Papua New Guinea, East Sepik Prov., Standlager am Aprifluß [4°32'S, 142°29'E], 24.X.1912, leg. S. G. Bürgers, ZMHU (1 ♀ SMTD).

Note: Besides *Palaioscaria frenata* Günther (1938) also described *Palaioscaria buergersi* from the same region (Sepik River) differentiating the two species by their colouration. Grant (1966) synonymized *Palaioscaria buergersi* Günther, 1938 with *Palaioscaria frenata*. Besides the colour he found no different characteristics and stated that the colouring is not a specific characteristic. I examined the type material of both species and I agree with Grant's diagnosis.

Palaioscaria serena Günther, 1938
(fig. 3)

Holotype: ♀, Indonesia, Prov. Papua, Observation Point Camp [4°125'55"S 137°113'39"E], 761 m, 28.II.1913, Utakwa Expedition, leg. C. Boden Kloss, BMNH. Note: I did not examine the holotype but think that Günther's (1938) and Grant's (1966) identification is not questionable.

Description of the new species

Palaioscaria gressitti spec. nov.
(figs 4, 12 B, 13 B)

Holotype: ♂, Indonesia, Prov. Papua, Vogelkop, Bomberi [2°146'S 132°148'E], 700-900 m, 5.VI.1959, leg. J. L. Gressitt, BPBM.

Paratypes: 4 ♀♀ + 13 ♂♂: 1 ♀ (1/17), Indonesia, Prov. Papua, Nabire 50 km S. of, Pusppenssat [3°129'53"S 135°143'83"E], 30.XII.1996, leg. A. Weigel, NMEG; 3 ♀♀ + 8 ♂♂, data as holotype, but 4.VI.1959, 1 ♀ + 3 ♂♂, BPBM (2/17 - 5/17); 5.VI.1959, 1 ♂, BPBM (6/17); 6.VI.1959, 1 ♂, BPBM (7/17); 6.VI.1959, 1 ♂, leg. T. C. Maa, BPBM (8/17); 7.VI.1959, 2 ♀♀, leg. T. C. Maa, BPBM (9/17 + 10/17); 9.VI.1959, 2 ♂♂, BPBM (11/17 + 12/17); 5 ♂♂, Indonesia, Prov. Papua, Vogelkop, Fak Fak S.coast of Bomberai [2°155'S 132°118'E], 100-700 m, leg. T. C. Maa, BPBM, 2 x 4.VI.1959, 2 x 5.VI.1959, 1 x 8.VI.1959 (13/17-17/17). The following paratypes are deposited in other collections: ♂ (3/17) in NHRS, ♂ (4/17) + ♀ (12/17) in RMNH, ♂ (5/17) in ZMHU, ♂ (6/17) in BMNH, ♂ (7/17) in IRSNB, ♂ (8/17) in CJT, ♂ (9/17) in ANSP, ♂ (10/17) in ANIC, ♂ (13/17) in MNCN, ♂ (14/17) in AMS, ♂ (15/17) in MSNG, ♂ (16/17) in MNHN, ♂ (17/17) + ♂ (11/17) in ZFMK.

Additional material: 1 ♂ larve + 2 ♀♀ larves, Indonesia, Prov. Papua, Vogelkop, Bomberi [2°146'S 132°148'E], 700-900 m, 6.VI.1959, leg. T.C. Maa, BPBM. 1 ♂ larve 1 ♀ larve, Indonesia, Prov. Papua, Vogelkop, Fak Fak S.coast of Bomberai [2°155'S 132°118'E], 100-700 m, 4.VI.1959 (♂) and 8.VI.1959 (♀), leg. T. C. Maa, BPBM.

Diagnosis

The following combination of characters is specific for this species: Pronotal process extending beyond the hind femora with no more than half a length of the knee. Median carina, in lateral view, straight. Pronotal spine, in lateral view, curved more proximally and ventrally.

Description

Measurements (in mm): pronotum length ♀♀ 12.99-13.63, ♂♂ 10.55-11.83; pronotum lobe width ♀♀ 4.37-4.89, ♂♂ 3.73-4.24; pronotum height ♀♀ 2.83-2.96, ♂♂ 1.93-2.57; vertex width ♀♀ 0.86-0.96, ♂♂ 0.68-0.78; eye width ♀♀ 0.78-0.84, ♂♂ 0.76-0.86; tegmen length ♀♀ 0.80-0.88, ♂♂ 0.64-0.96; hind wing length ♀♀ 9.64-10.67, ♂♂ 8.36-9.13; postfemur length ♀♀ 7.97-8.74, ♂♂ 6.69-7.72; postfemur width ♀♀ 2.31-2.57, ♂♂ 1.8-2.19.

In both sexes the anterior part of the pronotum, in lateral view, consistently ascending just before the barely visible convex elevation above the beginning of the tegmen. Tip of the pronotum above the head, in lateral view, very small pointing straight forwards, in dorsal view reaching the line of the supraocular lobes. Posterior part of the pronotum straight, not ascending to the posterior end, tip reaching the end of the knees of the hind femora. Forewings are as long as the pronotum or a little longer. Subgenital plate with two distinct cones (fig. 13 B). The apex of the pallial system is visible (fig. 12 B). The colouration of males and females is different: Pronotum of the males black with a dark-red dorsal part in the middle. Face is brown with a dark spot in the area of the antennal groves. Body and hind femora reddish except the knees (black). Other legs black. Females without red. They are brownish with some black spots on the pronotum, hind femora and in the area of the antennal groves.

Notes: The female from Puspenssat has the same colouration as the males, resembling female *Palaioscaria calosoma*. However it differs by the fastigium being smaller, the pronotum and forewings being shorter (like *Palaioscaria gressitti*) and the pronotal spine being a little smaller and more acute (as in *Palaioscaria calosoma*). Further research is necessary to determine the correct allocation of this female.

Distribution: *Palaioscaria gressitti* is found in the Fak Fak Mts at the south coast of Bomberai Peninsula. A single specimen was found 50 km south of Nabire in the Kobowre Mts about 350 km away. Further research is required to assess whether *Palaioscaria gressitti* is widespread in the west of New Guinea.

Etymology: Patronymic. The species is dedicated to the late collector J. Linsley Gressitt. Dr. Gressitt's diverse interest in natural history produced more than 300 papers on insects, especially beetles, amphibians, reptiles, biological control, zoogeography and ecology of Pacific and Antarctic insects.

Palaioscaria karimuiensis spec. nov.
(fig. 5)

Holotype: ♀, Papua New Guinea, Chimbu Province, Karimui [6°130'S 144°151'E], 1080 m, 11.-12.VII.1963, leg. J. Sedlacek, BPBM.

Diagnosis

The pronotum, in lateral view, is more steeply ascending to the posterior end than in other species. This character, in combination with a large and broad anterior spine, is unique for this species.

Description

Measurements of holotype ♀ (in mm): pronotum length 12.35; pronotum lobe width 4.89; pronotum height 2.57; vertex width 0.92; eye width 0.8; tegmen length 0.39; hind wing length 10.29; postfemur length 7.97; postfemur width 1.93. Anterior part of the pronotum, in lateral view, starting to ascend just before the convex elevation of the median carina, ascending consistently ascending and finishing above the head its tip sharply turned down. Tip of the pronotum above the head, in lateral view wide reachinf, in dorsal view, the anterior margin of the eyes. Posterior part of the pronotum, in lateral view, consistently ascending at an angle of 45°1. The pronotal process extending beyond the hind femora. The forewings extending beyond the pronotum by 4.2 mm.

Colouration: Although the original colour is uncertain, the hind femora and the lower part of the face show light bands.

Distribution: The species is only known from the type locality, the village of Karimui.

Etymology: The species is named after its type locality.

Palaioscaria sedlaceki spec. nov.
(figs 6, 12 C, 13 A)

Holotype: ♂, Papua New Guinea, Morobe Province, Bulldog Road 60 km S Wau [7°130'S 146°140'E], 2070 m, 22.-31.V.1969, leg. J. Sedlacek, BPBM.

Paratypes: 5 ♀♀ + 1 ♂ (1/6-6/6): data as holotype, BPBM. The following paratypes are deposited in other collections: ♀ (2/6) + ♂ (6/6) in ZFMK, ♀ (3/6) in RMNH, ♀ (4/6) in BMNH, ♀ (5/6) in ZMHU.

Diagnosis

The median carina, in lateral view, has a conspicuous convex elevation above the lateral lobes. In all other species except *Palaioscaria karimuiensis* the elevation is inconspicuous or absent. *Palaioscaria karimuiensis* differs from *Palaioscaria sedlaceki* by the ascending posterior pronotum and the broad spine.

Description

Measurements (in mm): pronotum length ♀♀ 10.29-11.19, ♂♂ 9.39-9.9; pronotum lobe width ♀♀ 5f 4.24-4.5, ♂♂ 3.34-3.47; pronotum height ♀♀ 2.44-2.96, ♂♂ 1.9-2.06; vertex width ♀♀ 0.74-0.86, ♂♂ 0.66-0.68; eye width ♀♀ 0.7-0.76, ♂♂ 0.68; tegmen length ♀♀ 0.62-0.78, ♂♂ 0.53-0.57; hind wing length ♀♀ 8.23-8.36, ♂♂ 7.59-7.84; postfemur length ♀♀ 7.46-7.72, ♂♂ 6.69; postfemur width ♀♀ 1.93, ♂♂ 1.54. In both sexes the anterior part of the pronotum, in lateral view, ascending just before the convex elevation above the beginning of the tegmen, in the beginning more flattened and in the last section sharply ascending. Tip of the pronotum above the head, in lateral view, narrow pointing straight forward, in dorsal view, reaching the line of the supraocularlobes. Posterior part of the pronotum straight and not ascending to the posterior end, the tip reaches the knees of the hind femora. Forewings slightly extending beyond the tip of the pronotum. Apex of the subgenital plate rounded concave on each side. Pallial system of the male genitalia with a distinct cone on each side and some smaller warts between them, pointing in the direction of the head (fig. 12 C). The colouration of males and females is different: In the male the anterior part of the median carina with a broad yellow stripe, disconnected by the convex elevation. Below the tegmen and above the lateral lobes yellow spots. Hind femora without any light parts. Head with a light colouration but the original colour is uncertain. Female brown and grey with some black and yellow spots in different areas, covered with light-yellow points, more clearly visible than the same punctation of the males.

Distribution: The species is only known from its type locality.

Etymology: Patronymic. The species is dedicated to the collector Josef Sedlacek, an entomologist of the Bishop Museum.

Palaioscaria starmountainensis spec. nov.
(figs 7, 12 A, 13 D)

Holotype: Indonesia, Prov. Papua, Star Range, bivak 39 [4°51'S, 140°46'E], 1300 m, 26.VI.1959, Neth. New Guinea Exp. 1959, RMNH.

Paratypes: 1 ♂ (1/3) + 2 ♀♀, larvae (2/3-3/3), Indonesia, Prov. Papua, Star Mountains, Sibil Valley (Malaise Trap) [4°45'S, 140°40'E], 1245 m, 18.X-8.XI.1961, leg. S. &

L. Quate, BPBM. The following paratypes are deposited in other collections: ♀ larve (2/3) in ZFMK, ♀ larve (3/3) in RMNH.

Diagnosis

The species is closely related to *Palaioscaria telnovi*. Both have a long spine at the hind edge of the dorsal margin of the middle femur, which is longer than e.g. in *Palaioscaria karimuiensis* (fig 9). In *Palaioscaria starmountainensis* the spine is conspicuous and a little longer than in *Palaioscaria telnovi*. Both species differ in the males genitalia: in *Palaioscaria starmountainensis* the subgenital plate is notched at the apex (fig. 13 D) and in *Palaioscaria telnovi* it is slightly concave emarginated (fig. 13 C). The apex of the pallial system is not visible (fig. 13 D).

Description

Measurements (in mm): pronotum length ♀ 12.47, ♂ 10.16; pronotum lobe width ♀ 4.76, ♂ 3.86; pronotum height ♀ 3.09, ♂ 2.19; vertex width ♀ 0.94, ♂ 0.86; eye width ♀ 0.80, ♂ 0.76; tegmen length ♀ .68, ♂ 0.49; hind wing length ♀ 7.72, ♂ 7.46; postfemur length ♀ 7.72, ♂ 7.07; postfemur width ♀ 2.32, ♂ 1.93.

In both sexes the anterior part of the pronotum, in lateral view, ascending a short distance before the slightly visible convex elevation above the beginning of the tegmen, in the beginning more flattened and in the last section ascending further. Tip of the pronotum above the head is, in lateral view, broad, in dorsal view, topping the anterior margin of the fastigium. Tip of the pronotum points a little upwards (female) or slightly downwards (male). Posterior part of the pronotum straight and not ascending to the posterior end, the tip extending a little beyond the knees of the hind femora. Forewings slightly shorter than the pronotum. The subgenital plate is slightly concave emarginated (fig. 13 D). The apex of the pallial system is visible (fig. 12 A). The colouration of males and females is different: Female greenish and, in dorsal view, with a v-shaped white band on the pronotum. Male with a white stripe at the posterior part of the median carina, the anterior part of the median carina is black. Face black with a white band below the antennae.

Distribution: The species is only known from its type locality.

Etymology: The species is named after the type locality, the Star Range.

Palaioscaria telnovi spec. nov.

(figs 8, 12 F, 13 C)

Holotype: ♂, Papua New Guinea, Western Highlands Province, Goroka, Baiyer River [5°32'S, 144°09'E], 1200 m, 14.-21.VIII.1985, leg. T. Anderson, BMNH.

Diagnosis

The species is closely related to *Palaioscaria starmountainensis* (see there).

Description

Measurements of holotype ♂ (in mm): pronotum length 10.55; pronotum lobe width 3.6; pronotum height 1.8; vertex width 0.88; eye width 0.66; tegmen length 0.92; hind wing length 7.2; postfemur length 6.64; postfemur width 1.84. Anterior part of the pronotum, in lateral view, ascending slightly just before the barely visible convex elevation above the beginning of the tegmen. In the beginning more flattened and in the last section ascending further. Tip of the pronotum above the head, in lateral view, slightly broader pointing slightly upwards, in dorsal view, it surpasses the anterior margin of the fastigium but does not reach the anterior margin of the eyes. Posterior part of the pronotum straight and not ascending to the posterior end, the tip extending a little beyond the knees of the hind femora. Forewings as long as the pronotum. The subgenital plate is slightly concave emarginated (fig. 13 D). The apex of the pallial system is visible (fig. 12 A). Colouration. Median carina with a black stripe, fading away to the posterior end. Face black with one broad and one smaller white stripe below the eyes. White stripe continues on the lateral sides of the pronotum. Most parts of the specimen, including the hind femora, grey.

Distribution: The species is found only at the type locality near Goroka.

Etymology: Patronymic. The species is named after my dear colleague Dmitry Telnov from Latvia. He is a coleopterist working on the beetle families of Anthicidae and Trictenotomidae on a world-scale.

Identification Key to the species of *Palaioscaria*

- 1 Pronotal process extending the hind femora with more than one length of the knee *P. calosoma* (Günther, 1934)
- 1* Pronotum process extending the hind femora no more than one length of the knee 2
- 2 Median carina, in lateral view, with a convex elevation above the lateral lobes (figs 5, 6) 3
- 2* Median carina, in lateral view, straight 4
- 3 Pronotal spine large and broad (fig. 5) *P. karimuiensis* spec. nov.
- 3* Pronotal spine small and narrow (fig. 6) *P. sedlaceki* spec. nov.
- 4 Pronotum between first and second sulcus flattened, descending briefly before the eyes *P. serena* Günther, 1938
- 4* Pronotum descending before or nearly at the first sulcus (fig. 10) 5

- 5 Pronotal process extending beyond the hind femora with one length of the knee *P. frenata* Günther, 1938
- 5* Pronotal process extending beyond the hind femora with no more than half a length of the knee 6
- 6 Pronotal spine, in lateral view, curved earlier and more flattened (fig. 4) *P. gressitti* spec. nov.
- 6* Pronotal spine, in lateral view, steeply and higher descending (figs 7, 8) . . . 7
- 7 Subgenital plate of the male at the apex slightly concave emarginated (Bismarck Range) *P. telnovi* spec. nov.
- 7* Subgenital plate of the male notched at the apex (Star Mountains) *P. starmountainensis* spec. nov.

Some more pictures of all species are deposited on Tetrigidae.htm and in the Orthoptera Species Files (www.orthoptera.speciesfile.org).

Acknowledgements

My special thanks go to the following institutions for graciously lending me specimens from their collections, and the patience they have shown with my research: Bernice P. Bishop Museum Honolulu, The Natural History Museum London, Naturalis Biodiversity Center Leiden, Naturkundemuseum Erfurt, Staatliches Museum für Tierkunde Dresden and Zoologisches Museum der Humboldt Universität Berlin. I thank especially the Zoologische Forschungsmuseum Alexander Koenig in Bonn and their staff for their support and assistance. I am also thankful to Elisabeth Bach for proofreading.

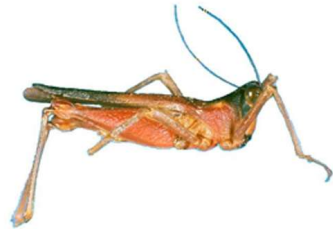
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Fig. 1. *Palaioscaria calosoma* (Günther, 1934), lectotype ♂ (SMTD). Fig. 2. *Palaioscaria frenata* Günther, 1938, lectotype ♂ (ZMHU). Fig. 3. *Palaioscaria serena* Günther, 1938, holotype ♀ (BMNH), from Günther (1938, fig. 76). Fig. 4. *Palaioscaria gressitti* spec. nov., holotype ♂ (BPBM). Fig. 5. *Palaioscaria karimuiensis* spec. nov., holotype ♀ (BPBM).



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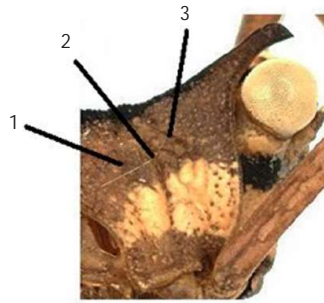


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Fig. 6. *Palaioscaria sedlaceki* spec. nov., holotype ♂ (BPBM). Fig. 7. *Palaioscaria starmountainsis* spec. nov., holotype ♀ (RMNH). Fig. 8. *Palaioscaria telnovi* spec. nov., holotype ♂ (BMNH).



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Fig. 9 *Palaioscaria karimuiensis* spec. nov., holotype ♀ (BPBM), mid-femora (dorsal view). Fig. 10 *Palaioscaria telnovi* spec. nov., holotype ♂ (BMNH), sulcus 1-3 (lateral view). Fig. 11 *Palaioscaria starmountainensis* spec. nov., paratype ♂ (BPBM), tegmina (in square), lateral view.

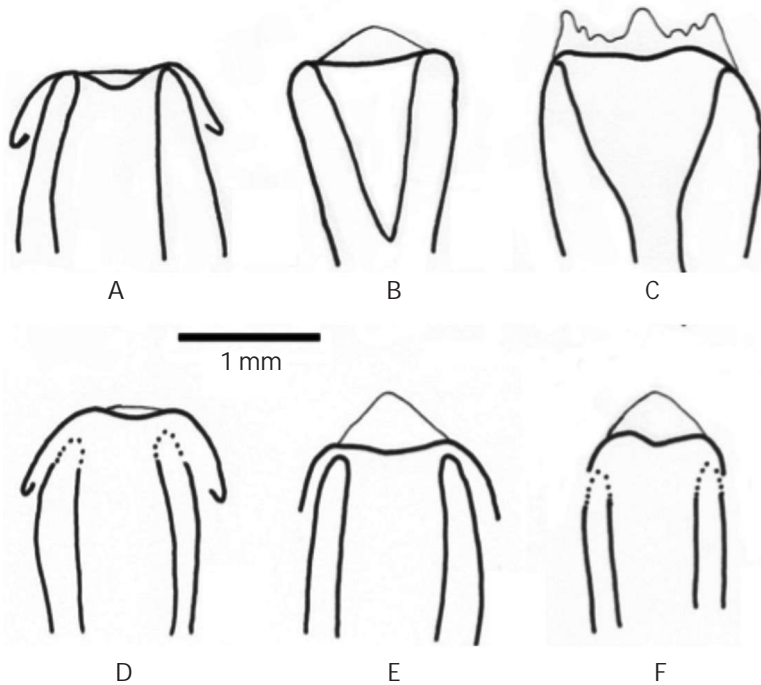


Fig. 12. Pallial system of males in dorsal view:
 A. *Palaioscaria starmountainsis* spec. nov.. paratype;
 B. *Palaioscaria gressitti* spec. nov., holotype;
 C. *Palaioscaria sedlaceki* spec. nov., holotype;
 D. *Palaioscaria frenata* Günther, 1938, lectotype;
 E. *Palaioscaria calosoma* (Günther, 1934), no type (from Waris);
 F. *Palaioscaria telnovi* spec. nov., holotype.

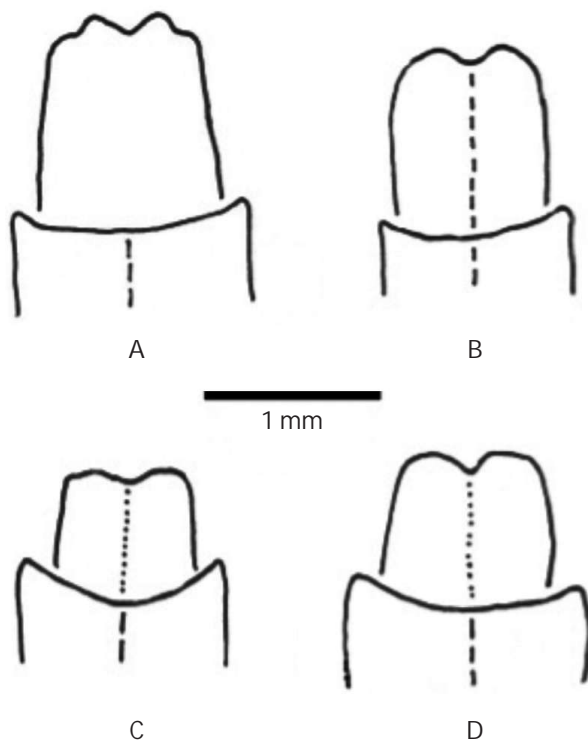


Fig. 13. Subgenital plates in ventral view:
A. *Palaioscaria sedlaceki* spec. nov., holotype;
B. *Palaioscaria gressitti* spec. nov., holotype;
C. *Palaioscaria telnovi* spec. nov., holotype;
D. *Palaioscaria starmountainensis* spec. nov., paratype.