Taxonomic and biogeographic revision of the New Guinean genus *Ophiotettix* Walker, 1871 (Tetrigidae: Metrodorinae: Ophiotettigini trib. nov.), with the descriptions of 33 new species

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Abstract: Long-headed pygmy grasshoppers (genus *Ophiotettix* Walker, 1871) from the New Guinean region (New Guinea and adjacent islands) are taxonomically and biogeographically reviewed. For *Ophiotettix* and the morphologically similar genera *Paraspartolus* Günther, 1939, *Spartolus* Stål, 1877 and *Threciscus* Bolívar, 1887 a new tribe is erected, Ophiotettigini trib. nov. This tribe is close to Clinophaestini Storozhenko, 2013, which is placed here also under Metrodorinae. Bufonidinae syn. rev. are regarded to be synonymous with Batrachideinae, not Cladonotinae, as previously considered. Statuses of currently known taxa of *Ophiotettix* are reviewed. The genus now includes 40 species, seven of them previously described: *O. buergersi* Bolívar, 1929, *O. cygnicollis* Walker, 1871, *O. limosina* (Snellen van Vollenhoven, 1865), *O. lorentzi* Bolívar, 1929, *O. modesta* Bolívar, 1929 stat. rev., *O. scolopax* Bolívar, 1929, *O. westwoodi* Bolívar, 1929 stat. rev. 33 new species are described and illustrated, namely: *O. amberiana* sp. nov., *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. brevicollis* sp. nov., *O. cheesmanae* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. flyriveriensis* sp. nov., *O. fritzpahli* sp. nov., *O. hansscholteni* sp. nov., *O. imbiana* sp. nov., *O. kaitani* sp. nov., *O. karimuiensis* sp. nov., *O. katharinae* sp. nov., *O. luce* sp. nov., *O. meggy* sp. nov., *O. mountnokensis* sp. nov., *O. parvicollis* sp. nov., *O. projecta* sp. nov., *O. pulcherrima* sp. nov., *O. pushkari* sp. nov., *O. quateorum* sp. nov., *O. rebrinae* sp. nov., *O. roesleri* sp. nov., *O. rohwedderi* sp. nov., *O. sanguinea* sp. nov., *O. schapinae* sp. nov., *O. stallei* sp. nov., *O. storozhenkoi* sp. nov., *O. subbrevicollis* sp. nov., *O. telefominensis* sp. nov., *O. tenuis* sp. nov., and *O. toxopei* sp. nov. An annotated identification key to species is provided. Antennal morphology (especially morphology of five apical segments) is diagnostically important in the taxonomy of this group and provides the best morphological character for species delimitation. Function of modified antennae is not fully understood. Differences between species exist also in head morphology, facial colouration, and morphometrics. Pygmy Giraffhoppers are a diverse group occupying most biogeographical regions of New Guinea North of the Central range, while only few species inhabit areas south of the central range.

Key words: Orthoptera, Tetrigidae, pygmy grasshoppers, Discotettiginae, New Guinea, taxonomy, new species, widened antennal segments, long head, horn.

Introduction

Pygmy grasshoppers (family Tetrigidae), an old lineage of Triassic origin, are one of the most diverse living Orthoptera groups, with more than 1900 species described to date (Song et al. 2015). The highest concentration of species is found in tropical regions, but there are representatives in all biogeographical realms, from taiga to tropical rainforests, exception being Antarctica and New Zealand (Tumbrinck 2014a). Pygmy grasshoppers can be easily recognized by their small body size (usually smaller than 1.5 cm), their pronotum being extended covering the abdomen, lack of tympana, lack of arolium between the claws, the tarsal formula being 2-2-3 and first thoracic sternum modified into a collar-like structure called sternomentum (Skejo 2016).

The island of New Guinea including its adjacent satellite islands like Gebe, Waigeo and Yapen has a very diverse pygmy grasshopper fauna. Species inhabiting this region show an extremely large variability of morphological structures like antennae, head, palpi, pronotum, legs and abdomen as well as a high number of endemic taxa. Hitherto about 30 genera and 100 species were recorded from




New Guinea (Tumbrinck 2014a, 2014b, 2015; Cigliano et al. 2017).

One of the morphologically most striking and interesting groups of pygmy grasshoppers is the genus *Ophiotettix* Walker, 1871 (formerly known also as *Tetricodina* Westwood, 1874 and *Tettigodina* Bolívar, 1887). It consists of colourful long headed pygmy grasshoppers that, out of endearment, could be named 'Pygmy Giraffehoppers'. In the past the genus had been assigned both to Discotettiginae (Hancock 1907) based on the presence of widened subapical antennal segments in certain species (e.g. *O. cygnicollis* Walker, 1871, the type species of the genus) and to Metrodorinae (e.g. Günther 1939) based on morphological similarity *Paraspartolus* Günther, 1939, *Spartolus* Stål, 1877 and *Threciscus* Bolívar, 1887 but is currently without clear placement within Tetrigidae.

Only two *Ophiotettix* species (*O. limosina* and *O cygnicollis*) had been described when Bolívar (1929) made the first revision of the genus, describing three additional species (*O. buergersi, O. lorentzi* and *O. scolopax*) and two subspecies (*O. buergersi modesta* and *O. b. westwoodi*). Since Bolívar's revision, Günther (1938a, 1939, 1955) added new localities for certain species, included *Ophiotettix* in his identification key and discussed the taxonomic position of the genus, but did not describe new taxa or change the status of any of the taxa described by then.

Based on the examination of over 750 specimens the current study, while re-evaluating the status of the described species, resulted in the recognition and description of an additional 33 new species. One possible new species photographed by various Orthopterologists in the Muller Range (Papua New Guinea) is not described here because of lack of physical specimens. Results from the current study were compared with previous studies dealing with morphology of *Ophiotettix* (especially Bolívar 1887, 1929; Hancock 1907; Günther 1939). The current study resulted in a new diagnosis of the genus and a more detailed description of members of the genus *Ophiotettix*, including characters previously used as well as numerous characters not yet used in detail until now. In addition the current study led to a detailed generic description with notes on variability of characters and with comments on value / usefulness of certain characters in this group of pygmy grasshoppers. An identification key to all known species is provided. In addition *Ophiotettix* is compared with morphologically similar genera in the Metrodorinae and the morphological diversity in particular of the antennae is discussed.

Materials and methods

Material

This study has been based on an examination of the majority of the hitherto published specimens besides a large number of additional specimens (altogether over 750 specimens). All specimens that arelisted have been examined unless stated otherwise. Paratypes have been individually numbered (3/14: paratype number 3 in a series of 14). Abbreviations used for depositories are presented below. Original label data are supplemented with authors' comments in square brackets.

Photography

Various cameras using various lenses have been used to take photos, all in macro mode by using a stacking system with integrated scale bar or with a macro-lens and millimetre paper. No post-processing of photographs has been done. Millimetre paper was placed close to photographed specimen and subsequently used to construct a scale bar included in the photograph, after which the millimetre paper was deleted.

Morphology

The morphology of head, pronotum, legs, and genitalia follows Devriese (1991, 1999) and Tumbrinck (2014a) (Plate 104 figs 1-4).

Results from the current study were compared with previous studies dealing with morphology of *Ophiotettix* (Bolívar 1887, 1929; Hancock 1907; Günther 1939). The current study resulted in a new diagnosis of the genus and a more detailed description of members of the genus *Ophiotettix*, including characters previously used as well as numerous characters not yet used in detail until now. In addition the current study led to a detailed generic description with notes on variability of characters and with comments on value/ usefulness of certain characters in this group of pygmy grasshoppers. Characters important for distinction of hitherto described species are related to head morphology and to morphometrics, thus for the genus a detailed morphological description is presented, while for each species, only diagnostic descriptions of the characters essential for accurate identification are presented.

Antennal morphology is the most relevant character in separation of *Ophiotettix* species.




Different ratios are important (e.g. length of two apical segments – segments 14+15 in ♀♀, 13+14 in ♂♂ compared to length of third segment from the tip – segment 13 in ♀♀, 12 in ♂♂), measurements of segments (e.g. comparison of width of third and sixth antennal segment from the tip), colouration (if three apical segments are white and strongly contrasting with the rest or if they are dark, do they bear silver bristles), and especially morphology of third, fourth and fifth antennal segments from the tip (are their inner and outer margins lamellate, strongly compressed, do they bear projecting edges or spines).

The colouration of specimens including that of antenna changes after fixation, bright colours (white, yellow, orange) usually becoming dark. For the description of the colouration of certain species photos from social networks (e.g. Flickr, Facebook) have been used after the identification had been confirmed. Variability of all the body parts in colouration is very high in the genus and colours may have high diagnostic value, since it seems that members of this genus are very visually-oriented grasshoppers.

Names for antennal segments were assigned as follows: 1st scapus, 2nd pedicel, 3rd-7th (female) or 3rd-6th (male) basal segments, 8th-9th (female) or 7th-8th (male) central segments, 10th-12th (female) or 9th-11th (male) subapical segments, 13th-15th (female) or 12th-14th (male) apical segments. Numeration of the antennal segments follows Kuřavova et al. (2017).

Measurements (Plate 104 figs 1-4)

Measurements were taken according to Tumbrinck (2014a) including also three additional measurements which are specifically helpful in *Ophiotettix* as follows:

Pronotum length: length of pronotum (dorsal or lateral view; dorsal view is more accurate) between the anterior and posterior margin (or apex).

Pronotum width: width of pronotum (dorsal view) between the apices of the lateral lobes of the pronotum (or their ventrolateral projections).

Pronotum height: height of pronotum (lateral view) from the ventral margin of the lateral lobes up to the dorsal margin of the pronotum above.

Hind femur length: length of hind femur (lateral view) from the tip of the dorso-basal lobe to the tip of the knee (including the geniculartooth).

Hind femur width: greatest width of hind femur (lateral view) between the ventral and dorsal margin.

Vertex width: width of vertex (dorsal view) between the hind margins of the lateral carinae of the vertex including the carinae.

Eye width: greatest width of an eye (dorsal view) from the outer side of the hind margins of the lateral carinae of the vertex and the perpendicular along the outer margin of the eye.

(I) Additional measurement: antennal length as length of the flagellum including scapus and pedicel.

(II) Additional measurement: head length in lateral view from the dorsal margin of the eyes to the ventral margin of the gena (Plate 104 fig. 1).

(III) Additional measurement: head index: length of the neck (part of the head below the compound eye) versus eye height in lateral view taken parallel to neck's extension (Plate 104 fig. 1).

Mapping

For mapping purposes coordinates were assigned to those localities for which only the locality names were available. To assign coordinates Google Earth, Google Maps and various hard copy maps have been used (including maps from collectors' expeditions). Coordinates assigned to localities are given in square brackets.

Acronyms for scientific collections used in the text:

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.;

BMEC – Bohart Museum Entomology Collection, Davis, California, U.S.A.;

BMNH – The Natural History Museum, formerly British Museum (Natural History), London, United Kingdom;

BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii, U.S.A.;

BYUC – Monte L. Bean Life Science Museum, Brigham Young University, Provo, Utah, U.S.A.;

HNHM – Hungarian Natural History Museum, Budapest, Hungary;

IRSNB – Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgique;

MFN – Zoologisches Museum der Humboldt Universität, currently Museum für Naturkunde der Humboldt-Universität zu Berlin, Germany;

MNCN – Museo Nacional de Ciencias Naturales, Madrid, Spain;




MNSL – Naturkundemuseum Leipzig, Germany;
MSNG – Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy;
NCB-RMNH – Nederlands Centrum voor Biodiversiteit (Dutch Centre for Biodiversity, formerly Nationaal Natuurhistorisch Museum Naturalis), Leiden, The Netherlands;
NME – Naturkundemuseum Erfurt, Germany;
OUMNH – University Museum of Natural History, Oxford, United Kingdom;
PERC – Purdue Entomological Research Collection, West Lafayette, Indiana, U.S.A.;
SMTD – Senckenberg Naturhistorische Sammlungen Dresden, Germany;
ZFMK – Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany
ZSM – Zoologische Staatssammlung, Munich, Germany;
TELNOV – Private collection Dmitry Telnov, Rīga, Latvia;
TUMBRINCK – Private collection Josef Tumbrinck, Wassenberg, Germany.

Results

Placement of *Ophiotettix* in Tetrigidae

Since establishment of the basis for the current Tetrigoidea taxonomy by Bolívar in 1887, not a lot has changed. After 1887 only few new subfamilies and tribes were established (e.g. Discotettiginae, Bufonidinae), serving primarily for better identification and not being evolutionary units. The only exception is subfamily Batrachideinae that can be regarded separate family Batrachideidae. Strong synapomorphies of the (sub)family are (1) female spermatheca with two diverticula (shared by all the members after Grant (1962), (2) rectangular paranota (shared by all the members except *Ascetotettix* Grant, 1956), (3) sulcate dorsal margin of the fore and mid femora, (4) antennae with more than 20 segments (except for certain brachypronotal genera, such as *Vingselina* Sjöstedt, 1921*, Ascetotettix*), (5) projected frontal margin of the pronotum (except in certain genera, e.g. *Paurotarsus* Hancock, 1900*,* certain *Tettigidea* Scudder, 1862 species) and (6) fastigium of the vertex convex and slightly projected above the compound eyes. Despite of recent placement of *Bufonides* Bolívar, 1898 within Cladonotinae, we assign the genus here to Batrachideinae, based on all the above presented statements (the only anatomical feature we did not examine is if *Bufonides* spp. possess two diverticula in female spermatheca). Other members of brachypterous Batrachideins from the Australian biogeographical region also have bifurcation of the frontal costa positioned lower than other Batrachideinae and scutellum very wide (genera *Wiemersiella* Tumbrinck, 2014b, *Vingselina* Sjöstedt, 1921).

Currently recognized subfamilies within the Tetrigoidea are (1) Batrachideinae (with Bufonidinae syn. rev. being synonymous with Batrachideinae rather than Cladonotinae), (2) Cladonotinae (including the tribe Xerophyllini), (3) Lophotettiginae (monotypic, only genus *Lophotettix* Hancock, 1909), (4) Metrodorinae (including tribes Cleostratini, and Amorphopini), (5) Scelimeninae (including tribes Criotettigini, Scelimenini, and Thoradontini), (6) Tetriginae (including tribes Dinotettigini, and Tetrigini), (7) Tripetalocerinae (including two tribes, Tripetalocerini, and Clinophaestini, but only 4 species altogether) and 10 genera without placement in any of the subfamilies (Cigliano et al. 2017).

The genus *Ophiotettix* is one of the nomenclaturally oldest Tetrigidae genera, only twelve genera being described before it. It is the very first endemic genus of New Guinea to be described. Morphologically *Ophiotettix* is one of the most striking genera of pygmy grasshoppers. Up to now *Ophiotettix* was assigned to the Discotettiginae. However Discotettiginae are identical with Scelimeninae (Skejo, Pushkar & Tumbrinck in press). *Ophiotettix* does not belong to Scelimeninae. Genera such as *Discotettix* Costa, 1864*, Gavialidium* Saussure, 1862*, Paragavialidium* Zheng, 1994, and *Kraengia* Bolívar, 1909 are characterized by tuberculated body, the vertex being significantly wider than a compound eye, with tuberculated lateral and median carina, the antennal grooves situated below the compound eyes, a wide scutellum, the head not being elongated with short occipital area and toothed fore, mid and hind femora. On the other hand, *Ophiotettix* shares numerous morphological characters with the genera *Spartolus* Stål, 1877*, Paraspartolus* Günther, 1939*, Threciscus* Bolívar, 1887 and thus the genus is placed here within Metrodorinae. Comparison to other genera is given in the generic diagnosis. This group can be easily characterized by a few strong morphological synapomorphies – (1) elongated head, (2) narrow (almost not visible) scutellum, (3) high position of the antennal grooves, (4) wings not visible, (5) apex of the pronotum sharp and directed somewhat upwards and (6) distal segment of the palpi pennate.




Subfamily Metrodorinae Bolívar, 1887

Type genus: *Metrodora* Bolívar, 1887 (Central and South America)

Type species: *M. rana* Bolívar, 1887 (type locality: Peru, Alto Amazonas)

Composition: The subfamily Metrodorinae includes two tribes, the Amorphopini Günther, 1939 with 3 genera and 8 species; the Cleostratini Bolívar, 1887 (sensu Storozhenko 2016) with 16 genera and 48 species) and another 71 genera with more than 540 species (Cigliano et al. 2017) without tribal placement. Of those, the tribe Ophiotettigini trib. nov. is erected for *Ophiotettix, Spartolus, Paraspartolus*, and *Threciscus*.

Distribution: Across all continents except Europe and Antarctica. Africa including Madagascar (22 genera, 85 species), North America (1 genus, 1 species), South America (15 genera, 78 species.), temperate Asia (20 genera, 216 species), tropical Asia including Malesia, Melanesia and Papuasia (42 genera, 163 species), Australia (2 genera, 3 species) (Skejo 2016).

Diagnosis: characterized by having the median ocellus and the antenna placed below the eyes, a relatively small divergence of the rami of the frontal costa not forming a wide scutellum, and a similar length of the first and third segments of the hind tarsus (Pavón-Gonzalo et al. 2012). Many species of Metrodorinae also exhibit the posterior angles of the lateral lobes of the pronotum produced outwards (the main character used when the subfamily was established) often becoming acutely spinose. All these characters together separate the subfamily from the other eight subfamilies of Tetrigidae, although none of them is enough to characterize Metrodorinae by itself.

Tribe **Ophiotettigini trib. nov**.

Type genus: *Ophiotettix* Walker, 1871 (New Guinea and adjacent islands)

Type species: *O. cygnicollis* (type locality: NW New Guinea: Dorei)

Derivatio nominis: The tribe is named after the genus *Ophiotettix*.

Composition: 4 genera have been assigned to the Ophiotettigini, *Ophiotettix with* 40 species, *Paraspartolus* with 1 species, S*partolus* with 2 species and *Threciscus* with 1 species

Distribution: Distributed across New Guinea and its satellite islands (*Ophiotettix*) and the Philippines (*Paraspartolus*, *Spartolus* and *Threciscus)*.

Diagnostic characters Ophiotettigini: Head – Head very elongated, occipital area very long, eyes pointed and produced above the vertex so the vertex is not visible in lateral view. Vertex extremely narrow, visibly narrower than a compound eye, not produced in front of the eyes, slightly tapering, not truncated, its median carina long and distinct, the lateral carinae low almost indistinct. Fossullae absent, the bifurcation of the frontal costa between the eyes indistinct because of an extremely narrow, indistinct scutellum. Antennae long and 14 (male) - 15 (female) segmented, the dorsal margin of the antennal groove slightly above the ventral margin of the compound eye. Between the eyes lateral ocelli are present. Thorax – Tegmina and wings not evident. Pronotum smooth, covered by numerous fine pits, the anterior margin truncated, apex slightly decurved upwards, the prozona slightly elevated in comparison to other parts of the pronotum, prozonal carinae evident, median carina weak, but present across the whole length of the pronotum, humeral angle widely oblique without depressions, lateral lobe triangularly shaped, projected outwards. Fore and mid femora carinated dorsally, slender, and smooth. Hind femora elongated, smooth, with evident transversal carinae in the external area, genicular tooth strong, antigenicular tooth weak, indistinct. Abdomen – ovipositor elongated.

Comparative notes of the included genera: In the description above we presented shared characters. Genera of the tribe Ophiotettigini can be distinguished by size (*Paraspartolus* smaller than 9 mm, while members of other genera being longer than 12 mm), colouration (*Paraspartolus* being greyish-brownish in colour, while members of other genera colourful, with red, yellow, orange, white, and dark tones), maxillar palpi morphology (having very widened, folliaceous last segment in *Ophiotettix,* and *Spartolus*, while not modified in *Paraspartolus* and *Threciscus*), pronotum morphology (brachypronotal in *Paraspartolus*, not covering whole abdomen, in *Ophiotettix* usually covering or almost covering whole abdomen, and covering whole abdomen in *Spartolus,* and *Threciscus*), morphology of the lateral lobes (with strong spines in *Spartolus* and *Threciscus*, without projections in *Paraspartolus,* while broadly acute in *Ophiotettix*).

Notes for the further research on the taxonomy of the tribe: Recent changes in Metrodorinae taxonomy (Cadena-Castañeda & Cardona 2015; Storozhenko 2016) gave a new view on the taxonomy of genera with projected frons, or fastigium of the vertex (tribes Cleostratini or Miriatrini - pygmy unicorns). However, certain




pygmy unicorns should probably be assigned to Ophiotettigini. These are (1) *Rhopalotettix vietnamensis* Storozhenko, 2015, which is very distant from other *Rhopalotettix* in having head significantly exerted above the pronotal surface, not in the lever or slightly exerted, antennae are 15-segmented, not 13-segmented as other species, evident median carina of the vertex, not depressed vertex as in other species, very exerted eyes, not 'sessile' as in other members of the genus, and extremely narrow scutellum, not evident as in other species, (2) *Halmahera nana* Storozhenko, 2016, brachypronotal taxon from Halmahera Isl. with projected vertex, but also strongly exerted head, pointed eyes, extremely narrow scutellum, long median carina of the vertex, pointed and slightly upwards curved apex of the pronotum, and elongated legs. There are also morphological similarities with *Hirrius punctatus* (Stål, 1877) and relatives (morphology of the pronotum, however there are numerous differences in head morphology, especially not elongated general appearance, and wide vertex), formerly Discotettiginae member whose taxonomic position is still not clear. Cladistic analysis is necessary to test which groups of Tetrigidae are the closest relatives to members of this morphologically specialized group. Furthermore, taxa of future taxonomic revision are *Thyrsus tiaratus Bolí*var, 1887 and *Uvarovithrysus uvarovi* (Günther, 1935), the head morphology of which fits Ophiotettigini description. Better diagnoses and descriptions of pygmy unicorns' genera and species are needed in future because the former tribes combine taxa with very different morphology. A character shared by Ophiotettigini and the mentioned pygmy unicorn genera is a low position of the median ocellus. This character and its taxonomic importance will be investigated in future (for comments on taxonomy of pygmy unicorns consult Silva et al. (2017)). We place *Halmahera, Uvarovithrysus* and *Rhopalotettix* preliminary into Ophiotettigini trib. nov., because those taxa are certainly more related to *Ophiotettix* - like genera than to *Cleostratus* (this is one of the re-arrangement acts for genera hitherto placed in Cleostratini, see Cigliano et al. 2017, Orthoptera species file. Tribe Ophiotettigini is close to the tribe Clinophaestini Storozhenko, 2013 (members are genera *Birmana* Brunner von Wattenwyl, 1893 and *Clinophaestus* Storozhenko, 2013, which seem to be synonymous after our preliminary examination of *Birmana* and *Clinophaestus* specimens). This tribe is morphologically not related to Tripetalocerini, thus we move it to Metrodorinae: Clinophaestini. In future, well defined Clinophaestini and Ophiotettigini trib. nov. could together form tribes of a subfamily different from Metrodorinae, because they are very distantly related to *Metrodora*-genera group in S America. Clinophaestini members have prolonged fastigium of the vertex in the same way as nymphs in *Ophiotettix*, antennal edges have very similar shape. The number of the antennal segments is different - 11 in Clinophaestini. Shape of antennal segments is similar to some *Ophiotettix* species, the main difference being that there are five extremely widened antennal segments that have very lamellate inner margin and have the distal inner tip protruded into sharp edge, long tip, or spine. Nymphs usually have smaller number of antennal segments than fully grown adults and this implies a neotenic origin. All these characters make it evident how related to Ophitettigini they are.

Genus *Ophiotettix* Walker, 1871

Historical revision:

1871, *Ophiotettix*, Walker, Cat. Spec. Derm. Salt., part V: 846 (original description of the genus, and original description of *O. cygnicollis*);

1874, *Tetricodina*, Westwood,Thesaurus entomologicus Oxoniensis xxiv: 175 (original description, and original description of *T. luteomarginata*, description of *T. limosina*);

1887, *Tettigodina*, Bolívar, Ann. Soc. Entomol. Belg. 31: 305 (description of the genus, no taxonomic acts);

1907, *Tettigodina*, Hancock, Gen. Ins. Orth. Tetr. 48: 8 (description of the genus);

1910, *Ophiotettix*, Kirby, Syn. Cat. Orth. 3: 3 (citation);

1910, *Tetricodina*, Kirby, Syn. Cat. Orth. 3: 3 (partim, formal synonymy of *Tetricodina/Tettigodina* with the name *Ophiotettix,* synonymy of *O. limosina* and *O. luteomarginata*);

1929, *Ophiotettix*, Bolívar, Memorias de la Real Sociedad Espanola de Historia Natural, 15: 881-883 (revisionary monograph on the genus, detailed description of the genus and all the species: *O. limosina, O. cygnicollis*, and original descriptions of *O. buergersi buergersi, O. b. modesta, O. b. westwoodi, O. lorentzi,* and *O. scolopax*);

1937, *Ophiotettix*, Günther, Treubia, 16: 165: 168-175 (genus included in the key);

1938, *Ophiotettix*, Günther Nova Guinea. N.S. 2: 3-4 (new data);

1939, *Ophiotettix,* Günther, Abh. Ber. Mus. Tierkunde u. Völkerknde Dresden (A) 20: 21-35 (description of the genus, discussion on taxonomy of the genus);

1955, *Ophiotettix* Günther, Verh. Naturf. Ges. Basel, 66 (2): 167-172 (genus included in the key);

1970a, *Ophiotettix* Steinmann, Acta Zoologica Academiae Scientarum Hungaricae 16 (1, 2): 226 (citation);

1970b, *Ophiotettix* Steinmann, Opusc. Zool. Budapest 10 (1): 159 (citation);

1992, *Ophiotettix* Blackith, Tetrigidae of South-East Asia:




127 (citation);
1996, *Ophiotettix*, Yin et al., Synonymic catalogue grasshoppers of the world: 890 (citation);
1996, *Tetricodina*, Yin et al., Synonymic catalogue grasshoppers of the world: 890 (citation);
1997, *Ophiotettix*, Otte, Orthoptera Species File 6: 53 (citation).

Type species: *Ophiotettix cygnicollis* Walker, 1871 by original monotypy
Derivatio nominis: *Ophiotettix* has derived from the Ancient Greek words ´ οφις (*ophis*, meaning snake or serpent) referring to elongated head and τέττιξ (*tettix*, meaning grasshopper or cicada).
Description: Head - Head elongated, the head index varying from <1 (in *O. parvicollis* sp. nov.) to >3 (longest in *O. scolopax*), fastigium generally obliquely rounded or obliquely angular, flat or deep (= concave), anterior border a little bit tapering, not truncated, sometimes slightly projected before the eyes in adults forming small horn, transverse carinae diagonal to the median carina, bulging, lateral carina weakly elevated, indistinct, in some species almost absent, in other species present and running parallel, divergent and convergent towards the tip. Vertex slightly flattened or deep (concave), with a concave part between the median carina and the eyes in some species, visibly narrower than a compound eye in dorsal and lateral view, the medial carina slightly elevated, in some species visible over the eyes in lateral view; from the middle of the eye to the frontal part of the fastigium higher; from the middle of the eye length to the anterior tip of the pronotum visible as a fissure. Fossullae absent or extremely reduced, not visible. Frontal costa in lateral view strongly arched, projected before the eyes, from between the lateral ocelli to the median ocellus, the bifurcation between the eyes and between the lateral ocelli, in frontal view extremely narrow, the scutellum so narrow that it seems that there is no bifurcation, ending at the medial ocellus, under the medial ocellus visible as bright stripe or fissure. Superior (lateral or paired) ocelli situated a little above the middle of the eyes. Eyes suboval, slightly exerted, their dorsal margin extending a little above the fastigium situated at the tip of a long neck. Antennae very long, almost as long as whole body, 15-segmented in females, 14-segmented in males, the upper margin of the antennal grooves situated above the lower margin of the eyes. Thorax - Pronotum short (brachypronotal state), low and tectiform, undulated, covering whole or almost whole abdomen, discus smooth, covered with many fine, sunken dots. Anterior margin straight, truncated, but can vary and be a little bit extended in the middle (this feature is not significant identification character), no depressions behind the shoulders. Median carina very low, present as a light fissure over the whole pronotum. Prozona higher than the rest of the pronotum, as well as the part above the connection of hind femora. Prozonal carinae long, parallel, not elevated - two light, pale coloured fissures. Humeral angles inconspicuous, widely oblique, not armed. Interhumeral carinae low, but well visible as two bright stripes on the discus. Infrascapular area broad with a concave part above the connection of the hind femur, with numerous large pits (usually larger than those on the discus). Lateral lobes strongly curved laterad, broadly acute. Pronotal process extended in a spine, extremely narrow, not truncated, not inverted. Extralateral carina continuous to the sulci as bright stripe. Wings. Tegmina not visible (reduced and covered by pronotum), wings (= alae) not visible (reduced and covered by pronotum) - flightless species. Legs. Anterior femur very slender, smooth, not undulated, without lobes. Anterior tibia slender, elongated, armed with small spines from the mid of its length and further. Middle femur very slender, smooth, not undulated, without lobes, with a few hairs. Middle tibia slender, elongated, armed with small spines from the 1/3 of its length and distally. Hind femur very slender (more than 4x, in most species more than 6x longer than wide), without tubercles, with smooth and low transversal carinae in the external lateral area of the femoral. Dorso-external and ventro-external carina smooth, without projections. Hind tibia uniformly brown, not annulated with pale rings. Genicular tooth clearly visible, long and acute. Antegenicular tooth indistinct, very small, almost absent. First and third article of the hind tarsi almost equal in length. Pulvilli of the mid article of the hind tarsus obtuse, rounded, not sharp and pointed. Abdomen - Ovipositor elongated.
Comments on nymphal morphology. In nymphs of a lot of species fastigium is long and projected in earlier instars (depicted in Günther 1938b), decreasing in size with every moulting, as nymph grows. Long vertex in nymphs seems to be connected with head prolongation - practically during development eyes move higher and higher towards the tip of the vertex and the part above the eyes is becoming shorter and shorter. It is interesting that long vertex in nymphs (as well as in most Cleostratini) provides very good mimicry. Predator firstly thinks it is small branch or something elongated like that, and if it wants to strike, it will not be sure which is the head




tip and which is tip of the pronotum, giving nymphs of *Ophiotettix* and pygmy unicorns (Tetrigidae genera with prolonged vertex) time to jump and escape safely.

Generic diagnosis: See comparative notes under the tribe Ophiotettigini nov.

Colouration: Head usually dark, only in some species bright, tip of the fastigium often brightened, frons below the median ocellus and above the clypeus with highly complicated species specific colour markings varying from almost black or with a bow tie shaped pale marking above the clypeus to highly decorated with one or more markings above the clypeus, antennae completely black, dark-grey, or dark-brown, sometimes apical and subapical segments brightly coloured. Pronotum usually dark, (black, brown, grey, dark-brown, dark-grey), in some species bright, with very contrasting median carina (yellow, orange, reddish, or white), with a pale coloured region (orange, pale orange, white, yellow) of variable width between the internal and external lateral carinae running from the fore margin to the humeral angle and to the tip of the pronotum along the prozonal carinae, the area around the tip of the lateral lobe usually pale coloured, one coloured or a mixture of bright colours (e.g. white, orange, yellow). Fore and middle femur dark, occasionally with a pale stripe along the dorsal margin. Fore and middle tibia dark, the proximal tarsal segments often pale coloured, the distal ones dark with a pale coloured dorsal margin. Hind femur completely dark, or dark with the area above the dorso-external carina and below the ventro-external carina with a narrow to wide white stripe along the entire length. Hind tibia dark, the first tarsal segment usually bright, the second segment pale, the third segment dark, with a pale coloured dorsal margin.

Distribution (Map 1): The genus is currently known from New Guinea and some of its satellite islands (Yapen, Gebe and Waigeo) with most species found North of the Central Range Mts. Up to now there are no records from the adjoining Moluccas islands.

Composition: Altogether 40 species are now assigned to the genus *Ophiotettix*: 5 hitherto described species supplemented with two subspecies of *O. buergersi* (*O. buergersi modesta*, *O. buergersi wewstwoodi*) here elevated to the species level and 33 species described here as new to science). Species can be ordered into 12 groups according to morphological similarities as follows:

(1) 'Brevicollis' species group (Map 1): *O. brevicollis* sp. nov. (Short-neck Giraffehopper), *O. parvicollis* sp. nov. (Petite Giraffehopper), *O. roesleri* sp. nov. (Petite Rösler's Giraffehopper), *O. subbrevicollis* sp. nov. (Shortish-neck Giraffehopper)

Recognition: The four species of this group are characterised by short heads and the antennal segments without specialized broadly lamellate antennal segments

(2) 'Buergersi' species group (Map 1): *O. buergersi* (Bürgers' Giraffehopper), *O. imbiana* sp. nov. (Imbia Giraffehopper), *O. modesta* stat. rev. (Modest Giraffehopper), *O. rohwedderi* sp. nov. (Rohwedder's Giraffehopper), *O. sanguinea* sp. nov. (Bloody Giraffehopper), *O. schapinae* sp. nov. (Šapina's Giraffehopper), *O. tenuis* sp. nov. (Elegant Giraffehopper)

Recognition: This species group is heterogeneous, including seven species without pale apical segments that are strongly contrasting, with modified subapical antennal segments bearing lateral edges protruded into acute, right angle, or spine, fourth antennal usually bearing spine or protruded angle directed forwards, fifth antennal segment not modified or produced backwards or bearing small and low angular projection.

(3) 'Cygnicollis' species group (Map 1): *O. amberiana* sp. nov. (Amberi Giraffehopper), *O. cygnicollis* sp. nov. (Short-neck Pennate Giraffehopper), *O. pushkari* sp. nov. (Pushkar's Pennate Giraffehopper), *O. storozhenkoi* sp. nov. (Storozhenko's Pennate Giraffehopper)

Recognition: This group includes four species characterized by relatively long necks and extremely wide subapical antennal segments, third segment being 'cup'–like. General appearance dark, antennae dark. The group resembles both the 'Toxopei' species group and the 'Buergersi' species group.

(4) 'Hansscholteni' species group (Map 1): *O. hansscholteni* sp. nov. (Hans Scholten's Giraffehopper)

Recognition: This group includes only one species characterized by a long head, and elongated antennal segment with protruding edges. The species (group) is related to the 'Brevicollis' species group.

(5) 'Limosina' species group (Map 1): *O. bewana* sp. nov. (Bewani Giraffehopper), *O. bomberaiensis* sp. nov. (Onin Slender Giraffehopper), *O. depressa* sp. nov. (Depressed Slender Giraffehopper), *O. filiforma* sp. nov. (Lowland Slender Giraffehopper), *O. limosina (*Godwith Giraffehopper), *O. luce* sp. nov. (Luce's Giraffehopper), *O. mountnokensis* sp. nov. (Mount Nok Giraffehopper), *O. projecta* sp.




nov. (Excited Giraffehopper), *O. scolopax* (Giant Giraffehopper)

Recognition: A heterogeneous group of nine relatively long headed species with filiform antennae without pale tips lacking specialized segments. Resembles the 'Lorentzi', 'Pulcherrima' 'Brevicollis' and 'Buergersi' species groups likely to contain species with ancestral characters, from which more specialized, eastern forms derived.

(6) 'Lorentzi' species group (Map 1): *O. lorentzi* (Lorentz's Giraffehopper)

Recognition: This group includes only one species characterized by a long head and having third, fourth and fifth antennal segment from the tip widened and rounded. This species resembles the 'Katharinae' species group some characters being intermediate between species of the 'Limosina' and 'Toxopei' species group.

(7) 'Katharinae' species group (Map 1): *O. flyriveriensis* sp. nov. (Fly River Giraffehopper), *O. kaitani* sp. nov. (Kai Tan's Giraffehopper), *O. karimuiensis* sp. nov. (Karimui Giraffehopper), *O. katharinae* sp. nov. (Katharina's Giraffehopper), *O. quateorum* sp. nov. (Quate's Giraffehopper)

Recognition: The group consists of five species and is characterized by dark antennae, subapical segments with lamellate inner margins, third antennal segment from the tip without long protruded tip, fourth segment from the tip parallel or convergent towards the tip, fifth antennal segment from the tip with the dorsal margin straight or curved backward. In colouration, species of this group resemble those of the 'Brevicollis' species group and those two groups are probably closely related, likely also mixed.

(8) 'Pulcherrima' species group (Map 1): *O. pulcherrima* sp. nov. (Beautiful Giraffehopper), *O. rebrinae* sp. nov. (Rebrina's Giraffehopper)

Recognition: This group consists of two species with a colourful appearance characteristic by a long head, slender dark antennae with pale coloured, very contrasting apical segments. This group is probably related to some representatives of the 'Limosina'species group.

(9) 'Stallei' species group (Map 1): *O. stallei* sp. nov. (Stalle's Giraffehopper)

Recognition: This group includes only one species characterized by relatively short head (head index <1.25), projected fastigium (minute horn), antennae with segments widened towards the tip. The species shows nymphal characters and could be regarded as a neotenic species related to the 'Brevicollis' species group.

(10) 'Telefominensis' species group (Map 1): *O. telefominensis* sp. nov. (Telefomin Giraffehopper)

Recognition: This group includes only one species characterized by the fastigium distinctly protruded into a horn, the antennal segments not being specialized, with the margins widened towards the apex. The species has some nymphal characters, and could be regarded as a neotenic mountain species. Species with a protruding but less produced fastigium are found also in other species groups and it is not clear to which species (group) is this one related.

(11) 'Toxopei' species group (Map 1): *O. toxopei* sp. nov. (Toxopeus's Giraffehopper)

Recognition: This group includes only one species characterized by having the third antennal segment from the tip similarly widened as the fourth segment, both being broadly lamellate. This group is related to the 'Cygnicollis' species group.

(12) 'Westwoodi' species group (Map 1): *O. cheesmanae* sp. nov. (Cheesman's Giraffehopper), *O. fritzpahli* sp. nov. (Fritz Pahl's Giraffehopper), *O. meggy* sp. nov. (Meggy's Giraffehopper), *O. westwoodi* stat. rev. (Westwood's Giraffehopper)

Recognition: This group includes four species - three of which are characterized by pale apical antennal segments and at least one antennal segment with a protruding tip at the inner margin, the fourth antennal segment from the tip of the antennae. *O. fritzpahli* sp. nov. with morphological characters between the 'Westwoodi' and the 'Pulcherrima' species groups is tentatively placed in this group.

Identification key to *Ophiotettix* species

Species arranged taxonomically according to species groups proposed.

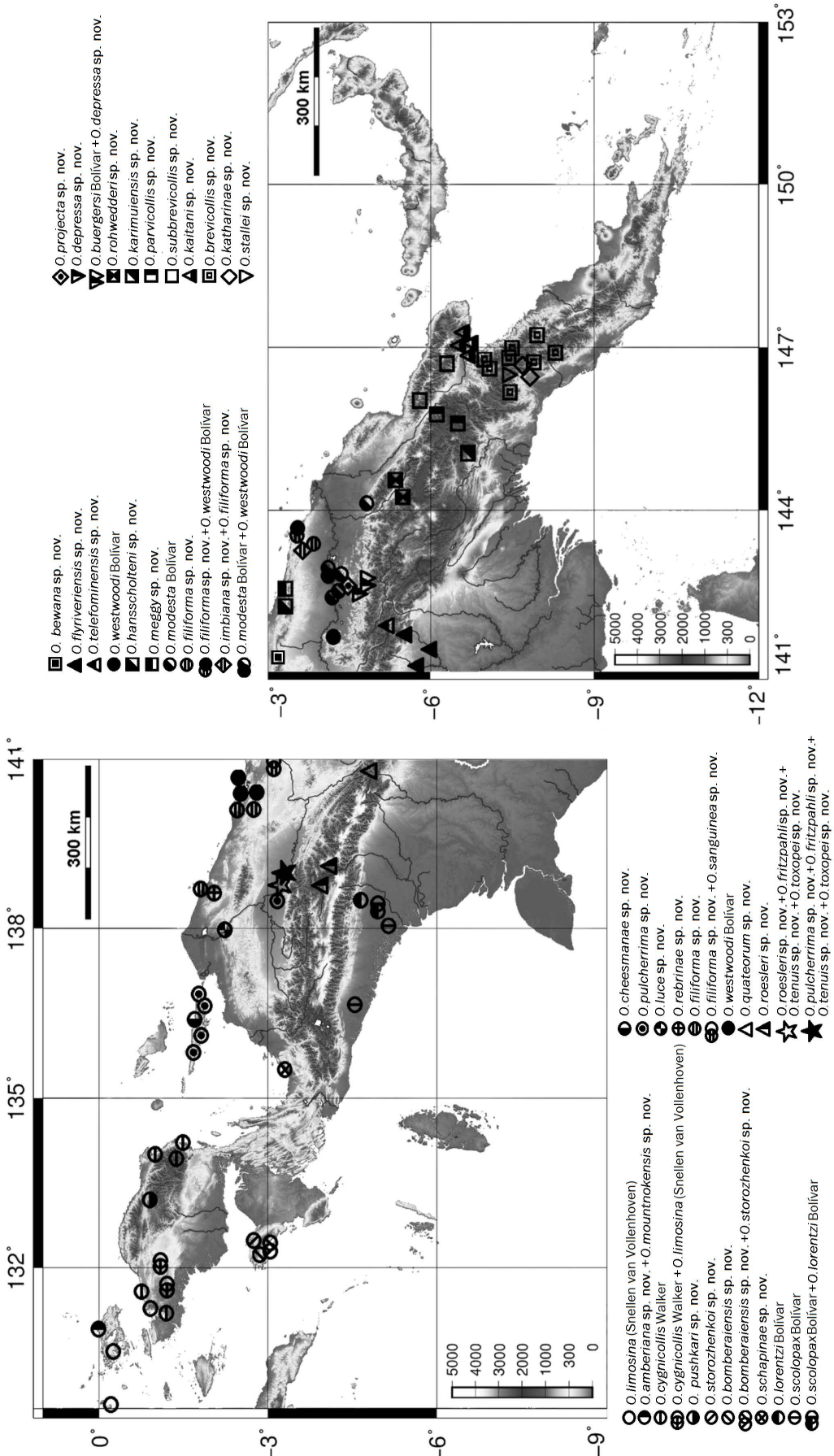
1 Apical antennal segments (segments 15+14 in ♀♀, 14+13 in ♂♂) completely or almost completely pale coloured (white to pale brown, clearly contrasting in colour from other antennal segments), clearly brighter than other antennal segments (e.g. plate 115 figs 7, 15, plate 107 fig. 6, plate 108 fig. 14, plate 123 fig. 1) 2

– Apical segments (segments 15+14 in ♀♀, 14+13 in ♂♂) as dark as the rest of the antennae or somewhat lighter (not having strong contrast in comparison to other segments) (e.g. plate 105 figs 1-6) 7

2 Third segment from the tip (13 in ♀♀, 12 in ♂♂) dark or with small bright distal portion (Plate 106 fig. 8, plate 108 fig. 14) 3

– Third segment from the tip (13 in ♀♀, 12 in ♂♂) bright to at least half of its length (Plate 105 figs 7, 14, 15, plate 106 fig. 14, plate 107 fig. 6, plate 123 figs 1, 3, 4) 4



Map 1. Distribution of the Giraffehoppers (species of the genus *Ophiotettix* Walker, 1871).
Every species is depicted by its unique symbol. Symbols are arranged by species' occurrence from west to east.

3 Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂); inner margin of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) significantly broadened, pennate; sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) significantly broadened, its inner margin lamellate (Plate 108 fig. 14) [Papua New Guinea: East Sepik Province: Mäanderberg and Indonesian New Guinea: Cyclops Mts.] .... *O. westwoodi* stat. nov.

– Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together longer than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂); inner margin of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) not significantly broadened; sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) slightly broadened, its inner margin not lamellate (Plate 106 fig. 8) [Papua New Guinea: West Sepik Province: Torricelli Mts.] .... *O. meggy* sp. nov.

4 Inner margin of the antennal segments only with one edge widened (on the first sight, antennae almost filiform, distinguishable from species with almost filiform antennae easily by white apices) (Plate 106 fig. 14, plate 107 fig. 6, plate 123 figs 1, 3, 4) 5

– Inner margin of the antennal segments clearly lamellate (antennal segments visibly broadened – pennate) (Plate 105 figs 7, 14, 15) 6

5 At most two–thirds of third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) brightly coloured. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) not brightened. First and second antennal segments from the tip (segments 14+15 in ♀♀, 13+14 in ♂♂) without silver bristles (Plate 107 fig. 6). Smaller species (head length in ♂♂ 4.25 mm, pronotum 8.2 mm, antennae 7.2 mm) (Plate 115 fig. 5, plate 119 fig. 5) [Indonesian New Guinea: upper north coast, east of Mamberamo River] ..... *O. rebrinae* sp. nov.

– At least two–thirds of third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) brightly coloured. Fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂) pale coloured in the beginning. First and second antennal segments from the tip (segments 14+15 in ♀♀, 13+14 in ♂♂) with silver bristles (Plate 106 fig. 14, plate 123 figs 1, 3, 4). Larger species (head length in ♂♂ 5–6.4 mm, pronotum 8.3–9.4 mm, antennae 8.2–9.5 mm) (Plate 114 figs 14, 15, plate 118 figs 14, 15) [Indonesian New Guinea: Yapen and upper Mamberamo River] ..... *O. pulcherrima* sp. nov.

6 Whole third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) bright. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a lateral edge obliquely protruded, pale coloured in its distal part (Plate 105 figs 14, 15) [Indonesian New Guinea: upper Mamberamo River] ..... *O. fritzpahli* sp. nov.

– Distal two thirds of third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) bright. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a laterally protruding sharp tip, whole segment dark (Plate 105 fig. 7) [Indonesian New Guinea: Yapen, Mount Oud] ..... *O. cheesmanae* sp. nov.

7 Antennal segments elongated, antennae on the first sight filiform - segments rounded in cross section, or with very narrow edges (weakly lamellate), without laterally protruded tips (e.g. plate 105 figs 2-4, 8-11, plate 106 figs 7, 9, 10, 13) 8

– Antennae with modified segments – shortened, widened or compressed – one or more antennal segments broadened; at least one segment with laterally protruded tip (e.g. plate 105 figs 1, 5, 6, 12, 13, 16, plate 106 figs 1-6, 11, 12) 16

8 Not all the antennal segments rounded. At least fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) in cross–section with narrow, not rounded edges (different from plate 108 figs 8, 9, see e.g. plate 105 figs 2-4, 8, 9) 9

– All antennal segments rounded in cross–section (including segment 12 in ♀♀, 11 in ♂♂), with smooth margins (Plate 108 figs 8, 9). Additional helpful character: Head index <1.45) [Indonesian New Guinea: Gebe Isl. and from western Doberai Peninsula to the Arfak Mts.] ..... *O. limosina* (Snellen van Vollenhoven, 1865)

9 Head index from 1.3 to 2.5 (shorter neck) (head shorter than in plate 112 figs 16, 17 and plate 120 figs 14, 15, see e.g. plate 117 figs 3-5, 9-12) 10

– Head index >3.2 (extremely long neck; this is the species with the longest head) (Plate 104 fig. 1, plate 112 figs 16, 17, plate 120 figs 14, 15) [Indonesian New Guinea: Bivak Eiland, Noord River, Mimika River] .... *O. scolopax* Bolívar, 1929

10 Three apical antennal segments (segments 15+14+13 in ♀♀, 14+13+12 in ♂♂) as long as fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) (Plate 105 figs 8-11) 11

– Three apical antennal segments (segments 15+14+13 in ♀♀, 14+13+12 in ♂♂) longer than fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) 12

11 Head more elongated, head index 2.4 in ♀♀, in 1.9 in ♂♂. Two apical antennal segments (segments 15+14 in ♀♀, 14+13 in ♂♂) as long as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) (Plate 105 figs 10, 11). Vertex almost flat, lateral carinae, in lateral view, not visible above the eyes (Plate 109 figs 11, 12), tip of the fastigium not brightened (Plate 113 figs 11, 12) [Indonesian New Guinea and Papua New Guinea: lowland at the north coast] ..... *O. filiforma* sp. nov.

– Head less elongated, head index 1.2–1.7 in ♀♀, in 1.3 in ♂♂. Two apical antennal segments (segments 15+14 in ♀♀, 14+13 in ♂♂) shorter than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) (Plate 105 figs 8, 9). Vertex deep, lateral carinae, in lateral view, visible above the eyes (Plate 109 figs 9, 10), tip of the fastigium brightened (Plate 113 figs 9, 10) [Papua New Guinea: East Sepik Province, Sepik River] .. .. *O. depressa* sp. nov.




12 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂), slightly widened and with lamellate edge, significantly longer than fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂), apical antennal segments (segments 15+14 in ♀♀, 14+13 in ♂♂) in some specimens with fine silver bristles. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) wider than third (segment 13 in ♀♀, 12 in ♂♂) (Plate 105 figs 3, 4) [Indonesian New Guinea: Onin Peninsula] .... *O. bomberaiensis* sp. nov.

– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) shorter than fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂), apical antennal segments (segments 15+14 in ♀♀, 14+13 in ♂♂) without silver bristles. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) approximately as wide than third (segment 13 in ♀♀, 12 in ♂♂) (e.g. Plate 105 fig. 2, plate 106 figs 7, 9, 10, 13) 13

13 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip and bearing widened inner margin with slightly protruded edge (Plate 106 fig. 7). Body almost lacking colouration (pale coloured), tip of the fastigium brighter in colour than rest, carinae of the pronotum somewhat darker than rest (Plate 110 fig. 7, plate 114 fig. 7, plate 118 fig. 7) [Indonesian New Guinea: lower Mamberamo River] .... *O. luce* sp. nov.

– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with parallel distal margins, not broadened towards the tip (Plate 105 fig. 2, plate 106 figs 9, 10, 13). Body dark in colouration, with pale markings on head, pronotal carinae and legs (Plate 117 fig. 3, plate 118 figs 9, 10, 13) 14

14 Head shorter, head index <1.6 (Plate 118 figs 9, 10). Vertex deep in frontal view (Plate 110 figs 9, 10). Tip of the fastigium brightened (Plate 114 figs 9, 10) [Indonesian New Guinea: Waigeo, Mount Nok] .... *O. mountnokensis* sp. nov.

– Head longer, head index >2 (Plate 117 fig. 3, plate 118 fig. 13). Vertex flat in frontal view (Plate 109 fig. 3, plate 110 fig. 13). Tip of the fastigium dark (Plate 113 fig. 3, plate 114 fig. 13) 15

15 Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical antennal segments dark. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a little protruding edge but not broadly lamellate. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) (Plate 106 fig. 13). Lateral carinae of the vertex run parallel [Papua New Guinea: East Sepik Province, Sepik river] .... *O. projecta* sp. nov.

– Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments one and the half of the second apical (segments14+15 in ♀♀, 13+14 in ♂♂) lighter brownish. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow, with no protruding edge at the inner dorsal margin. Fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) straight at the dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) smaller than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) (Plate 105 fig. 2). Lateral carinae of the vertex convergent [Papua New Guinea: Sandaun Province, Bewani Mountains] .... *O. bewana* sp. nov.

16 Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) broadly lamellate, as broad as fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) (Plate 108 figs 3, 4) [Indonesian New Guinea: upper Mamberamo River] ..... *O. toxopei* sp. nov.

– Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) visibly smaller than fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂), not as broadly lamellate (e.g. plate 105 figs 1, 5, 6, 12, 13, 16) 17

17 Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) cup–shaped, in morphology similar to the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂), but smaller, bearing distinct protruded long tip at the inner margin (Plate 105 fig. 1, plate 107 figs 1, 2, 13, 14, plate 108 figs 6, 7) 18

– Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) narrow and elongated, without distinct protruded long tip at the inner margin (e.g. plate 105 figs 5, 6, 12, 13, 17) 21

18 Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) as long as two apical antennal segments together (segments 15+14 in ♀♀, 14+13 in ♂♂), its inner margin of the segment with a protruding edge. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) widened, with recognizable edges (Plate 107 figs 1, 2, plate 108 figs 6, 7). Head shorter (head index in most specimens 1.18–1.35, seldom up to 1.45) (Plate 119 figs 1, 2, plate 120 figs 7, 8) 19

– Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) longer than two apical antennal segments together (segments 15+14 in ♀♀, 14+13 in ♂♂), its inner margin of the segment with a long spiky tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) elongated, without recognizable edges (Plate 105 fig. 1, plate 107 figs 13, 14). Head longer (head index more than 1.55, 1.55–2, rarely 1.48) 20

19 Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) broadly rounded (about 3x wider than the second antennal segment from the tip - segment 14 in ♀♀, 13 in ♂♂), bearing long wide and protruding tip (Plate 108 figs 6, 7) [Indonesian New Guinea: Doberai Peninsula] .... *O. cygnicollis* Walker, 1871

– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) elongated (about 2x as wide as the second antennal segment from the tip - segment 14 in ♀♀, 13 in ♂♂), bearing protruded distal angle, but not long protruding tip (Plate 107 figs 1, 2) [Indonesian New




Guinea: Doberai Peninsula, Kebar valley] .... *O. pushkari* sp. nov.
20 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) shorter than three apical antennal segments together (segments 15+14+13 in ♀♀, 14+13+12 in ♂♂). Third antennal segment from the tip wider than the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂). Two apical antennal segments without silver bristles (Plate 107 figs 13, 14). Fronts and clypeal region (frontal view of the head) dark (Plate 111 figs 15, 16), hind femora dark, without pale markings (Plate 119 figs 15, 16) [Indonesian New Guinea: Onin Peninsula] ..... *O. storozhenkoi* sp. nov.
– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) longer than three apical antennal segments together (segments 15+14+13 in ♀♀, 14+13+12 in ♂♂). Two apical antenna segments bearing file silver bristles. Third antennal segment from the tip as wide as the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) (Plate 105 fig. 1). Pale coloured bow–tie or moustache shaped mark present in frontal and clypeal region (frontal view of the head) (Plate 109 figs 1, 2), hind femora with pale markings (Plate 117 figs 1, 2) [Indonesian New Guinea: Waigeo] . ..... *O. amberiana* sp. nov.
21 Tip of the fastigium protruding before the eyes as long easily visible horn curved downwards (Plate 107 fig. 17), lateral carinae of the vertex little divergent to the tip of the fastigium. (Helpful additional characters: head short, head index 1.05, larger species in comparison to other species with small head index – pronotum length in male about 8 mm) (Plate 119 fig. 19) [Papua New Guinea: Western Province: Telefomin] .... *O. telefominensis* sp. nov.
– Tip of the fastigium not strongly protruded before the eyes (not as in plate 119 at most as in plate 107 fig. 7, 8, 12, normally as in e.g. plate 106 figs 3, 4) (if protruded then weak and short, see *O. parvicollis, O. roesleri, O. stallei, O. rohwedderi*), lateral carinae of the vertex parallel or convergent to the tip of the fastigium 22
22 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) elongated, weakly widened, not strongly modified or pennate, with almost parallel edges. Additional helpful characters fifth and sixth antennal segments from the tip (segments 10+11 in ♀♀, 9+10 in ♂♂) elongated, slender, not widened (Plate 105 fig. 16). Large size, pronotum length 8–11 mm, long neck, head index 1.9–2.3 (Plate 117 figs 17, 18), other species with similar antennal morphology are smaller, have modified fourth antennal segment from the tip and short neck (see e.g. *O. parvicollis*, *O. brevicollis*, *O. subbrevicollis, O. roesleri*) [Papua New Guinea: West Sepik Province: Torricelli Mts.] ..... *O. hansscholteni* sp. nov.
– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) compressed, widened, modified or pennate, with modified rather than parallel edges) (e.g. plate 105 figs 5, 6, plate 106 figs 1-6, 11, 12, plate 108 fig. 10) 23
23 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) roundly widened, without projecting angle or spine (Plate 108 fig. 10). Helpful additional characters: third, fourth and the fifth antennal segment from the tip widened and rounded, neck long, head index 1.9–2.3, body large – pronotum length in ♀♀ 10–11.5 mm (Plate 120 fig. 11) [Indonesian New Guinea: Alkmaar and Bivak Eiland] ..... *O. lorentzi* Bolívar, 1929
– Fourth antennal segment from the tip bearing lateral angle or spine-like protrusion (e.g. plate 105 figs 5, 6, plate 106 figs 1-6, 11, 12) 24
24 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) is the only segment with clear lateral angle or low spine, fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) almost not compressed, weakly lamellate and elongated, lacking protruded angle or spine (Plate 105 figs 5, 6, plate 106 figs 11, 12, plate 107 figs 7, 8, 15, 16) 25
– Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) modified, bearing lateral edge protruded into acute, right angle, or spine, distal projection of the fifth segment directed forwards (as angle or spine) or backwards (on the first sight in some species looks like angular protrusion, but compare this case in e.g. *O. kaitani* where the protrusion is directed transversely on the antennae to protrusion case in e.g. *O. schapinae* where protrusion is directed towards the tip of the antenna) (Plate 106 fig. 1-6, plate 107 figs 9, 11, 12) 28
25 Head robust, head index very low (0.65–0.9 in ♀♀, 0.68 in ♂♂) (Plate 118 figs 11, 12). Additional helpful characters: vertex flat, tip of the fastigium projected forwards as minute horn (Plate 114 figs 11, 12), tip of the fastigium dark, small species – pronotum length 7.0–8.5 mm in ♀♀, 6 mm in ♂♂ respectively, this is species with the shortest neck [Papua New Guinea: Eastern Highlands Province: Kassem, Okapa, Aiyura] ... . *O. parvicollis* sp. nov.
– Head more elongated, head index higher (1.24–1.5 in ♀♀, 0.96–1.22 in ♂♂) (Plate 117 figs 6, 7, plate 119 figs 6, 7, 17, 18) 26
26 Vertex flat, tip of the fastigium dark (Plate 115 figs 6, 7), head index 1.24in ♀♀, 0.96 in ♂♂ respectively (Plate 119 figs 6, 7). Additional helpful characters: Small body size, <8 mm ♀♀, <6 mm in ♂♂ respectively. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with protruding edge, inner margin of the fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) weakly lamellate (Plate 107 figs 7, 8) [Indonesian New Guinea: Mountains south of Idenburg River] .... *O. roesleri* sp. nov.
– Vertex deep (Plate 109 figs 6, 7, plate 111 figs 17, 18), tip of the fastigium brightened (Plate 113 figs 6, 7, plate 115 figs 17,18), head index 1.28–1.5 in ♀♀, 1.19–1.22 in ♂♂ respectively. Additional helpful characters that can be checked: Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with weak angular projection in its tip, fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) not modified 27




27 Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as the third antennal segment from the tip (segment 13 in ♀♀, 12in ♂♂), sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) widened towards the tip and bearing recognizable diverging edges (Plate 107 figs 15, 16). Pronotal carinae with weak, reddish colouration (Plate 115 figs 17, 18). Additional helpful character: head index 1.5 in ♀♀, 1.22 in ♂♂ respectively [Papua New Guinea: Madang and Morobe provinces: Finisterre and Saruwared Ranges] .. .. *O. subbrevicollis* sp. nov.
– Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together slightly shorter than the third antennal segment from the tip (segment 13 in ♀♀, 12in ♂♂), sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) not widened but narrow, with parallel margins (Plate 105 figs 5, 6). Pronotal carinae with yellowish colouration (Plate 113 figs 6, 7). Additional helpful character: head index 1.28 in ♀♀, 1.19 in ♂♂ respectively. (Plate 117 figs 6, 7) [Papua New Guinea: Morobe Province: Kuper Range] .. *O. brevicollis* sp. nov.
28 Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) both with inner distal margins projected into easily observable acute angles or spines directed forwards (Plate 105 figs 12, 13, plate 106 figs 1-6, plate 107 figs 3, 4, 12) 29
– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) bearing spine or protruded angle directed forwards, fifth antennal segment not modified or produced backwards or bearing small and low angular projection (Plate 105 fig. 17, plate 107 fig. 9-11, plate 108 figs 1, 2, 5, 11, 12) 34
29 Head relatively short (head index 1.2 in ♂♂) (Plate 119 fig. 14). Tip of the fastigium slightly protruded before the eyes forming small horn (smaller in size than that of *O. telefominensis*) (Plate 115 fig. 14). Antennae in ♂♂ short – 5.33 mm in length. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip, its outer margin not curved (Plate 107 fig. 12). Additional helpful characters: Fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) widening towards the tip, with a visible angle on the inner margin, tip curved backwards [Papua New Guinea: Morobe Province: Anggaie] ..... *O. stallei* sp. nov.
– Neck elongated (head index 1.5–1.92 in ♂♂, 1.4–1.88 in ♀♀) (e.g. plate 117 figs 13, 14, plate 118 figs 1-6). Fastigium not projected before the eyes. Antennae in ♂♂ long – longer than 7.5 mm in all species following this statement, except for *O. quateorum* where some ♂ specimens have antennae 5.85 mm long 30
30 Vertex flat. Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) without silver bristles, those two segments together as long as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) Colouration of frontal region above clypeal triangle simple (one long pale marking running from medial ocellus to the clypeal triangle – i.e. moustache like patch is fused with pale marking above it, or simple narrow W – shaped line) 31
Vertex deep. Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) with silver bristles, those two segments together shorter than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Colouration of frontal region above clypeal triangle rich (one W shape, moustache like or bow tie shaped pale patch and above it one long pale stripe, tear-shaped) 32
31 Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with spine-like protruding tip. Lateral carinae of the vertex run somewhat convergent towards the tip. Larger species than the one compared, pronotum length 7.80 mm in ♂♂, 8.71 mm in ♀♀; antennae length 7.80 mm in ♂♂, 8.6 mm in ♀♀ [Papua New Guinea: Chimbu Province: environment of Karimu] .... *O. karimuiensis* sp. nov.
– Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with angular (somewhat acute, almost right angle) tip. Lateral carinae of the vertex parallel. Smaller species, pronotum length 6–6.1 mm in ♂♂, 7.15–7.55 mm in ♀♀; antennae length 5.85–6. 89 mm in ♂♂, 6.61–7.15 mm in ♀♀ [Indonesian New Guinea: Star Mountains] ..... *O. quateorum* sp. nov.
32 Three apical antennal segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of the fourth antennal segment distinctly lamellate, distal fourth of the segment with parallel or convergent edges. Neck long, head index 1.92 in ♂♂, 1.88 in ♀♀. Additional helpful character: fifth antennal segment from the tip, segment 11 in ♀♀, 10 in ♂♂ respectively, with a straight or backwards curved dorsal margin [Papua New Guinea: region of Fly river] ..... *O. flyriveriensis* sp. nov.
– Three apical antennal segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together visibly longer than the fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of the fourth antennal segment not distinctly lamellate, distal fourth of the segment with parallel edges. Neck shorter, head index 1.55–1.74 in ♂♂, 1.65–1.83 in ♂♂ 33
33 Neck longer - head index 1.74 in ♂♂, 1.83 in ♀♀. Third to sixth antennal segments from the tip (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) narrow and elongated; sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) <0.18 mm long. Fourth antennal segment from the tip with short tip. Sixth antennal segment from the tip as wide as third. Tip of the fastigium dark [Papua New Guinea: Lakekamu River basin, Morobe / Gulf provinces] ... *O. katharinae* sp. nov.
– Neck shorter - head index 1.55 in ♂♂, 1.65 in ♀♀. Third to sixth antennal segments from the tip (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) broad and shorter; sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) >0.19 mm (mostly >0.2 mm). Fourth antennal segment from the tip with long tip. Sixth antennal segment from the tip wider than third. Tip of the fastigium brightened [Papua New Guinea: Morobe Province: environment of Lae] ..... *O. kaitani* sp. nov.
34 Fastigium slightly produced in front of the compound




eye forming minute horn. Subapical antennal segments slender in appearance (if other characters differ, compare to *O. tenuis*), fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) with weakly elevated inner margins, ending in angular protrusion, fourth segment 3x as long as wide, fifth 4x as long as wide. Additional helpful characters: head index 1.57 in ♂♂, 1.69–1.76 in ♀♀, vertex flat, fourth antennal segment widening towards the tip [Papua New Guinea: Western Highlands Province: Baiyer River basin and Upper Jimi River] ..... *O. rohwedderi* sp. nov.
– Fastigium not produced before the eyes. Subapical antennal segments (segments 11+12 in ♀♀, 10+11 in ♂♂) robust in appearance (except in *O. tenuis* in which segments are more robust than in *O. rohwedderi*, but less than in other species to which this statement leads), strongly widened, fourth and fifth antennal segments from the tip with strongly elevated and compressed inner margins, fourth usually ending in sharp tooth or spine, while fifth ending in angular protrusion or elongates spine-like tip, as well 35
35 Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) with silver bristles. Inner (high) and outer (lower) margins of the fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) lamellate. Additional helpful characters: head index 1.55 in ♂♂, 1.44–1.68 in ♀♀, tip of the fastigium partly brightened, vertex flat, sixth antennal segment from the tip, segment 10 in ♀♀, 9 in ♂♂, without recognizable edges [Indonesian New Guinea: South Geelvink Bay] .... *O. schapinae* sp. nov.
– Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) without silver bristles. Only inner margins of fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) lamellate, outer margins without high edges 36
36 Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) without recognizable edge. Head long, head index 1.9–2.2 37
– Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) with recognizable inner edge. Head shorter, head index 1.4–1.7 38
37 Hind femur slender (length/width ratio 6.2 in ♀♀, 6.5–6.7 in ♂♂) (Plate 120 figs 1, 2). Vertex flat. Medial carina of the vertex as high as the lateral carinae of the vertex or higher. Tip of the fastigium dark (Plate 112 figs 1, 2). Antennal segments more elongated resulting in longer antennae (10.1–10.3 mm in ♂♂, 10.92 mm in ♀♀) (Plate 108 figs 1, 2) [Indonesian New Guinea: upper Mamberamo river] ..... *O. tenuis* sp. nov.
– Hind femur stouter (length/width ratio 4.95–5.1 in ♀♀, 4.85–5 in ♂♂) (Plate 120 figs 12, 13). Vertex deep. Tip of the fastigium brightened. Medial carina of the vertex slightly elevated, not reaching height of the lateral carinae of the vertex (Plate 112 figs 13-15). Antennal segments more compressed resulting in shorter antennae (9.5 mm in ♂♂, 8.71–8.91 mm in ♀♀) (Plate 108 figs 11, 12) [Papua New Guinea: East Sepik and Madang provinces: middle of Sepik River to the Adelbert Mountains] ..... *O. modesta* Bolívar, 1929 stat. nov.
38 Three apical antennal segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Distal part of the fourth antennal segment from the tip with long tip (Plate 108 fig. 5). Tip of the fastigium dark or weakly brightened in the very apex (Plate 116 figs 5, 6). Hind femora without pale coloured markings (Plate 120 figs 5, 6). Additional helpful characters: two apical antennal segments together shorter than third segment from the tip; fourth and fifth antennal segments from the tip less than 2x wider than second segment from the tip [Papua New Guinea: East Sepik Province: Sepik River, Lordberg] .... *O. buergersi* Bolívar, 1929
– Three apical antennal segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Tip of the fourth antennal segment shorter (Plate 105 fig. 17, plate 107 fig. 10). Tip of the fastigium visibly brightened (Plate 113 fig. 19, plate 115 figs 10, 11). Hind femora with pale markings (Plate 117 fig. 19, plate 119 figs 10, 11) 39
39 Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) more than 3x wider than second segment from the tip. Distal part of the fourth antennal segment from the tip with convergent margins. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) almost equally wide as third segment from the tip (Plate 107 fig. 10) [Indonesian New Guinea: Waris, south of Jayapura] ..... *O. sanguinea* sp. nov.
– Two apical antennal segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) less than 2x wider than second segment from the tip. Distal part of the fourth antennal segment from the tip with parallel margins. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) almost equally wide as third segment from the tip (Plate 105 fig. 17) [Papua New Guinea: East Sepik Province: Imbia near Maprik] .. *O. imbiana* sp. nov.

Catalogue of the known species (in chronological order)

***Ophiotettix limosina* (Snellen van Vollenhoven, 1865)** (Plate 108 figs 8-9, plate 112 figs 9-11, plate 116 figs 9-10, plate 120 figs 9-10, plate 122 fig. 15, plate 124 fig. 3)

Tettix limosinus Snellen Van Vollenhoven 1865: 65, pl. 1, fig. 6-8;
Tetricodina limosina Westwood 1874: 175, pl. 32, fig. 6b;




S[partolus] limosinus Bolívar 1887: 233-234;
Tettigodina limosina Bolívar 1898: 81;
T[ettigodina] limosina Hancock 1907: 8;
T[etricodina] limosina Kirby 1910: 3;
Ophiotettix limosina Bolívar 1929: 879-880, 883, 889-891;
Ophiotettix limosina Günther 1936: 344;
Ophiotettix limosina Günther 1938b: 3;
Ophiotettix limosina Günther 1939: 34;
Ophiotettix limosinus Steinmann 1970b: 159;
Ophiotettix limosinus Blackith 1992: 128;
Tetricodina limosina Yin et al. 1996: 914;
Ophiotettix limosina Otte 1997: 54.

Lectotype: ♀ NCB-RMNH: INDONESIAN NEW GUINEA, Gebeh [Gebe Island, 0°5'S 129°27'E], leg. Bernstein [antennae lost].
Paralectotypes: 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Gebeh [Gebe Island, 0°5'S 129°27'E], leg. Bernstein [antennae lost]; 1♀ NCB-RMNH, INDONESIAN NEW GUINEA, N[ew]. G[uinea], Gemica, leg. Bernstein. 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Waigeo, leg. Bernstein (antennae demolished); 1♀ OUMNH: INDONESIAN NEW GUINEA, Waigeo, ex. Mus. Leyden 1869.
Additional material: 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Waigeo, leg. Bernstein. 1♂ NCB-RMNH: INDONESIAN NEW GUINEA, Klamono Oilfields [1°10'S 131°30'E], 18.VIII.1948, leg. M. A. Lieftinck; 2♀ NCB-RMNH: INDONESIAN NEW GUINEA, Klamono Oilfields [1°10'S 131°30'E], 19.VIII.1948 [1♀ antennae lost], leg. M. A. Lieftinck [antennae lost]; 2♀, 1♂, 1♂ nymph NCB-RMNH: INDONESIAN NEW GUINEA, Klamono Oilfields [1°10'S 131°30'E], 20.VIII.1948, leg. M. A. Lieftinck [1♂ & 1♂ nymphs antennae lost]; 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Sorong, Malano [Malanu, 0°51'S 131°19'E], 27.VIII.1948, leg. M. A. Lieftinck. 1♀ TELNOV: INDONESIA E, W New Guinea, Doberai Peninsula, Ayamaru vill., ~15,5-14 km N, 1°08'04''S 132°10'59''E to 1°09'29''S 132°11'30''E, ~275-250 m, primary lowland rainforest on limestone, 2.IX.2015, leg. D. Telnov [antennae lost].

Notes: Snellen van Vollenhoven (1865) writes about one male and females from "Gebeh" (leg. Bernstein) and gives description and two drawings of the species. No authors designated types (valid lectotype), but a female had a "Type" label which may originate from C. Willemse while three other specimens have a "Cotype" label. Here we designate the female with the "Type" label for the lectotype and other specimens including a specimen from OUMNH paralectotypes. The aforementioned male has not been traced yet. Photo of a male specimen (Plate 124 fig. 3) and a nymph taken by Marek Stefunko (2011) from Arfak Mountains fits description of this. No other *Ophiotettix* records are known from Arfak Mountains. Other records of *Ophiotettix limosina* in literature are wrongly identified specimens (including those published by Bolívar (1898, 1929) and Günther (1936)).
Description: All antennal segments rounded, dark and very long (>10 mm). Lateral carinae of the vertex convergent. Tip of the fastigium brightened. Vertex, in frontal view, flattened. Pronotum with yellow stripes. Body dark with yellowish pronotal carinae and characteristic pale clypeal marking. Measurements lectotype ♀: pronotum length 10.53 mm, pronotum lobe width 4.16 mm, pronotum height 2.04 mm, hind femur length 10.40 mm, hind femur width 1.85 mm, vertex width 0.43 mm, eye width 0.68 mm, antenna length 11.05 mm, head length 5.50 mm, head index 1.41. Measurements 1 ♂ (Klamono Oilfields), pronotum length 9.75 mm, pronotum lobe width 4.03 mm, pronotum height 2.10 mm, hind femur length 9.88 mm, hind femur width 1.65 mm, vertex width 0.53 mm, eye width 0.62 mm, antenna length 10.66 mm, head length 4.60 mm, head index 1.33.
Differential diagnosis: *O. limosina* is the only species with all antennal segments totally rounded and no edges visible. The species is on the first sight similar to other species of the Limosina species group, but is easily separated from all of them by presented character.
Distribution: *O. limosina* is found on Gebe Island west of Waigeo. Gebe belongs administratively to North Moluccas but it is on the half way between Waigeo and Halmahera and was probably connected with Waigeo and New Guinea in the Ice Age. Other specimens are recorded from Waigeo and in the western part of Doberai Peninsula. Probably this species is distributed from the west of Doberai Peninsula to the Arfak Mountains in the northeastern part.

***Ophiotettix cygnicollis* Walker, 1871** (Plate 108 fig. 8, plate 112 figs 7-8, plate 116 figs 7-8, plate 120 figs 7-8, plate 122 fig. 14)
Ophiotettix cygnicollis Walker 1871: 847;
O[phiotettix] Cygnicollis Kirby 1910: 3;
Ophiotettix cygnicollis Bolívar 1929: 879-880, 883-885, figs 3, 8;
Ophiotettix cygnicollis Willemse 1931: 195;
Ophiotettix cygnicollis Günther 1937: 176;
Ophiotettix cygnicollis Günther 1938b: 2-3;
Ophiotettix cygnicollis Günther 1939: 33-35 ;
Ophiotettix cygnicollis Steinmann 1970a: 226;
Ophiotettix cygnicollis Steinmann 1970b: 159;
Ophiotettix cygnicollis Blackith 1992: 128;
Ophiotettix cygnicollis Yin et al. 1996: 891;
Ophiotettix cygnicollis Otte: 54;
= *Tetricodina luteo-marginata* Westwood, 1874: 176, pl.

32, fig. 6-6a;
Tettigodina luteo-marginata Bolívar 1887: 305, fig. 30, 30a;
Tettigodina luteomarginata Bolívar 1898: 80-81;
T[ettigodina] luteomarginata Hancock 1907: 8, fig. 3;
O[phiotettix] Cygnicollis Kirby 1910: 3 (synonymy with *T. luteomarginata*).

We follow synonymy proposed by Kirby (1910).

Holotype: ♀ BMNH: INDONESIAN NEW GUINEA, Dorei, leg. Wallace.
Syntypes *Tetricodina luteomarginata* Westwood, 1874: 1♂ OUMNH: INDONESIAN NEW GUINEA, Newguinea, Dorei, 1859, leg. Wallace; 1♀ [not found in OUMNH]: INDONESIAN NEW GUINEA, Newguinea, Menado, leg. Wallace (after Westwood).
Additional material: 1♂ MNCN: INDONESIAN NEW GUINEA, Ramoi [1°7'S 131°15'E], VII.1872, leg. L. M. d'Albertis [antennae lost]; 1♀ MNCN: INDONESIAN NEW GUINEA, Ramoi [1°7'S 131°15'E], II.1875, leg. Beccari; 2♀ MSNG: INDONESIAN NEW GUINEA, Ramoi [1°7'S 131°15'E], II.1875, leg. Beccari [1♀ antennae lost]; 1♀ MSNG: INDONESIAN NEW GUINEA, Andai [0°55'S 134°01'E], XII.1875, leg. Beccari; 1♂ MSNG: INDONESIAN NEW GUINEA, Dorei Hum. [Dore Hum Bay, E of Sorong; 0°46'S 131°31'E], II.1875, leg. Beccari; 1♀ OUMNH: NEW GUINEA: leg. Wallace [under *Ophiotettix cygnicollis*, antennae lost]; 1♀ OUMNH: INDONESIAN NEW GUINEA, Dor.[ei], leg. Wallace [under *Ophiotettix cygnicollis*, antennae lost]; 1♀ OUMNH: "Wag." [= Waigeo?], leg. Wallace; 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Klamono Oilfields [1°10'S 131°30'E], VIII.1948, leg. M. A. Lieftinck; 3♀, 2♂ ZSM: INDONESIAN NEW GUINEA, Manokwari Prov., Ransiki, Mayuby-Benyas [1°31'S 134°10'E], 300-400 m, 27.-28.IX.1990, leg. A. Riedel; 1♂ ZSM: INDONESIAN NEW GUINEA, Manokwari Prov., Kosmena, Anggi, Tetaho-area [1°20'S 133°55'E], 1400-1750 m, 26.-27.III.1993, leg. A. Riedel; 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Manokwari, Nieuw Guinea-Expeditie 1903, 9.V.1903, leg. E. Morales; 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Manokwari, Nieuw-Guinea-Expeditie 1903, 23.V.1903, leg. E. Morales. 1♀ ANSP: INDONESIAN NEW GUINEA, Manokwari, leg. T. Barbour [antennae lost]. 1♀ TELNOV: Doberai Peninsula, Ayamaru vill., ~15,5-14 km N, 1°08'04''S 132°10'59''E to 1°09'29''S 132°11'30''E, ~275-250 m, primary lowland rainforest on limestone, 2.IX.2015, leg. D. Telnov [antennae lost].
Doubtful material: 1♂ nymph OUMNH: INDONESIAN NEW GUINEA, Gebeh, 1♂ nymph, INDONESIAN NEW GUINEA, Gebeh, leg. Wallace [under *Ophiotettix cygnicollis*, antennae lost].

Note: On the island of Gebe *O. limosina* is hitherto the only reported species. Very doubtful record because it is not possible to identify these nymphs, especially without antennae. With antennae it is possible to differ nymphs from *O. cygnicollis* from species with rounded antennae like *O. limosina*. Hence we place this young specimen as *Ophiotettix* sp.
Description: Apical and subapical segments of the antennae black, other segments more brownish. Third to fifth antennal segments from the tip (segment 11+12+13 in ♀♀, 10+11+12 in ♂♂) like a "cup" with a long tip at the inner margin. Apical segments with narrow whitish bristles. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together shorter than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) lamellate and curved. Lateral carinae convergent. Tip of the fastigium dark. Vertex, in frontal view flat, median carina higher than lateral carinae of the vertex. Pronotum with yellow stripes. Visible part of the abdomen yellow. Measurements syntype ♂ (*Tetricodina luteomarginata*): pronotum length 9.36 mm, pronotum lobe width 3.25 mm, pronotum height 1.96 mm, hind femur length 7.68 mm, hind femur width 1.50 mm, vertex width 0.41 mm, eye width 0.68 mm, antenna length 8.45 mm, head length 4.50 mm, head index 1.36. Measurements 2♂ (Ransiki): pronotum length 8.32-8.58 mm, pronotum lobe width 3.5-3.50 mm, pronotum height 1.95-2.0 mm, hind femur length 7.04-7:67 mm, hind femur width 1.50 mm, vertex width 0.39-0.43 mm, eye width 0.59-0.60 mm, antenna length 7.2-7.52 mm, head length 4.40 mm, head index 1.18-1.36. Measurements 2♀ (Ransiki): pronotum length 10.14-10.27 mm, pronotum lobe width 3.9-4.0 mm, pronotum height 2.4-2.50 mm, hind femur length 7.6-8.58 mm, hind femur width 1.65-1.75 mm, vertex width 0.41-0.43 mm, eye width 0.64-0.68 mm, antenna length 6.88-8.25 mm, head length 4.55-4.95 mm, head index 1.22-1.23.
Differential diagnosis: *O. cygnicollis* is one of the species without pale coloured apical antennal segments, characteristic in subapical antennal segments with lamellate inner margins and the third antennal segment from the tip with a distinct protruding long tip at the inner margin. *O. cygnicollis* is in morphology close to *O. amberiana* sp. nov., *O. pushkari* sp. nov., *O. storozhenkoi* sp. nov. (Cygnicollis species group) and *O. toxopei* sp. nov. (Toxopei species group). *O. toxopei* sp. nov. is unique in having widened third antennal segment from the tip. The neck of *O. cygnicollis* is significantly shorter than in aforementioned species (head




index in males <1.4, head index in females <1.3, respectively). The species with similar short neck is *O. pushkari* sp. nov. Those species can be separated by the fourth and fifth antennal segments from the tip morphology.

Distribution: Only found in the western part of New Guinea from Nabire over Doberai Peninsula to Salawati. Sulawesi (Günther 1938a; Steinmann 1970b) is a doubtful record and refers to the syntype of *Tetricodina luteomarginata* from Menado (leg. Wallace). The specimen is lost and up to now no *Ophiotettix* has been found on Sulawesi.

***Ophiotettix buergersi* Bolívar, 1929** (Plate 108 fig. 5, plate 112 figs 5-6, plate 116 figs 5-6, plate 120 figs 5-6, plate 122 fig. 13)

Ophiotettix bürgersi Bolívar 1929: 883, 885-887, fig. 7;
Ophiotettix bürgersi bürgersi Bolívar 1929: 883;
Ophiotettix bürgersi bürgersi Günther 1934: 333;
Ophiotettix bürgersi bürgersi Günther 1939: 34;
Ophiotettix bürgersi Steinmann 1970b: 159;
Ophiotettix buergersi, Blackith 1992: 127;
Ophiotettix burgersi Yin et al. 1996: 890;
Ophiotettix burgersi burgersi Otte 1997: 53.

Holotype 1♂ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 10.XII.1912, leg. S. G. Bürgers.
Paratypes: 1♀ MFN (Allotype): PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 10.XII.1912, leg. S. G. Bürgers; 2♀, 1♂ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 29.XI.-30.XI.1912, leg. S. G. Bürgers; 1♀, 2♂ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 29.XI.-2.XII.1912, leg. S. G. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 5.-6.XII.1912, leg. S. G. Bürgers; 1♂ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 7.XII.1912, leg. S. G. Bürgers; 1♂ MNCN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 9.XII.1912, leg. S. G. Bürgers; 2♀, 2♂ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 10.XII.1912, leg. S. G. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 12.XII.1912, leg. S. G. Bürgers; 1♀ MNCN: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 12.XII.1912, leg. S. G. Bürgers.
Additional material: 1♂ SMTD: PAPUA NEW GUINEA, Lordberg [4°50'S 142°29'E], 12.XII.1912, leg. S. G. Bürgers.

Note: Bolívar named the species "*bürgersi*". The correct transliteration of German phonem "ü" in Latin zoological nomenclature is after the Code diphthong "ue". For *bürgersi* it is thus *buergersi,* not *burgersi*. We use the correct name *O. buergersi*.
Description: Antennal segments brownish to dark. Only the tip (segment 14+15 in ♀♀, 13+14 in ♂♂) somewhat lighter. Apical segments with narrow whitish bristles. Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip with a long tip, fifth antennal segment from the tip with a protruding edge and sixth antennal segment from tip with a protruding edge, as well. Lateral carinae of the vertex in frontal view distinctly higher than the median carina of the vertex. Fastigium, in lateral view, a little protruding before the eyes. Pronotum with yellow stripes. Tip of the fastigium, most of the visible parts of the abdomen and hind femur dark. Measurements holotype ♂: pronotum length 8.32 mm, pronotum lobe width 3.52 mm, pronotum height 1.75 mm, hind femur length 7.84 mm, hind femur width 1.70 mm, vertex width 0.41 mm, eye width 0.64 mm, antenna length 8.84 mm, head length 4.75 mm, head index 1.44. Measurements paratype ♀ (allotype), pronotum length 9.10 mm, pronotum lobe width 3.60 mm, pronotum height 2.15 mm, hind femur length 8.08 mm, hind femur width 1.75 mm, vertex width 0.43 mm, eye width 0.70 mm, antenna length 8.32 mm, head length 4.88 mm, head index 1.48.
Differential diagnosis: Together with *O. sanguinea* sp. nov. this is the only species with dark apical antennal segments where the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) is broadly lamellate and bears a protruding tip or edge at the inner margin. It differs from *O. sanguinea* sp. nov. by the protruding tip of the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) and the dark postfemora. *O. sanguinea* sp. nov. has reddish hind femora.
Distribution: Only found in the type locality, the Lordberg in the Sepik River area.

***Ophiotettix lorentzi* Bolívar, 1929** (Plate 108 fig. 10, plate 112 fig. 12, plate 116 fig. 11, plate 120 fig. 11, plate 122 fig. 16)

Ophiotettix lorentzi Bolívar 1929: 883, 888-889, fig. 6;
Ophiotettix lorentzi Günther 1938b: 2;
Ophiotettix lorentzi Günther 1939: 34;
Ophiotettix lorentzi Steinmann 1970b: 159;
Ophiotettix lorentzi Blackith 1992: 129;
Ophiotettix lorentzi Yin et al. 1996: 891;
Ophiotettix lorentzi Otte 1997: 54.

Holotype ♀ NCB-RMNH: INDONESIAN NEW GUINEA, Alkmaar [4°40'S 138°43'E], XI.1909, leg. Lorentz.
Paratype: 1♀ MNCN: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], II.1910, leg. Lorentz.

Description: Apical and subapical segments of the antennae dark. Two apical segments (segment




14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂), fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a protruding edge. Outer margin of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) lamellate. Inner edge on the dorsal margin of the fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) directed backwards. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae parallel. Tip of the fastigium brightened. Measurements holotype ♀: pronotum length 10.79 mm, pronotum lobe width 4.20 mm, pronotum height 2.45 mm, hind femur length 10.79 mm, hind femur width 1.90 mm, vertex width 0.43 mm, eye width 0.78 mm, antenna length 9.75 mm, head length 6.15 mm, head index 1.96. Measurements paratype ♀: pronotum length 11.02 mm, pronotum lobe width 3.99 mm, pronotum height 2.06 mm, hind femur length 10.22 mm, hind femur width 1.90 mm, vertex width 0.45 mm, eye width 0.78 mm, antenna length no measurements, head length 5.85 mm, head index 2.29.

Differential diagnosis: *O. lorentzi* is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and a fifth antennal segment from the tip with straight dorsal margin or it is curved backwards. The dorsal 1/4 of the length of fourth antennal segment from the tip runs parallel or convergent towards the tip and the third antennal segment from tip has no long prodruding tip. *O. lorentzi* is near to *O. flyriveriensis* sp. nov., *O. kaitani* sp. nov., *O. katharinae* sp. nov., *O. karimuiensis* sp. nov. and *O. quateorum* sp. nov. (Katharinae species group) but differs from *O. flyriveriensis* sp. nov., *O. kaitani* sp. nov. and *O. karimuiensis* sp. nov. in morphology of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂), in which the dorsal margin is straight or with a blunt protruding edge (angle), and without more or less longer acute tip. It differs from the *O quateorum* sp. nov. and *O. katharinae* sp. nov. in morphology of the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂), this segment broader than the third antennal segment from the tip (in listed species it is smaller).

Distribution: Upper basin of the Lorentz River.

***Ophiotettix modesta* Bolívar, 1929 stat. rev.**
(Plate 108 figs 11-12, plate 112 figs 13-15, plate 116 figs 12-14, plate 120 figs 12-13, plate 122 fig. 17)

Ophiotettix bürgersi modesta Bolívar 1929: 883, 888;
Ophiotettix bürgersi modesta Günther 1938b: 3;
Ophiotettix bürgersi modesta Günther 1939: 34;
Ophiotettix modestus Steinmann 1970b: 159;
Ophiotettix burgersi modesta Yin et al. 1996: 891;
Ophiotettix burgersi modesta Otte 1997: 53.

Holotype ♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Quelllager [4°32'S 142°41'E], 13.-16.VIII.1913, leg. S. G. Bürgers.

Paratypes: 1♀ (Allotype) MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Quelllager [4°32'S 142°41'E], 13.-16.VIII.1913, leg. S. G. Bürgers; 1♀, 1♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Quelllager [4°32'S 142°41'E], 13.-16.VIII.1913, leg. S. G. Bürgers [antennae lost]; 1♂ MNCN: PAPUA NEW GUINEA, [East Sepik, Prov.], Quelllager [4°32'S 142°41'E], 13.-16.VIII.1913, leg. S. G. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hunsteinspitze [4°30'S 142°35'E], 1350 m, VIII.1912, leg. S. G. Bürgers; 2♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hunsteinspitze [4°30'S 142°35'E], 25.II.1913, leg. S. G. Bürgers [antennae lost]; 1♀ nymph MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hunsteinspitze [4°30'S 142°35'E], 2.III.1913, leg. S. G. Bürgers [antennae lost]; 1♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Leonh. Schultzefluss, Lager 1-4 [4°18'S 142°18'E], leg. S. G. Bürgers; 1♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hauptlager bei Malu [4°13'S 142°49'E], 1.-2.I.1913, leg. S. G. Bürgers; 1♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hauptlager bei Malu [4°13'S 142°49'E], 7.I.1913, leg. S. G. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hauptlager bei Malu [4°13'S 142°49'E], 27.I.1913, leg. S. G. Bürgers [antennae lost]; 2♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Lager am Rosensee [4°22'S 142°43'E], 10.II.1913, leg. S. G. Bürgers [antennae lost]; 1♀ MNCN: PAPUA NEW GUINEA, [East Sepik, Prov.], Lager am Rosensee [4°22'S 142°43'E], 11.II.1913, leg. S. G. Bürgers; 1♂ MFN: PAPUA NEW GUINEA, East Sepik Prov., Lager am Rosensee [4°22'S 142°43'E], 13.II.1913, leg. S. G. Bürgers [antennae lost]; 1♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Lager am Rosensee [4°22'S 142°43'E], 16.II.1913, leg. S. G. Bürgers [antennae lost].

Paratypes after original publication which were not traced: 1♀, 2♂, PAPUA NEW GUINEA, [East Sepik, Prov.], Quelllager [4°32'S 142°41'E]; 1♀, Lager am Rosensee [4°22'S 142°43'E].

Additional material: 1♀ MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Kais.-Augustafl. Expedition, leg. S. G. Bürgers; 2♀, 3♂ MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Regenberg [4°52'S 144°07'E], 550 m, 8.-15.V.1913, leg. S. G. Bürgers (1♀, 1♂ former paratypes of *O. buergersi buergersi*); 1♀ SMTD: PAPUA NEW GUINEA, [East Sepik Prov.], Regenberg [4°52'S 144°07'E], 550 m, 8.-15.V.1913, leg. S. G. Bürgers; 2♀ BPBM: PAPUA NEW GUINEA, [Madang Prov.], Adelbert Mts., Wanuma




[4°54'S 145°19'E], 800-1000 m, 26.X.1958, leg. J. L. Gressitt [one antenna lost]; 1♀ BPBM: PAPUA NEW GUINEA, [Madang Prov.], Adelbert Mts., Wanuma [4°54'S 145°19'E], 800-1000 m, 27.X.1958, leg. J. L. Gressitt.

Description: Apical and subapical segments of the antennae black or brownish. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) combined shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) with a protruding edge at the inner dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina a little bit deeper than the lateral carinae. Visible part of the abdomen base colour yellowish, with black patches. Individuals from Wanuma completely fit types' morphology, but have head index is a little shorter. Female form L. Schultzefluss is little bit larger than other specimens. Fourth and fifth antennal segment from the tip (segment 11+12 in ♀♀, 10+11 in ♂♂) are in this specimen broader than segments of the specimens from Quellager. Measurements holotype ♂: pronotum length 8.97 mm, pronotum lobe width 3.95 mm, pronotum height 1.90 mm, hind femur length 8.32 mm, hind femur width 1.70 mm, vertex width 0.41 mm, eye width 0.66 mm, antenna length 9.49 mm, head length 5.0 mm, head index 2.0. Measurements paratype ♀ (allotype), pronotum length 10.14 mm, pronotum lobe width 4.05 mm, pronotum height 2.40 mm, hind femur length 8.84 mm, hind femur width 1.70 mm, vertex width 0.37 mm, eye width no measurements, antenna length 8.71 mm, head length 5.36 mm, head index 1.88. Measurements paratypes 1♀ (Leonh. Schultzefluss, Lager 1-4), pronotum length 11.18 mm, pronotum lobe width 4.60 mm, pronotum height 2.55 mm, hind femur length 9.36 mm, hind femur width 1.95 mm, vertex width 0.43 mm, eye width 0.68 mm, antenna length 8.84 mm, head length 5.52 mm, head index 2.18. 1 ♀ (Hunsteinspitze), pronotum length 9.49 mm, pronotum lobe width 3.80 mm, pronotum height 2.20 mm, hind femur length 8.97 mm, hind femur width 1.65 mm, vertex width 0.39 mm, eye width 0.66 mm, antenna length 8.79 mm, head length 5.20 mm, head index 2.29. 1 ♂ (Hauptlager bei Malu, 7.I.1913), pronotum length 9.75 mm, pronotum lobe width 3.90 mm, pronotum height 1.85 mm, hind femur length 8.19 mm, hind femur width 1.70 mm, vertex width 0.45 mm, eye width 0.59 mm, antenna length 8.97 mm, head length 4.88 mm, head index 1.91. 1 ♂ (Hauptlager bei Malu, 1.-2.I.1913), pronotum length 9.36 mm, pronotum lobe width 3.85 mm, pronotum height 1.65 mm, hind femur length no measurement, hind femur width no measurement, vertex width 0.43 mm, eye width 0.57 mm, antenna length 8.45 mm, head length 4.72 mm, head index 2.1. ♂ (Regenberg), pronotum length 9.23 mm, pronotum lobe width 4.0 mm, pronotum height 2.15 mm, hind femur length 8.45 mm, hind femur width 1.70 mm, vertex width 0.43 mm, eye width 0.68 mm, antenna length 9.49 mm, head length 5.28 mm, head index 2.09. ♀ (Regenberg), pronotum length 10.92 mm, pronotum lobe width 4.30 mm, pronotum height 2.25 mm, hind femur length 8.84 mm, hind femur width 1.80 mm, vertex width 0.43 mm, eye width 0.64 mm, antenna length 8.91 mm, head length 5.60 mm, head index 2.0.

Differential diagnosis: Bolívar (1929) described *O. modesta* as a subspecies of *O. buergersi*. It is distinguishable from *O. buergersi* Bolívar, 1929 accurately by some characters: *O. buergersi* has shorter neck (head index <1.5, *O. modesta* >1.8). In *O. modesta* the sixth antennal segment from the tip (tip (segment 10 in ♀♀, 9 in ♂♂) is not widened as in *O. buergersi*. In *O. modesta* hind femora and the tip of the fastigium is coloured (brightened), while in *O. buergersi* it is dark. *O. modesta* has enough strong differences (if here assessed variability of *Ophiotettix* and difference between the species are taken into account) from *O. buergersi* and we regard it valid, separate species. *O. modesta* is near to *O. buergersi* and *O. sanguinea* sp. nov. (they all belong to Buergersi species group). In *O. sanguinea* sp. nov. the sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) is broader than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). In *O. modesta* it is as broad as the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). *O. sanguinea* sp. nov. has a shorter neck (head index <1.8, while in *O. modesta* >1.8). *O. modesta* is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with protruded lateral edge. It is protruded visibly into spine or acute angle. *O. modesta* is near to *O. imbiana* sp. nov., *O. rohwedderi* sp. nov., *O. schapinae* sp. nov. and *O. tenuis* sp. nov. (all




members of Buergersi species group. It differs from these species (except *O. imbiana* sp. nov. and *O. rohwedderi* sp. nov.) by flat vertex. From these species it differs by three apical segments together being as long as the fourth segment from the tip (not longer than).

Distribution: Northeast of New Guinea from the middle of Sepik River to the Adelbert Mountains in the east.

***Ophiotettix scolopax* Bolívar, 1929** (Plate 104 figs 1-4, plate 108 fig. 13, plate 112 figs 16-17, plate 116 figs 15-16, plate 120 figs 14-15, plate 122 fig. 18)

Ophiotettix scolopax Bolívar 1929: 883, 891-892, figs 1, 2, 4, 5;
Ophiotettix scolopax Günther 1938b: 3;
Ophiotettix scolopax Steinmann 1970b: 159;
Ophiotettix scolopax Blackith 1992: 129;
Ophiotettix scolopax Yin et al. 1996: 891;
Ophiotettix scolopax Otte 1997: 54.

Holotype ♀ NCB-RMNH: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], IX.1909, leg. Lorentz.
Paratypes: 1♂ [1/19, allotype] MNCN: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], II.1910, leg. Lorentz [not seen]; 1♀ [2/19] NCB-RMNH: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], IX.1909, leg. Lorentz. 1♂ [3/19] NCB-RMNH: INDONESIAN NEW GUINEA, Noord Rivier [= Lorentz River; 5°18'S 138°14'E], IX.1909, leg. Lorentz; 7♀ [4/19, 10/19] NCB-RMNH: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], I.1910, leg. Lorentz; 1♀ [11/19] NCB-RMNH: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], II.1910, leg. Lorentz; 5♀ [12/19-16/19], MNCN: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], I.1910, leg. Lorentz [not seen]; 3♀ [17/19-19/19], MNCN: INDONESIAN NEW GUINEA, Bivak Eiland [5°01'S 138°39'E], I.1910, leg. Lorentz [not examined].
Additional material: 1♀ BMNH: INDONESIAN NEW GUINEA, Mimika River [4°30'S 136°30'E], VIII.1910, leg. A. F. R. Wollaston.

Description: *O. scolopax* is one of the largest species and has the neck longer than any other species (head length >7 mm and head index >3). Measurements holotype ♀: pronotum length 11.05 mm, pronotum lobe width 4.42 mm, pronotum height 2.39 mm, hind femur length -- mm, hind femur width -- mm, vertex width 0.47 mm, eye width 0.65 mm, antenna length 11.96 mm, head length 7.47 mm, head index 3.22. Measurements: paratype ♂ (Noord River), pronotum length 9.23 mm, pronotum lobe width 3.77 mm, pronotum height 1.99 mm, hind femur length 10.53 mm, hind femur width 1.56 mm, vertex width 0.41 mm, eye width 0.64 mm, antenna length 11.96 mm, head length 7.19 mm, head index 3.35. Measurements paratype ♀ (6/19), pronotum length 11.18 mm, pronotum lobe width 4.68 mm, pronotum height 2.31 mm, hind femur length 11.18 mm, hind femur width 1.82 mm, vertex width 0.43 mm, eye width 0.72mm, antenna length 11.88 mm, head length 7.27 mm, head index 3.56.

Differential diagnosis: *O. scolopax* is similar to *O. limosina* (Snellen van Vollenhoven, 1865), *O. bomberaiensis* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. luce* sp. nov., *O. mountnokensis* sp. nov. and *O. projecta* sp. nov. (all members of Limosina species group, composed of species with slender antennae without white tips). The species is unique because of its very long neck.

Distribution: Region of Lorentz and Mimika Rivers in the south coast of Indonesian New Guinea (with *O. lorenzi* Bolívar, 1929 and *O. flyriveriensis* sp. nov. the only species distributed south of the Central Range).

***Ophiotettix westwoodi* Bolívar, 1929 stat. rev.** (Plate 108 fig. 14, plate 112 figs 18-19, plate 116 figs 17-18, plate 120 figs 16-17, plate 122 fig. 19)

Ophiotettix bürgersi westwoodi Bolívar 1929: 887;
Ophiotettix bürgersi westwoodi Günther 1939: 34;
Ophiotettix westwoodi Steinmann 1970b: 159;
Ophiotettix burgersi westwoodi Yin et al. 1996: 891;
Ophiotettix burgersi westwoodi Otte 1997: 53.

Holotype 1♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 21.-30. VIII.1913, leg. Bürgers.
Paratypes: 1♀ [allotype] MFN PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 21.-30.VIII.1913, leg. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 21.-30.VIII.1913, leg. Bürgers; 1♀ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 1.-10.VIII.1913, leg. Bürgers; 2♂ MFN: PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 670 m, 19.-31. VII.1913, leg. Bürgers [antennae lost]; 1♂ MNCN: PAPUA NEW GUINEA, [East Sepik, Prov.], Mäanderberg [4°07'S 141°40'E], 670 m, 19.-31.VII.1913, leg. Bürgers; 1♀ MNCN: PAPUA NEW GUINEA, [East Sepik, Prov.], Hauptlager bei Malu [4°13'S 142°49'E], 20.I.1913, leg. S. G. Bürgers.
Additional material: 2♀, 1♂ nymph BMNH: INDONESIAN NEW GUINEA, Cyclops Mts., 3400-4500 ft., III.1936, leg. L. E. Cheesman [1♀ antennae lost]; 9♀, 5♂, 2♂ nymphs BMNH: INDONESIAN NEW GUINEA, Cyclops Mts., 3500 ft., III.1936, leg. L. E. Cheesman [4♀, 4♂ antennae lost] (NHMUK 10924594-10924609);




3♀, 4♂, 1♀ nymph BMNH: INDONESIAN NEW GUINEA, Cyclops Mts., Mt. Lina, 3500-4500 ft., III.1936, leg. L. E. Cheesman [3♀, 2♂ antennae lost] (NHMUK 10924610-10924617); 2♀ BMNH: INDONESIAN NEW GUINEA, Mt. Nomo, S. of Mt. Bougainville, 700 ft., II.1936, leg. L. E. Cheesman [1♀ antennae lost] (NHMUK 10924618-10924619); 1♂ nymph BMNH: INDONESIAN NEW GUINEA, Njau-limon, 300 ft., II.1936, leg. L. E. Cheesman (NHMUK 10924620); 2♂, 2♀ nymphs, 2♂ nymphs BPBM: INDONESIAN NEW GUINEA, [Cyclops Mts.], Ifar [2°34'S 140°31'E], 300-600 m, 20.VI.1959, leg. T. C. Maa; 3♀, 1♂ BPBM: INDONESIAN NEW GUINEA, [Cyclops Mts.], Ifar [2°34'S 140°31'E], 400-550 m, 23.VI.1959, leg. T. C. Maa; 2♀ BPBM: INDONESIAN NEW GUINEA, [Cyclops Mts.], Hollandia, Kota Baru [2°31'S 140°41'E], 25.-28. VI.1962, leg. J. L. Gressitt & N. Wilson [1♀ antennae lost]; 1♀ BPBM: INDONESIAN NEW GUINEA, Cyclops Mts., Ifar [2°34'S 140°31'E], 300-500 m, 23.-25.VI.1962, leg. J. L. Gressitt; 1♀, 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Cyclops Mts., Ifar [2°34'S 140°31'E], 300-500 m, 23.-25.VI.1962, leg. J. L. Gressitt & J. Sedlacek [1♀ antennae lost]; 6♀ BPBM: INDONESIAN NEW GUINEA, Cyclops Mts., Ifar [2°34'S 140°31'E], 300-500 m, 26.-28.VI.1962, leg. J. Sedlacek [4♀ antennae lost]; 1♂, 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Cyclops Mts., Ifar [2°34'S 140°31'E], 300-500 m, 28.-30.VI.1962, leg. J. L. Gressitt; 2♀ BPBM: INDONESIAN NEW GUINEA, Cyclops Mts., Ifar [2°34'S 140°31'E], 400-800 m, 7.-9.IX.1962, leg. J. Sedlacek [antennae lost]. 1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Boven Sermowai rivier [2°45'S 140°15'E], 400 m, 6.V.1911, leg. P. N. v. Kampen [antennae lost]. 1♀ BPBM: PAPUA NEW GUINEA, [East Sepik, Prov.], Wewak [3°35'S 143°37'E], 2-20 m, 13.X.1957, leg. J. L. Gressitt [antennae lost].

Description: Apical segments of the antennae pale (third segment from the tip only a little). No antennal segment with clear tip at the inner margin. Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as or longer than the fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) lamellate and curved. Apical segments with narrow whitish bristles. Lateral carinae of the vertex parallel. Median carina of the vertex lower than the lateral carinae. Lateral carinae of the vertex brightened. Pronotum with yellow stripes. Most of the body coloured. Head, in frontal view, and ventral margin of the hind femora yellow. The brightness of the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) varies - from a little at the tip (female from Cyclops Mts.) to more than a half (specimen from Ifar). The specimens from Cyclops Mts. (Mt. Lina, Mt. Nomo, leg. L.E. Cheesman) differs in colouration of the second and third antennal segment from the tip (segment 13+14 in ♀♀, 12+13 in ♂♂): the third segment has no pale colouration and the second segment is not pale at all, but a little brownish to the third segment. We find no other differences between the types and the specimens from Cyclops Mts. Further studies are needed to answer how diverse are specimens of this species, and if there is whole species complex inside with endemic taxa (species or subspecies) in isolated mountains. Measurements holotype ♂: pronotum length 7.54 mm, pronotum lobe width 3.25 mm, pronotum height 2.0 mm, hind femur length 6.63 mm, hind femur width 1.45 mm, vertex width 0.39 mm, eye width 0.61 mm, antenna length 7.80 mm, head length 4.25 mm, head index 1.38. Measurements paratype ♀ (allotype), pronotum length 8.58 mm, pronotum lobe width 3.75 mm, pronotum height 2.40 mm, hind femur length 7.67 mm, hind femur width 1.70 mm, vertex width 0.39 mm, eye width 0.66 mm, antenna length 8.45 mm, head length 4.90 mm, head index 1.55. Two other ♀♀ paratypes have head length 4.70 mm and head index 1.71. 1♀ and 1♂ from Ifar have head length 4.7 (4.3) mm and head index 1.36 (1.48).

Differential diagnosis: Bolívar (1929) describes *O. westwoodi* as a subspecies of *O. buergersi* Bolívar, 1929. It differs a lot from *O. buergersi* by pale apical antennal segments and the fourth antennal segment from tip (segment 12 in ♀♀, 11 in ♂♂), which does not have distinctly long tip at the inner margin. *O. westwoodi* is regarded as a separate species from *O. buergersi*, not its subspecies, but a valid species. As a species with pale apical antennal segments and at least one antennal segment with a protruding tip at the inner margin at the fourth antennal segment from the tip *O. westwoodi* is close to *O. cheesmanae* sp. nov. and *O. meggy* sp. nov. (all members of Westwoodi species group, together with *O. fritzpahli* sp. nov.). In *O. cheesmanae* sp. nov., third antennal segment from the tip is brightened to the half (in *O. westwoodi* only at the tip). The fifth antennal segment from the tip in *O. meggy* sp. nov. has a protruding edge at the inner dorsal margin (in *O. westwoodi* not) and furthermore *O. meggy* sp. nov. has distinct silver bristles on the apical antennal segments (in *O. westwoodi* not).

Distribution: From the environment of Jayapura in Indonesian New Guinea west to the upper Sepik River and Wewak in Sandaun and East Sepik Province.

Catalogue of the new species

Species arranged alphabetically.

***Ophiotettix amberiana* sp. nov.** (Plate 105 fig. 1, plate 109 figs 1-2, plate 113 figs 1-2, plate 117 figs 1-2, plate 121 fig. 1)




Holotype ♂ BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, IV.1938, leg. L. E. Cheesman.
Paratypes: 3♀, 2♂ (1/7-5/7) BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, IV.1938, leg. L. E. Cheesman, deposited in ZFMK (4/7), [3♀, 2♂ antennae lost]; 1♀ (6/7) BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, Camp 2, IV.1938, leg. L. E. Cheesman, deposited in ZFMK [antennae lost]; 1♀ (7/7) BMNH: INDONESIAN NEW GUINEA, Waigeo, Camp Nok, 2500 ft., IV.1938, leg. L. E. Cheesman [antennae lost].

Derivatio nominis: Toponymic. The species is named after its type locality, Waigeo Island. The island is also known by the name Amberi, which we found more suitable for the stem of Latin adjective, from it consequently making feminine gender of *amberianus*, -a –um (first and second Latin declension adjective).
Description: Antennal segments black. Third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) like a "cup", with a long tip at the inner margin. Apical segments with some narrow whitish bristles. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than apical third segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together shorter than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Fourth and fifth antennal segments from the tip (segment 11+12 in ♀♀, 10+11 in ♂♂) more than 3x as wide as the second apical antennal segment from the tip (segment 14 in ♀♀, 13 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex nearly as high as the lateral carinae. Pronotum with reddish stripes. Visible part of the abdomen black. Hind femora with a brightened strip at the dorsal margin. Measurements holotype ♂ (pronotum a little bit damaged): pronotum length 9.23 mm, pronotum lobe width 3.05 mm, pronotum height 1.75 mm, hind femur length 8.06 mm, hind femur width 1.75 mm, vertex width 0.49 mm, eye width 0.72 mm, antenna length 10.14 mm, head length 4.90 mm, head index 1.64. Measurements paratypes 5♀: pronotum length (5): 10.4 - 11.83 mm, average 11.26 mm; pronotum lobe width (5): 4.05 - 4.95 mm, average 4.46 mm; pronotum height (5): 2.25 - 2.90 mm, average 2.64 mm; hind femur length (5): 8.58 - 11.18 mm, average 9.85 mm; hind femur width (5): 1.65 - 2.05 mm, average 2.01 mm; vertex width (4): 0.47 - 0.55 mm, average 0.51 mm; eye width (4): 0.68 - 0.74 mm, average 0.72 mm; antenna length (0): -; head length (5): 5.28 - 5.76 mm, average 5.57 mm; head index (5): 1.57 - 1.96 mm, average 1.76 mm. Measurements paratypes 3♂ (including holotype): pronotum length (3): 9.23 - 9.75 mm, average 9.49 mm; pronotum lobe width (2, without holotype): 3.75 - 4.40 mm, average 3.88 mm; pronotum height (2, without holotype): 2.05 - 2.70 mm, average 2.38 mm; hind femur length (3): 8.06 - 8.58 mm, average 8.32 mm; hind femur width (3): 1.6 - 1.75 mm, average 1.67 mm; vertex width (3): 0.47 - 0.49 mm, average 0.48 mm; eye width (3): 0.68 - 0.72 mm, average 0.69 mm antenna length (2): 10.14 - 10.53 mm, average 4.86 mm; head length (3): 4.9 - 5.12 mm, average 5.02 mm; head index (3): 1.48 - 1.73 mm, average 1.62 mm.
Differential diagnosis: *O. amberiana* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and the third antennal segment from the tip with a distinctly protruding long tip at the inner margin. *O. amberiana* sp. nov. is near to *O. cygnicollis* sp. nov., *O. pushkari* sp. nov., *O. storozhenkoi* sp. nov. (Cygnicollis species group) and *O. toxopei* sp. nov. (Toxopei species group). *O. toxopei* sp. nov. is unique in having widened third antennal segment from the tip. *O. amberiana* sp. nov. differs from other species of the Cygnicollis species group in morphology of the sixth antennal segment, which is as broad as the third antennal segment from the tip and not smaller (>0.18 mm).
Distribution: Only found on Mount Nok in the north of Waigeo Island.

***Ophiotettix bewana* sp. nov.** (Plate 105 fig. 2, plate 109 fig. 3, plate 113 fig. 3, plate 117 fig. 3, plate 121 fig. 2)

Holotype ♀ BMNH: PAPUA NEW GUINEA, Humboldt Bay Dist. [Sandaun Prov.], Bewani Mts. [3°10'S 141°15'E], IX.1937, leg. W. Stüber.

Derivatio nominis: The species is named after the region of the locus typicus. The specific epithet is a Latin adjective (first and second declension) in the feminine gender (bewanus, -a, -um).
Description: First apical antennal segment and the half of the second (segments 14+15 in ♀♀, 13+14 in ♂♂) lighter brownish. Other segments of the antennae dark brownish. Lamellate antennal segments lacking. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15




in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow, without protruding edge at the inner dorsal margin. Fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) with straight dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex convergent. Tip of the fastigium dark. Vertex, in frontal view, flat, median carina of the vertex as high as the lateral carinae. Pronotum with yellow lateral parts and infrascapular area. Visible part of the abdomen predominantly yellow. Hind femur partially yellow. Measurements holotype ♀: pronotum length 9.62 mm, pronotum lobe width 4.03 mm, pronotum height 2.50 mm, hind femur length 8.97 mm, hind femur width 1.60 mm, vertex width 0.49 mm, eye width 0.64 mm, antenna length 10.14 mm, head length 5.20 mm, head index 2.23.

Differential diagnosis: *O. bewana* sp. nov. is one of the species with very narrow margins of the antennal segments and no protruding tip at the inner margin (members of the Limosina species group). Together with *O. mountnokensis* sp. nov. and *O. scolopax* (also members of Limosina species group), they are the only species of this group (and of the genus) with convergent lateral carina. It is easily separated from *O. scolopax* by the shorter neck and from *O. mountnokensis* sp. nov. by the dark tip of the fastigium.

Distribution: Bewani Mountains.

***Ophiotettix bomberaiensis* sp. nov.** (Plate 104 figs 6-7, plate 105 figs 3-4, plate 109 figs 4-5, plate 113 figs 4-5, plate 117 figs 4-5, plate 121 fig. 3)

Holotype ♂ BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 5.VI.1959, leg. T. C. Maa.

Paratypes: 1♀ (1/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 3.VI.1959, leg. J. L. Gressitt [antennae lost]; 5♂ (2/27-6/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 4.VI.1959, leg. T. C. Maa, deposited in ZFMK (2/27) and NCB-RMNH (3/27) [2♂ antennae lost]; 1♂ (7/27), INDONESIAN NEW GUINEA BPBM: Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 5.VI.1959, leg. T. C. Maa, [antennae lost]; 2♀, 2♂ (8/27-11/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 8.VI.1959, leg. T. C. Maa, deposited in BMNH (9/27) and ZFMK (11/27) [1♀ antennae lost]; 1♂ (12/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 9.VI.1959, leg. T. C. Maa; 1♀ (13/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 3.VI.1959, leg. J. L. Gressitt; 1♀, 1♂ (14/27-15/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 4.VI.1959, leg. J. L. Gressitt; 1♂ (16/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 4.VI.1959, leg. T. C. Maa; 3♀, 2♂ (17/27-21/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop, Bomberi (1x Alpinia, 1x Ginger, 1x Palm), 700-900 m, 5.VI.1959, leg. J. L. Gressitt, deposited in NCB-RMNH (17/27) and BMNH (18/27); 2♂ (22/27-23/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 7.VI.1959, leg. J. L. Gressitt [1♂ antennae lost]; 1♀, 1♂ (24/27-25/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 7.VI.1959, leg. T. C. Maa, deposited in ZFMK (25/27) [antennae lost]; 1♂ (26/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 9.VI.1959, leg. T. C. Maa; 1♀ (27/27) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 9.VI.1959, leg. J. L. Gressitt.

Additional material: 1♀ MSNG: INDONESIAN NEW GUINEA, Kapaor [2°53'S 132°16'E], IV.1873, leg. L. M. d'Albertis; 5♂ nymphs, 4♀ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 4.VI.1959, leg. T. C. Maa; 1♀ nymph, 3♂ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 5.VI.1959, leg. T. C. Maa; 1♀ nymph, 1 ♂ [head lost], 2♂ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop, S. coast of Bomberai, Fak Fak [2°55'S 132°17'E], 100-700 m, 8.VI.1959, leg. T. C. Maa; 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 4.VI.1959, leg. T. C. Maa; 2♀ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 5.VI.1959, leg. J. L. Gressitt; 5♀ nymphs, 2♂ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 6.VI.1959, leg. T. C. Maa; 3♀ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 6.VI.1959, leg. J. L. Gressitt; 2♀ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 7.VI.1959, leg. T. C. Maa; 2♂ nymphs BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700-900 m, 7.VI.1959, leg. J. L. Gressitt; 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop, Bomberi (Palm), 700-900 m, 9.VI.1959, leg. J. L. Gressitt.

Derivatio nominis: Toponymic. The species is named after the region of the locus typicus. It is a Latin adjective of the Third declension, in feminine




gender (bomberaiensis, -e).

Description: All antennal segments brownish. No antennal segment broadly lamellate. Third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) with low inner margins. Apical segments with narrow whitish bristles. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂), narrow and elongate, longer than fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex convergent. Tip of the fastigium brightened with one exception (paratype 25/27 has dark fastigium). Vertex, in frontal view, flat, median carina of the vertex as high as lateral carinae. Pronotum not with distinct yellow stripes, only with small lines. Visible part of the abdomen and lateral lobes yellow. 3♂ with a head index 1.30 to 1.32 (smaller than in other specimens) show no other differences and we regard them to fit variability of the species. Measurements holotype ♂: pronotum length 7.54 mm, pronotum lobe width 3.35 mm, pronotum height 1.85 mm, hind femur length 9.10 mm, hind femur width 1.40 mm, vertex width 0.35 mm, eye width 0.74 mm, antenna length 8.84 mm, head length 4.75 mm, head index 1.52. Measurements paratypes 10♀: pronotum length (10♀): 8.19 - 9.88 mm, average 8.63 mm; pronotum lobe width (10♀): 3.75 - 4.30 mm, average 3.86 mm; pronotum height (10♀): 1.75 - 2.25 mm, average 1.96 mm; hind femur length (6♀): 9.75 - 10.40 mm, average 9.99 mm; hind femur width (6♀): 1.45 - 1.55 mm, average 1.51 mm; vertex width (10♀): 0.37 - 0.49 mm, average 0.43 mm; eye width (10♀): 0.66 - 0.78 mm, average 0.70 mm; antenna length (7♀): 9.49 - 10.40 mm, average 9.92 mm; head length (10♀): 5.04 - 5.68 mm, average 5.26 mm; head index : 1.46 - 1.80 mm, average 1.61 mm. Measurements paratypes 18♂ (including holotype): pronotum length (18♂): 6.76 - 8.84 mm, average 7.42 mm; pronotum lobe width (18♂ within holotype): 3.15 - 3.18 mm, average 3.36 mm; pronotum height (18♂ within holotype): 1.3 - 1.90 mm, average 1.67 mm; hind femur length (17 ♂♂): 8.84 - 10.40 mm, average 9.25 mm; hind femur width (17♂): 1.3 - 1.65 mm, average 1.39 mm; vertex width (18♂): 0.35 - 0.49 mm, average 0.42 mm; eye width (18♂): 0.49 - 0.74 mm, average 0.66 mm; antenna length (12♂): 8.84 - 10.40 mm, average 9.75 mm; head length (18♂): 4.56 - 5.20 mm, average 4.86 mm; head index (18♂): 1.35 - 1.74 mm, average 1.54 mm

Differential diagnosis: *O. bomberaiensis* sp. nov. is one of the species with dark antennae and antennal segments with small margins but not lamellate or broadened. Other species of this group (Limosina species group) with similar antennae are: *O. scolopax* Bolívar, 1929, *O. bewana* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. luce* sp. nov., *O. mountnokensis* sp. nov. and *O. projecta* sp. nov. Only *O. limosina* (Snellen van Vollenhoven, 1865) in this group has completely rounded antennal segments. *O. bomberaiensis* sp. nov. differs from all other species by the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) morphology. It is narrow and elongate, longer than fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂).

Distribution: Fak Fak Mountains, Onin Peninsula in the west of Bomberai Peninsula.

***Ophiotettix brevicollis* sp. nov.** (Plate 105 figs 5-6, plate 109 figs 6-7, plate 113 figs 6-7, plate 117 figs 6-7, plate 121 fig. 4)

Holotype: ♂ BPBM: PAPUA NEW GUINEA, [Morobe Prov.], [Kuper Range], Wau, Mt. Missim [7°13'S 146°49'E], 1100 m, 17.I.1963, leg. H. W. Clissold.

Paratypes: 1♀, 1♂ (1/41, 2/41) BPBM: PAPUA NEW GUINEA, [Morobe Prov., Kuper Range, Wau], Mt. Missim [7°13'S 146°49'E], 1100 m, 22.II.1968, leg. P. Colman; 1♀, 1♂ (3/41-4/42) BPBM: PAPUA NEW GUINEA, Morobe Prov., [Kuper Range], Wau, Mt. Missim [7°13'S 146°49'E], 1100 m, 17.I.1963, leg. H. W. Clissold [both antennae lost]; 1♀ (5/41) BPBM: PAPUA NEW GUINEA, [Morobe Prov., Kuper Range, Wau], Mt. Missim, 7°13'S 146°98'E, 1500 m, leg. J. & M. Sedlacek; 1♀ (6/41) ANSP: PAPUA NEW GUINEA, [Morobe Prov., Kuper Range, Wau], Mt. Missim, [7°13'S 146°49'E], leg. Stevens; 1♀ (7/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, Nami Creek, 1700 m, 22.VIII.1963, leg. J. Sedlacek; 1♀ (8/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, Nami Creek, 1700 m, 17.V.1965, leg. J. Sedlacek; 2♀, 2♂ (9/41-12/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1200 m, 16.VI.1961, leg. J. Sedlacek, deposited in BMNH (9/41), [12/41 antennae lost]; 1♀ (13/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1200 m, 27.X.1961, leg. J. Sedlacek; 1♀ (14/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1200 m, 15.VIII.1961, leg. J. Sedlacek; 2♀ (15/41-16/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1200 m, 19.XI.1961, leg. J. H., J.




& M. Sedlacek, deposited in NCB-RMNH (16/41); 1♀ (17/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1270 m, 14.V.1962, leg. J. Sedlacek; 1♀ (18/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1200 m, 2.VI.1962, leg. J. Sedlacek; 1♂ (19/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1700 m, 7.II.1963, leg. J. Sedlacek, deposited in NCB-RMNH; 1♂ (20/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1250 m, 3.IV.1964, leg. J. Sedlacek; 1♀, 1♂ (21/41, 22/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1150-1600 m, 9.II.1968, leg. J. Sedlacek; 1♀ (23/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1700 m, 15.I.1969, leg. J. Sedlacek, deposited in ZFMK; 1♂ (24/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1700 m, 12.III.1969, leg. J. Sedlacek; 1♀ (25/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1750 m, 14.V.1969, leg. J. Sedlacek; 1♂ (26/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1700m, 21.VII.1969, leg. Y. Hirashima, deposited in ZFMK; 1♀ (27/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1100 - 1200 m, VII.1968, leg. N. L. H. Krauss; 1♀, 1♂ (28/41, 29/41), HNHM, New Guinea, NG.W C.17; 1♀ (30/41) MFN: PAPUA NEW GUINEA, Junzaing, I.1929, leg. E. Mayr; 1♀ (31/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Bulldog Road, S of Wau (collected on Evia spec.), 2700 - 2950 m, 1974, leg. J. L. Gressitt; 1♂ (32/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Kilolo Creek, 7 km W of Wau, 1070 m, 15.-25.VIII.1967, leg. Tawi, deposited in BMNH; 1♀ (33/41) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Garaina [7°53'S 147°08'E], 800 m, 16.I.1968, leg. J. & M. Sedlacek; 1♀ (34/41) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Garaina [7°53'S 147°08'E], 800 m, 29.XI.-17.XII.1969, leg. A. B. Mirza; 1♂ (35/41) BPBM: PAPUA NEW GUINEA, Kuper Range., 700 m, 24.I.1969, leg. J. Sedlacek; 2♂ (36/41-37/41) BMNH: PAPUA NEW GUINEA, Morobe Prov., Herzog Mts, Vagau [6°49'S 146°45'E], 4000 ft., 4.-17.I.1965, leg. M. E. Bacchus; 1♂ (38/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Aseki [7°21'S 146°12'E], 1100 m, 13.IV.1974, leg. J. L. Gressitt; 1♀ (39/41), BPBM; PAPUA NEW GUINEA, Morobe Prov., Aseki [7°21'S 146°12'E], 1100 m, 13.IV.1974, leg. R. Sakomdaru; 1♀, 1♂ (40/41-41/41) BPBM: PAPUA NEW GUINEA, Morobe Prov., Bulolo Gorge, ca. 800 m, 17.I.1962, leg. G. Monteith.

Additional material (all antennae lost or damaged or juvenile): 4♀, 1♀ nymph, 1♂ nymph BMNH: PAPUA NEW GUINEA, Mafulu, 4000 ft, I.1934, leg. L. E. Cheesman (NHMUK 010924382 - 010924387); 1♀ nymph BMNH: PAPUA NEW GUINEA, Kokoda [8°39'S 147°15'E], 1200 ft, VI.1933, leg. L.E. Cheesman (NHMUK 010924390); 1♂, 1♀ BMNH: PAPUA NEW GUINEA, Kokoda [8°39'S 147°15'E], 1200 ft, VIII.1933, leg. L.E. Cheesman (NHMUK 010924388 + 010924590389); 1♂, 3♀ nymphs BMNH: PAPUA NEW GUINEA, [Central Prov.], Mt. Tafa [8°38'S 147°11'E], 8500 ft, II.1934, leg. L. E: Cheesman; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 27.VI.1961, leg. J. H. Sedlacek; 1♂ nymph BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau [7°20'S 146°43'E], 1300 m, 26.-27.VII.1961, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 25.VIII.1961, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1050 m, 30.IX.1961, leg. J. H., J. & M. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1050 m, 2.X.1961, leg. J. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, Edie Ck. (M.V. Light Trap) [7°20'S 146°43'E], 2000 m, 4.-10.X.1961, leg. J. & J. H.Sedlacek; 1♀, 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 18.XII.1961, leg. L. W. Quate; 4♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 22.XII.1961, leg. J. H. & J. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200-1300 m, 4.II.1962, leg. G. Monteith; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 2.VI.1962, leg. J. Sedlacek; 1♀, 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 15.-30.IX.1962, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1700 m, 28.I.1963, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau Ck., 1500 m, 28.III.1963, leg. J. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 5.V.1963, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1300 m, 24.XI.1963, leg. J. L. Gressitt; 1♀, 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1250 m, 3.IV.1964, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, Nami Ck., 1700 m, 22.V.1965, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200-1300 m, IX.1965, leg. J. Sedlacek; 1♀ nymph BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200 m, 14.III.1966, leg. J. L. Gressitt; 1♀ nymph BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, Edie Ck., 1700 m, 2.IV.1966, leg. J. L. Gressitt; 1♀ nymph, 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1150-1600 m, 9.II.1968, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 1200-1500 m, VII.1968, leg. N. L. H. Krause; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Wau, 18.VI., leg. J. & M. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., [Kuper Range], Wau, Mt. Missim [7°13'S 146°49'E], 1650 m, 1.III.1963, leg. J. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, [Morobe Prov., Kuper Range, Wau], Mt. Missim [7°13'S 146°49'E], 1100 m, 22.II.1968, leg. P. Colman; 1♀ BPBM: PAPUA NEW GUINEA, [Morobe Prov., Kupfer Range, Wau], Mt. Missim (Primary forest under story), [7°13'S 146°49'E], 1600 m, leg. Thane Pratt; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Bulldog Road, 70 km S of Wau, 1100-1800 m, 22.-31.-V.1969, leg. J. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Bulldog Road, 60 km S of Wau, 2070 m, 22.-31.-V.1969, leg. J. Sedlacek; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Bulolo, 1700 m, 26.XI.1969, leg. J. & M. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., 20 km ESE Kaisenik (Longleef Pipturus) [7°28'S 146°56'E], 1500 m,




5.X.1974, leg. J. L. Gressitt; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Aseki (on Sloania) [7°21'S 146°12'E], 1100 m, 13.IV.1974, leg. J. L. Gressitt; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Mt. Shungol, Rari [6°52'S 146°43'E], 1250 m, 1.VI.1967, leg. J. L. Gressitt; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Garaina [7°53'S 147°08'E], 830 m, 15.I.1968, leg. J. & M. Sedlacek; 1♀, 2♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Garaina [7°53'S 147°08'E], 800 m, 16.I.1968, leg. J. & M. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Garaina [7°53'S 147°08'E], 550-750 m, 16.I.1968, leg. J. & M. Sedlacek; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Tapini [8°22'S 146°59'E], 1000-1100 m, 18.V.1961, leg. J. L. & M. Gressitt; 1♀ BMNH: PAPUA NEW GUINEA, Morobe Dist., Herzog Mts, Vagau Vagau [6°49'S 146°45'E], 4000 ft., 4.-17.I.1965, leg. M. E. Bacchus [antennae damaged]; 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Mt. Lawson, Camp 3 (on Trema orientalis) [7°44'S 146°37'E], 1400 m, 13.III.1974, leg. J. L. Gressitt; 1♂, 1♀ nymph BMNH: PAPUA NEW GUINEA, Morobe Prov., Mt. Missim, [7°13'S 146°49'E], 1900 m, 12.VII.1990, leg. G. W. Beccaloni (NHMUK 010924589 + 010924590).

Derivatio nominis: The specific epithet is a combination of two Latin words, one adjective and a noun - 'brevi-' being borrowed from Third declension adjective 'brevis, -e', meaning short, while 'collis' is ablative plural of the neuter gender second (-us) declension noun 'collum, -i, n.' meaning neck. Whole epithet thus means 'with short neck' and is plural noun in ablative. The species is named in such way because of the short head.

Description: Apical and subapical segments of the antennae black, other segments brownish. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together longer than the third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Only fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a protruding tip at the inner dorsal margin. This segment is widened towards the tip. Inner edge of the dorsal margin of the fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) runs backwards. Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina, in frontal view, deeper than the lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 6.64 mm, pronotum lobe width 3.0 mm, pronotum height 1.70 mm, hind femur length 6.40 mm, hind femur width 1.32 mm, vertex width 0.27 mm, eye width 0.59 mm, antenna length 6.15 mm, head length 3.90 mm, head index 1.19. Measurements paratypes 25♀: pronotum length (25♀): 7.41 - 9.10 mm, average 8.11 mm; pronotum lobe width (25♀): 3.4 - 3.75 mm, average 3.53 mm; pronotum height (24♀): 1.45 - 2.15 mm, average 1.59 mm; hind femur length (21♀): 6.63 - 8.19 mm, average 7.45 mm; hind femur width (21♀): 1.45 - 1.75 mm, average 1.61 mm; vertex width (25♀): 0.27 - 0.40 mm, average 0.35 mm; eye width (25♀): 0.55 - 0.64 mm, average 0.60 mm; antenna length (23♀): 5.85 - 7.15 mm, average 6.43 mm; head length (24♀): 3.0 - 4.65 mm, average 4.06 mm; head index (24♀): 1.1 - 1.45 mm, average 1.32 mm; Measurements, paratypes 16 ♂: pronotum length (16♂): 6.33-7.28 mm, average 6.79 mm; pronotum lobe width (16♂): 2.8-3.20 mm, average 3.02 mm; pronotum height (16♂): 1.25-1.75 mm, average 1.48 mm; hind femur length (10♂): 6.24-7.02 mm, average 6.54 mm; hind femur width (9♂): 1.32-1.50 mm, average 1.44 mm; vertex width (16♂): 0.27-0.37 mm, average 0.32 mm; eye width (16♂): 0.55-0.60 mm, average 0.58 mm; Antenna length (15♂): 5.59-7.15 mm, average 6.36 mm; head length (16♂): 3.6-4.10 mm, average 3.88 mm; head index (16♂): 1.05-1.50 mm, average 1.27 mm.

Differential diagnosis: *O. brevicollis* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and the upper edge of the fifth antennal segment from the tip is straight or curved backwards. The fourth antennal segment from the tip is widened in its whole length towards the tip. There are three other species with similar characters: *O. roesleri* sp. nov. (Brevicollis species group), *O. stallei* sp. nov. (Stallei species groups) and *O. subbrevicollis* sp. nov. (Brevicollis species group). All the mentioned species are very small in body size. *O. brevicollis* sp. nov. differs from *O. stallei* sp. nov. and *O. subbrevicollis* sp. nov. by the sixth antennal segment from the tip which is not widened with a recognizable edge. From *O. roesleri* sp. nov. it differs by the brightened tip of the fastigium and even smaller size.

Distribution: Kuper Range and north of Owen Stanley Range south to Tapini.

***Ophiotettix cheesmanae* sp. nov.** (Plate 105 fig. 7, plate 109 fig. 8, plate 113 fig. 8, plate 117 fig. 8, plate 121 fig. 5)

Holotype: ♀ BMNH: INDONESIAN NEW GUINEA, Yapen, Central Range, Mt. Oud, Camp 3 [1°44'50''S 136°12'07''E], 3500 ft., XI.1938, leg. L. E. Cheesman.




Derivatio nominis: Patronymic. The species is named after Lucy Evelyn Cheesman (1882-1969). This lovely British entomologist, anthropologist, polyglot, adventurer and heroine spent 12 years (during the 1920s and 1930s) travelling alone (without European colleagues) and investigating nature in the New Guinean Region, meeting local tribes and learning local languages. She was known among local tribes as 'the Woman Who Walks' and our favourite - 'the Lady of the Mountains'. She collected between 1924 and 1952 in eight expeditions in the South Pacific over 70000 specimens. We are honoured to work on the material she collected during her peculiar expeditions, and happy to dedicate this species to her. The specific epithet represents the genitive case of the first declension (a- declension, de facto only for feminine gender nouns) Latinized form of Lucy's surname 'Cheesmana, ae, f.' We decided to name this species from the high, inaccessible mountains of Yapen island In her honour - let it be an adventure to find the Giraffehopper of Lucy Evelyn again.

Description: Apical segments of the antennae pale (third segment from the tip to the half of its length). Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than the third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than the fourth segment from the tip (segments 12 in ♀♀, 11 in ♂♂). Only fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a protruding tip at the inner dorsal margin. Outer margin of this antennal segment lamellate and curved. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with brightened stripes. Visible part of the abdomen dark. Hind femur with one brightened patch at the dorsal margin close to the basis. Measurements holotype ♀: pronotum length 9.75 mm, pronotum lobe width 4.15 mm, pronotum height 2.20 mm, hind femur length 8.71 mm, hind femur width 1.75 mm, vertex width 0.43 mm, eye width 0.74 mm, antenna length 9.10 mm, head length 5.04 mm, head index 1.77.

Differential diagnosis: As a species with pale apical antennal segments and at least one antennal segment with a protruding tip at the inner margin at the fourth antennal segment from the tip *O. cheesmanae* sp. nov. is morphologically similar to *O. westwoodi* stat. rev. and *O. meggy* sp. nov. (together with this species belong to Westwoodi species group, including also *O. fritzpahli* sp. nov.). In *O. cheesmanae* sp. nov. the third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂m) is brightened to the half (in *O. westwoodi* stat. rev. only at the tip). The fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) in *O. meggy* bears a protruding edge at the inner dorsal margin (in *O. cheesmanae* sp. nov. not) and has distinct silver bristles on the apical antennal segments (*O. cheesmanae* sp. nov. does not have silver bristles).

Distribution: Only Mt. Oud on Yapen (or Japen, or Jobi) - collected during the hike to the highest point of Yapen island, in central parts of its mountains - at about 1100 m a.s.l.

***Ophiotettix depressa* sp. nov.** (Plate 105 figs 8-9, plate 109 figs 9-10, plate 113 figs 9-10, plate 117 figs 9-10, plate 121 fig. 6)

Holotype: ♂ MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Lordberg [4°50'S 142°29'E], 2.-4.XII.1912, leg. S. G. Bürgers.

Paratypes: 1♀ (1/4) MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Lordberg [4°50'S 142°29'E], 29.XI.-2.XII.1912, leg. S. G. Bürgers; 1♀ (2/4) MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Lordberg [4°50'S 142°29'E], 7.XII.1912, leg. S. G. Bürgers; 1♀ (3/4) MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Etappenberg [4°38'S 142°28'E], 800 m, 10.-12.XI.1912, leg. S. G. Bürgers; 1♀ (4/4) MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Gratlager, 1050 m, 18.-20.VIII.1912, leg. S. G. Bürgers.

Additional material: 1♀ nymph MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Gratlager, 1050 m, 18.-20.VIII.1912, leg. S. G. Bürgers.

Derivatio nominis: The species is named for the flattened pronotum. The specific epithet is Latin first and second declension adjective, 'depressus, -a, -um' in feminine gender, which is in fact participle of the passive voice of perfect tense of the verb 'deprimo, deprimere, depressi, depressum' - meaning to press down.

Description: Apical segments of the antennae brownish, other segments dark. No antennal segment broadly lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as the fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow and elongate. Sixth antennal segment from the




tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex deeper than the lateral carinae. Pronotum with broad yellow stripes. Last three segments of the visible part of the abdomen yellow. Measurements holotype ♂: pronotum length 7,93 mm, pronotum lobe width 3.25 mm, pronotum height 2.0 mm, hind femur length 8.71 mm, hind femur width 1.45 mm, vertex width 0.35 mm, eye width 0.68 mm, antenna length 7.67 mm, head length 4.50 mm, head index 1.3. Measurements paratypes 4♀: pronotum length (4♀): 8.71 - 10.92 mm, average 9.46 mm; pronotum lobe width (4♀): 3.6 - 4.35 mm, average 3.88 mm; pronotum height (4♀): 2.0 - 2.15 mm, average 2.10 mm; hind femur length (4♀): 9.1 - 9.88 mm, average 9.46 mm; hind femur width (4♀): 1.5 - 1.75 mm, average 1.64 mm; vertex width (4♀): 0.41 - 0.47 mm, average 0.44 mm; eye width (4): 0.64 - 0.70 mm, average 0.67 mm; antenna length (4♀): 8.45 - 10.01 mm, average 9.33 mm; head length (4♀): 4.45 - 5.36 mm, average 4.85 mm; head index (4♀): 1.23 - 1.68 mm, average 1.51 mm.

Differential diagnosis: *O. depressa* sp. nov. is one of the species with dark antennae and antennal segments with small margins but not lamellate or broadened. The other species of this group are: *O. scolopax* Bolívar, 1929, *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. filiforma* sp. nov., *O. luce* sp. nov., *O. mountnokensis* sp. nov. and *O. projecta* sp. nov. (listed here are members of Limosina species group, without *O. limosina*, species with rounded all the segments). *O. depressa* sp. nov. differs from *O. scolopax* in head index (>3 in *O. scolopax*) and in brightened tip of the fastigium. Also *O. filiforma* sp. nov. and *O. bewana* sp. nov. have dark tip of the fastigum. *O. depressa* sp. nov. differs from *O. luce* sp. nov. and *O. projecta* sp. nov. in the fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) morphology - straight or curved backwards. The fourth antennal segment from the tip is in *O. luce* sp. nov. is widened towards the tip. *O. projecta* sp. nov. has fastigium protruded in front of the eyes (in lateral view). In *O. bomberaiensis* sp. nov. the fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) is longer than the fifth antennal segment from the tip. In *O. bewana* sp. nov. and *O. mountnokensis* sp. nov. lateral carinae of the vertex are convergent to the tip, not parallel.

Distribution: Upper Sepik region, basin of the April River.

***Ophiotettix filiforma* sp. nov.** (Plate 105 figs 10-11, plate 109 figs 11-12, plate 113 figs 11-12, plate 117 figs 11-12, plate 121 fig. 7, plate 124 figs 4-5)

Holotype: ♂ BPBM: PAPUA NEW GUINEA, [East Sepik Prov.], Bainyik, nr. Maprik [3°40'S 143°03'E], 225 m, 20.–21.VI.1961, leg. J. L. & M. Gressitt.

Paratypes: 1♂ (1/18) BPBM: PAPUA NEW GUINEA, East Sepik Prov., Maprik [3°38'S 143°03'E], 160 m, 14.X.1957, leg. J. L. Gressitt, deposited in ZFMK (1/18); 1♀ (2/18) BPBM: PAPUA NEW GUINEA, East Sepik Prov., Maprik [3°38'S 143°03'E], 160 m, 15.X.1957, leg. J. L. Gressitt [antennae lost]; 1♀ (3/18) AMS: PAPUA NEW GUINEA, East Sepik Prov., Bainyik [3°40'S 143°03'E], 20.XII.1963, leg. D. K. McAlpine [antennae lost]; 1♂ (4/18) AMS: PAPUA NEW GUINEA, East Sepik Prov., Bainyik [3°40'S 143°03'E], 21.XII.1963, leg. D. K. McAlpine; 3♀, 5♂ (5/18–12/18) BPBM: INDONESIAN NEW GUINEA, Genjam, 40 km W of Hollandia [2°46'S 140°12'E], 100 - 200 m, 1.–10.III.1960, leg. T. C. Maa, deposited in NCB–RMNH (9/18) and BMNH (10/18), [1♀ antennae lost]; 1♀ (13/18) BPBM: PAPUA NEW GUINEA, Sepik Distr., Wewak [3°35'S 143°37'E], 30 m, 26.VI.1961, leg. J. L. & M. Gressitt, deposited in NCB–RMNH (13/18); 1♀ (14/18) BPBM: INDONESIAN NEW GUINEA, Bodem [1°58'S 138°44'E], 10.–17. VII.1959, leg. T. C. Maa, deposited in ZFMK (14/18); 1♂ (15/18) BPBM: INDONESIAN NEW GUINEA, Bodem, 11 km SE of Oerberfaren [1°58'S 138°44'E], 100 m, 7.–17.VII.1959, leg. T. C. Maa; 1♂ (16/18) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450 - 500 m, 1.–7.VIII.1959, leg. T. C. Maa; 1♀ (17/18) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450 - 500 m, 16.–23.VIII.1959, leg. T. C. Maa, deposited in ZFMK; 1♂ (18/18) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450 - 500 m, 24.–31. VIII.1959, leg. T. C. Maa.

Additional material: 1♀ BMNH: INDONESIAN NEW GUINEA, Njau–limon, 300 ft., II.1936, leg. L. E. Cheesman (NHMUK 10924621); 1♀ nymph, 2♂ nymphs BPBM: INDONESIAN NEW GUINEA, Genjam, 40 km W of Hollandia [2°46'S 140°12'E], 100 - 200 m, 1.–10. III.1960, leg. T. C. Maa. 1♂, INDONESIAN NEW GUINEA, Kali Biru, 2°30.866'S 140°08.739'E, 40 m, photos by David Price.

Note: Specimens from the Cyclops Mountains seem to be different species closely related in morphology to *O. filiforma* sp. nov. They have shorter antennae and apical segments differ in morphology. It is not possible here to describe those specimens as a new species until longer series from *O. filiforma* sp. nov. and from the Cyclops Mountains are gathered. Following specimens originated from Cyclops Mountains:

1♂ BPBM: INDONESIAN NEW GUINEA, Hollandia Area, W. Sentani, Cyclops Mountains, [2°36'S 140°37'E], 200–




1000 m, 16.–18.VI.1959, leg. J. L. Gressitt [antennae lost]; 1♀, 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Hollandia Area, W. Sentani, Cyclops Mountains, [2°36'S 140°37'E], 150–250 m, 17.VI.1959, leg. J. L. Gressitt; 1♀, BPBM INDONESIAN NEW GUINEA, Hollandia Area, W. Sentani, Cyclops Mountains, [2°36'S 140°37'E], 150–250 m, 18.VI.1959, leg. J. L. Gressitt; 1♀ BPBM: INDONESIAN NEW GUINEA, Hollandia Area, W. Sentani, Cyclops Mountains, [2°36'S 140°37'E], 150–250 m, 18.VI.1959, leg. T. C. Maa; 1♀, 1♂ BPBM: INDONESIAN NEW GUINEA, Sentani, [2°36'S 140°37'E], 90+ m, 16.VI.1959, leg. T. C. Maa [♀ antennae lost]; 2♀ ZSM: INDONESIAN NEW GUINEA, Cyclops Mts., Jayapura, Sentani, [2°36'S 140°37'E], 300 m, 19.–21.IX.1990, leg. A. Riedel [antennae lost].

Derivatio nominis: The specific epithet is first and second. Latin declension adjective (filiformus, -a, -um) derived from the third Latin declension adjective (filiformis, -e). The species bears this epithet because of the filiform slender and elegant antennae.

Description: Antennal segments from dark (apical segments) to brownish (basal segments). No antennal segment broadened lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow and elongated. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark with an exception (paratype 17/18 has bright fastigium). Median carina of the vertex as high as lateral carinae. Pronotum with broad yellow stripes. Visible part of the abdomen yellow or partially yellow. Dorsal margins of all legs yellow. Measurements holotype ♂: pronotum length 7.93 mm, pronotum lobe width 3.55 mm, pronotum height 1.90 mm, hind femur length 7.93 mm, hind femur width 1.45 mm, vertex width 0.35 mm, eye width 0.64 mm, antenna length 6.89 mm, head length 4.70 mm, head index 1.9. Measurements paratypes 8♀: pronotum length (8♀): 8.49 - 11.05 mm, average 9.92 mm; pronotum lobe width (8♀): 3.8 - 4.40 mm, average 4.09 mm; pronotum height (8♀): 1.85 - 2.30 mm, average 2.16 mm; hind femur length (8♀): 8.19 - 9.75 mm, average 9.10 mm; hind femur width (8♀) 1.6 - 1.75 mm, average 1.67 mm; vertex width (8♀): 0.37 - 0.47 mm, average 0.43 mm; eye width (8♀): 0.60 - 0.68 mm, average 0.65 mm; antenna length (4♀): 7.93 - 8.58 mm, average 8.29 mm; head length (8♀): 4.8 - 5.52 mm, average 5.22 mm; head index (8♀): 1.91 - 2.43 mm, average 2.17 mm. Measurements paratypes 11♂: pronotum length (11♂): 7.41 - 10.14 mm, average 8.20 mm; pronotum lobe width (11♂): 3.35 - 4.20 mm, average 3.62 mm; Pronotum height (11): 1.55 - 2.25 mm, average 1.90 mm; hind femur length (11♂): 7.67 - 8.45 mm, average 8.08 mm; hind femur width (11♂): 1.35 - 1.70 mm, average 1.51 mm; vertex width (11♂): 0.35 - 0.45 mm, average 0.41 mm; eye width (11♂): 0.59 - 0.66 mm, average 0.64 mm; antenna length (10♂): 6.89 - 8.19 mm, average 7.58 mm; head length (11♂): 4.5 - 5.28 mm, average 4.90 mm; head index (11♂): 1.78 - 2.19 mm, average 2.0 mm.

Differential diagnosis: *O. filiforma* sp. nov. is one of the species with dark antennae and antennal segments with small margins, not lamellate or broadened. Other species of this group are: *O. scolopax* Bolívar, 1929, *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. depressa* sp. nov., *O. luce* sp. nov., *O. mountnokensis* sp. nov. and *O. projecta* sp. nov. (all listed species, including *O. filiforma* sp. nov. are members of the Limosina species group, characteristic in slender antennae). Together with *O. scolopax* and *O. bewana* sp. nov., *O. filiforma* sp. nov. is the only species with dark tip of the fastigium. *O. filiforma* sp. nov. differs from *O. scolopax* in head index (>3 in *O. scolopax*) and from *O. bewana* by the parallel lateral carinae of the vertex. As in *O. projecta* sp. nov., in *O. filiforma* two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) are together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). *O. projecta* sp. nov. differs by its fastigium protruded in front of the eyes (in lateral view).

Distribution: Lowland at the Northcoast of Indonesian New Guinea and Papua New Guinea.

***Ophiotettix flyriveriensis* sp. nov.** (Plate 105 figs 12-13, plate 109 figs 13-14, plate 113 figs 13-14, plate 121 figs 13-14, plate 121 fig. 8)

Holotype: ♂ BPBM: PAPUA NEW GUINEA, [Western Prov.], Kiunga [6°07'S 141°18'E], 35 m, VIII.1969, leg. J. & M. Sedlacek.

Paratypes: 5♀, 8♂ (1/24-13/24) BPBM: PAPUA NEW GUINEA, [Western Prov.], Kiunga [6°07'S 141°18'E], 35 m, VIII.1969, leg. J. & M. Sedlacek, deposited in NCB-RMNH (7/24), ZFMK (8/24) and BMNH (10/24) [5♀, 4♂ antennae lost]; 7♀ (14/24-20/24) BPBM: PAPUA NEW GUINEA, [Western Prov.], Olsobip [5°23'S 141°32'E], 400-600 m, VIII.1969, leg. J. & M. Sedlacek, deposited in BMNH (15/24) and NCB-RMNH (20/24) [4♀ antennae

lost]; 3♀ (21/24-23/24) BPBM: PAPUA NEW GUINEA, [Western Prov.], Olsobip [5°23'S 141°32'E], 400 m, 28.VIII.1969, leg. J. & M. Sedlacek, deposited in ZFMK (21/24) [1♀ antennae lost]; 1♀ (24/24) AMS: PAPUA NEW GUINEA, [Western Prov.], Matkomrae village approx 50 km N of Kiunga (5°49'S 141°09'E), 60 m, 3.X.1993, leg. M. S. Moulds & S. Cowan.
Additional material: 1♀, 1♂ nymph BPBM: PAPUA NEW GUINEA, [Western Prov.], Kiunga [6°07'S 141°18'E], 35 m, VIII.1969, leg. J. & M. Sedlacek [♀ head damaged].

Derivatio nominis: Toponymic. The species is named after the region of its type locality - the adjective was derived from 'Fly' + 'River+' + '-ensis'. The specific epithet is third Latin declension adjective in feminine gender (flyriveriensis, -e).
Description: Antennal segments dark. Third to sixth antennal segments (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) broadened lamellate. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together as long as fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) lamellate and curved, with a tip at the inner dorsal margin. The dorsal 1/4 of this segment convergent towards the tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with narrow whitish bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen partially yellow. Hind femora predominantly yellow. Apical segments of a specimen from Matkomrae village lighter brownish and narrower, neck somewhat narrower and more curved. Measurements are within the variation of *O. flyriveriensis* sp. nov. We assign this specimen to *O. flyriveriensis* sp. nov. More specimens from this region will show the true taxonomic and evolutionary status of the population. Measurements holotype ♂: pronotum length 8.71 mm, pronotum lobe width 3.45 mm, pronotum height 1.85 mm, hind femur length 8.97 mm, hind femur width 1.60 mm, vertex width 0.39 mm, eye width 0.68 mm, antenna length 10.40 mm, head length 5.05 mm, head index 1.92. Measurements paratypes 16♀: pronotum length (16♀): 8.45 - 10.53 mm, average 9.57 mm; pronotum lobe width (16♀): 3.6 - 4.20 mm, average 3.86 mm; pronotum height (16): 1.9 - 2.40 mm, average 2.17 mm; hind femur length (14): 8.84 - 10.27 mm, average 9.67 mm; hind femur width (14♀): 1.60 - 1.85 mm, average 1.70 mm; vertex width (16♀): 0.43 - 0.53 mm, average 0.49 mm; eye width (16♀): 0.64 - 0.74 mm, average 0.67 mm; antenna length (4♀): 8.32 - 10.27 mm, average 9.43 mm; head length (16♀): 5.04 - 5.68 mm, average 5.40 mm; head index (16♀): 1.75 - 2.09 mm, average 1.84 mm. Measurements paratypes 9♂: pronotum length (8♂): 8.32 - 9.10 mm, average 8.82 mm; pronotum lobe width (9♂): 3.4 - 3.65 mm, average 3.49 mm; pronotum height (9♂): 1.75 - 2.05 mm, average 1.90 mm; hind femur length (9♂): 8.84 - 9.62 mm, average 9.30 mm; hind femur width (9♂): 1.5 - 1.65 mm, average 1.57 mm; vertex width (9♂): 0.39 - 0.53 mm, average 0.48 mm; eye width (9♂): 0.62 - 0.72 mm, average 0.66 mm; antenna length (5♂): 9.23 - 10.79 mm, average 10.19 mm; head length (9♂): 4.96 - 5.52 mm, average 5.21 mm head index (9♂): 1.79 - 2.13 mm, average 1.94 mm.
Differential diagnosis: *O. flyriveriensis* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with straight or backwards curved dorsal margin. The dorsal 1/4 of the fourth antennal segment from the tip length parallel or convergent towards the tip and third antennal segment from the tip does not bear protruded tip. *O. flyriveriensis* sp. nov. is close in morphology to *O. lorentzi* Bolívar, 1929 (Lorentzi species group), *O. kaitani* sp. nov., *O. katharinae* sp. nov., *O. karimuiensis* sp. nov. and *O. quateorum* sp. nov. (Katharinae species group), but differs from those species by three apical antennal segments, which are together as long as fourth antennal segment from the tip.
Distribution: Upper Fly River in Western Province of Papua New Guinea.

***Ophiotettix fritzpahli* sp. nov.** (Plate 105 figs 14-15, plate 109 figs 15-16, plate 113 figs 15-16, plate 117 figs 15-16, plate 121 fig. 9)

Holotype ♂ NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 7.III.1939, leg. L. J. Toxopeus.
Paratypes: 2♀ (1/18–2/18) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1150 m, 13.II.1939, leg. L. J. Toxopeus [2/18 antennae lost]; 1♂ (3/18) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1200 m, 14.II.1939, leg. L. J. Toxopeus, deposited in BMNH [antennae lost]; 1♂ (4/18) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1200



m, 3.III.1939, leg. L. J. Toxopeus, deposited in BPBM [antennae lost]; 1♂ (5/18) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1200 m, 5.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♀ (6/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 3.III.1939, leg. L. J. Toxopeus, deposited in BMNH; 1♀ (7/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 4.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♂, 1♀ nymph (8/18–9/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 6.III.1939, leg. L. J. Toxopeus [♂ antennae lost]; 2♀, 1♂ (10/18–12/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 12.III.1939, leg. L. J. Toxopeus, deposited in ZFMK (10/18 + 12/18), [1♀ antennae lost]; 1♀ (13/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 16.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♀ (14/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 17.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♀ (15/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 24.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♀ (16/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 25.III.1939, leg. L. J. Toxopeus [antennae lost]; 1♀ (17/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 26.III.1939, leg. L. J. Toxopeus, deposited in BPBM; 1♀ (18/18) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 3.IV.1939, leg. L. J. Toxopeus [antennae lost].

Additional material: 1♀ nymph NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 12.III.1939, leg. L. J. Toxopeus [antennae lost].

Derivatio nominis: Patronymic. The specific epithet is genitive case of the second Latin declension (-us declension) masculine noun derived from combination of name and surname (Fritzpahlus, -i, m.) The species is dedicated to late Fritz Pahl, a very good friend of Tumbrincks' family, who died in his 88th year in 2016.

Description: Apical segments of the antennae pale (third segment from the tip pale in more than half of its length and fourth segment from the tip only a little bit). No antennal segment with a clear tip at the inner margin, but antennal segments third to sixth from the tip (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) broadened and lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) lamellate and curved, with somewhat protruded edge at the inner dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) widened, with a recognizable edge, broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with narrow whitish bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 8.71 mm, pronotum lobe width 3.65 mm, pronotum height 2.15 mm, hind femur length 8.32 mm, hind femur width 1.65 mm, vertex width 0.49 mm, eye width 0.74 mm, antenna length 9.62 mm, head length 4.80 mm, head index 1.7. Measurements paratypes 12♀: pronotum length (12♀): 8.71 - 10.79 mm, average 10.11 mm; pronotum lobe width (12♀): 3.65 - 4.35 mm, average 4.09 mm; pronotum height (12♀): 2.2 - 2.65 mm, average 2.44 mm; hind femur length (10♀): 8.45 - 9.62 mm, average 9.28 mm; hind femur width (10♀): 1.65 - 1.85 mm, average 1.76 mm; vertex width (12♀): 0.47 - 0.57 mm, average 0.52 mm; eye width (12♀): 0.64 - 0.72 mm, average 0.68 mm; antenna length (3♀): 9.36 - 10.53 mm, average 9.92 mm; head length (12♀): 4.95 - 5.44 mm, average 5.22 mm; head index (12♀): 1.64 - 1.87 mm, average 1.73 mm. Measurements paratypes 6♂: pronotum length (6♂): 8.06 - 8.84 mm, average 8.56 mm; pronotum lobe width (6♂): 3.45 - 3.80 mm, average 3.60 mm; pronotum height (6♂): 1.7 - 2.15 mm, average 1.95 mm; hind femur length (4♂): 8.32 - 8.58 mm, average 8.45 mm; hind femur width (4♂): 1.5 - 1.65 mm, average 1.59 mm; vertex width (6♂): 0.43 - 0.51 mm, average 0.48 mm; eye width (6♂): 0.64 - 0.74 mm, average 0.68 mm; antenna length (2♂): 9.62 - 10.66 mm, average 10.14 mm; head length (6♂): 4.55 - 5.0 mm, average 4.80 mm; head index (6♂): 1.5 - 1.71 mm, average 1.64 mm.

Differential diagnosis: As a species with pale apical antennal segments and no antennal segment with a protruding tip at the inner margin *O. fritzpahli* sp. nov. (we tentatively put this species within Westwoodi species group but it shows intermediate characters between this group and Pulcherrima species group) is near to *O. pulcherrima* sp. nov. and *O. rebrinae* sp. nov. (both members of the Pulcherrima species group). It differs from these species easily deep vertex and dark tip of the




fastigium.
Distribution: Upper Mamberamo River.

***Ophiotettix hansscholteni* sp. nov.** (Plate 105 fig. 16, plate 109 figs 17-18, plate 113 figs 17-18, plate 117 figs 17-18, plate 121 fig. 10)

Holotype ♂ SMTD: PAPUA NEW GUINEA, [West Sepik Prov.], Torricelli Gebirge, 780 m, 1910, leg. Dr. Schlaginhaufen.
Paratypes: 1♀ (1/3) NCB–RMNH: PAPUA NEW GUINEA, [West Sepik Prov.], Torricelli Gebirge, 780 m, 1910, leg. Dr. Schlaginhaufen; 1♀ (2/3) SMTD: PAPUA NEW GUINEA, [West Sepik Prov.], Torricelli Gebirge, 780 m, 1910, leg. Dr. Schlaginhaufen; 1♂ (3/3) NCB–RMNH: PAPUA NEW GUINEA, [West Sepik Prov.], Torricelli Gebirge, 900 m, 1910, leg. Dr. Schlaginhaufen, deposited in ZFMK.
Additional material: 1♀, 1♂ BMNH: PAPUA NEW GUINEA, [West Sepik Prov.], 15 miles south of Paup [3°29'S 142°35'E], 1700 ft, 4.–12.III.1939, leg. G. P. Moore (NHMUK 010924586, NHMUK 010924585) [antennae damaged]; 1♂ BMNH: PAPUA NEW GUINEA, [West Sepik Prov.], 15 miles south of Paup [3°29'S 142°35'E], 1700 ft, 4.–12.III.1939, leg. G. P. Moore (NHMUK 010924592) [antennae lost].

Derivatio nominis: The specific epithet is second (-us) Latin declension noun in masculine gender, derived from the name and surname combination (Hannsscholtenus, -i, m.) The species is dedicated to Hans Scholten, the president of Naturschutzbund Deutschland (NABU) from 1984 - 1988.
Description: Antennal segments of dark brownish. No antennal segments lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow, widened towards the tip and with little bit protruded edge at the inner dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with narrow whitish bristles. Lateral carinae of the vertex run parallel. Lateral carinae of the vertex and median carina brightened. Vertex, in frontal view, flattened, median carina as high as lateral carinae. Pronotum with yellow lateral parts and infrascapular area. Visible part of the abdomen predominant yellow. Hind femur partially yellow. Measurements holotype ♂: pronotum length 8.45 mm, pronotum lobe width 3.50 mm, pronotum height 1.75 mm, hind femur length 8.45 mm, hind femur width 1.45 mm, vertex width 0.39 mm, eye width 0.66 mm, antenna length 7.80 mm, head length 5.12 mm, head index 1.91. Measurements paratype ♀ (1/3): pronotum length 11.05 mm, pronotum lobe width 4.25 mm, pronotum height 2.10 mm, hind femur length 9.23 mm, hind femur width 1.65 mm, vertex width 0.41 mm, eye width 0.68 mm, antenna length 9.23 mm, head length 5.60 mm, head index 2.13. Measurements paratype ♀ (2/3): pronotum length 10.01 mm, pronotum lobe width 4.25 mm, pronotum height 2.35 mm, hind femur length 9.49 mm, hind femur width 1.60 mm, vertex width 0.43 mm, eye width 0.68 mm, antenna length 8.45 mm, head length 5.60 mm, head index 2.08. Measurements paratype ♂ (3/3): pronotum length 8.06 mm, pronotum lobe width 3.55 mm, pronotum height 2.0 mm, hind femur length 8.71 mm, hind femur width 1.45 mm, vertex width 0.41 mm, eye width 0.72 mm, antenna length 7.54 mm, head length 5.20 mm, head index 2.26.
Differential diagnosis: Together with *O. parvicollis* sp. nov. (Brevicollis species group) this is the only species without lamellate antennal segments, but a small tip or protruding edge at the dorsal inner margin of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂). It differs from this species easily by the longer neck (head index of *O. parvicollis* sp. nov. <1). This species is the only representative of the Hansscholteni species group.
Distribution: Torricelli Mountains.

***Ophiotettix imbiana* sp. nov.** (Plate 105 fig. 17, plate 109 fig. 19, plate 113 fig. 19, plate 117 fig. 19, plate 121 fig. 11)

Holotype ♂ AMS: PAPUA NEW GUINEA, [East Sepik Prov.], Imbia near Maprik [3°37'S 143°04'E], 19.XII1963, leg. D. K. McAlpine.

Derivatio nominis: the specific epithet is Latin first and second declension adjective derived from the type locality name (imbianus, -a. –um). The species is named after Imbia, its type locality.
Description: Antennal segments dark. Apical segments lighter brownish, but not pale (second antennal segment partially). Nodes of the basal antennal segments paler. Third to sixth antennal segments from the tip (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) broadened and lamellate. Fourth and fifth antennal segment with a clear tip at the inner margin (segments 11+12 in ♀♀, 10+11 in ♂♂). Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in




♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Outer margin of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) low, but distinctly lamellate and curved. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) widened, bearing a recognizable edge, as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 8.19 mm, pronotum lobe width 3.60 mm, pronotum height 1.60 mm, hind femur length 7.41 mm, hind femur width 1.50 mm, vertex width 0.33 mm, eye width 0.62 mm, antenna length 8.32 mm, head length 4.40 mm, head index 1.57.

Differential diagnosis: *O. imbiana* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with lateral edge projected into spine or acute angle. Sixth antennal segment from tip is not broadly lamellate. *O. imbiana* sp. nov. is close in morphology to *O. modesta* stat. rev., *O. rohwedderi* sp. nov., *O. schapinae* sp. nov. and *O. tenuis* sp. nov. all of the listed species are members of the Buergersi species group. *O. imbiana* sp. nov. differs from *O. schapinae* sp. nov. and *O. tenuis* sp. nov. by deep vertex. Sixth antennal segments from the tip is in *O. modesta* stat. rev. and *O. rohwedderi* sp. nov. not widened with recognizable edges as in *O. imbiana* sp. nov..

Distribution: Imbia near Maprik.

***Ophiotettix kaitani* sp. nov.** (Plate 106 figs 1-2, plate 110 figs 1-2, plate 114 figs 1-2, plate 118 figs 1-2, plate 121 fig. 12)

Holotype ♂, BYUC, PAPUA NEW GUINEA, Morobe Prov., Environment of Lae [6°44'S 146°58'E], VIII.1960, leg. J. Goddard.

Paratypes: 1♀ (1/13), BYUC, PAPUA NEW GUINEA, Morobe Prov., Environment of Lae [6°44'S 146°58'E], VIII.1960, leg. J. Goddard; 1♂ (2/13) ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden) [6°40' S 146°55'E], 6.VIII.1957, leg. J. H. Ardley; 1♀ (3/13) ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden) [6°40' S 146°55'E], 19.VIII.1957, leg. J. H. Ardley; 1♀ (4/13) ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia, 27.VIII.1957, leg. J. H. Ardley; 1♀ (5/13) BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae, Busu River [6°43' S 147°03'E], 24.V.1968, leg. J. Sedlacek; 1 ♀ (6/13) BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae, Busu River [6°43' S 147°03'E], 100 m, 15.IX.1955, leg. J. L. Gressitt, deposited in NCB–RMNH; 1♀ (7/13) BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae Area, Bubia (Metroxylon) [6°40'S 146°55'E], 5 - 15 m, 22.VII.1959, leg. J. L. Gressitt; 1♀, 2♂ (8/13–10/13), PERC, PAPUA NEW GUINEA, Morobe Prov., Lae [6°44'S 146°58'E], VII.1944, leg. F. E. Skinner, deposited in ZFMK (10/18); 2♀ (11/13–12/13) BPBM: PAPUA NEW GUINEA, Morobe Prov., 6 mi. N. W. of Lae [6°40'S 146°55'E], 9.VIII.1957, leg. D. E. Hardy, deposited in ZFMK (11/13) and BMNH (12/18); 1♂ (13/13) BPBM: PAPUA NEW GUINEA, Morobe Prov., Zenag–Lae Road [6°45'S 146°40'E], 200 m, 17.I.1965, leg. J. Sedlacek.

Additional material [all specimens antennae lost]: 1♀ ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden) [6°40' S 146°55'E], 28.V.1957, leg. J. H. Ardley; 1♂ ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden), 28.VII.1957, leg. J. H. Ardley; 1♀ ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden) [6°40' S 146°55'E], 31.VII.1957, leg. J. H. Ardley; 1♂ ANIC: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia (native garden) [6°40' S 146°55'E], 6.VIII.1957, leg. J. H. Ardley; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae, Busu River [6°43'S 147°03'E], 50 m, 14.I.1965, leg. J. Sedlacek; 3♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae, Bubia, Markham Valley [6°40'S 146°30'E], 50 m, 19.IX.1955, leg. J. L. Gressitt; 1♀, PAPUA NEW GUINEA, Morobe Prov., Lae [6°44'S 146°58'E], VII.1944, leg. F. E. Skinner (TUMBRINCK); 1♂ BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae, Singuawa R. (6°41'S 147°10'E) (primary forest), 4.IV.1966, leg. Gressitt & Wilkes; 1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Lae [6°44'S 146°58'E], 20 m, 11.IX.1962, leg. J. Sedlacek.

Derivatio nominis: The specific epithet is second Latin declension male noun in the genitive, derived from combination of name and surname (Kaitanus, -i, m.). The species in dedicated to our young colleague, Kai Ming Tan, famous entomologist (primarily orthopterist) from Singapore who has been making comprehensive revision of SE Asian taxa for a few years already.

Description: Antennal segments dark. Apical segments partially light brownish, but not pale. Fourth to sixth antennal segments (segment 11+12+13 in ♀♀, 10+11+12 in ♂♂) broadened and lamellate. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). The dorsal 1/4 of fourth segment directed parallel towards the tip. Sixth antennal




segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with narrow whitish bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen partially yellow. Hind femora predominantly yellow. Measurements holotype ♂: pronotum length 8.45 mm, pronotum lobe width 3.35 mm, pronotum height 1.95 mm, hind femur length 8.32 mm, hind femur width 1.55 mm, vertex width 0.31 mm, eye width 0.64 mm, antenna length 7.80 mm, head length 4.75 mm, head index 1.55. Measurements paratypes 9♀: pronotum length (9♀): 8.84 - 10.79 mm, average 9.58 mm; pronotum lobe width (9♀): 3.55 - 3.95 mm, average 3.72 mm; pronotum height (9♀): 1.95 - 2.40 mm, average 2.14 mm; hind femur length (9♀): 8.45 - 9.49 mm, average 8.93 mm; hind femur width (9♀): 1.65 - 1.75 mm, average 1.72 mm; vertex width (9♀): 0.33 - 0.43 mm, average 0.40 mm; eye width (9♀): 0.57 - 0.72 mm, average 0.64 mm; antenna length (9♀): 7.28 - 9.88 mm, average 8.62 mm; head length (9♀): 4.75 - 5.36 mm, average 4.93 mm; head index (9♀): 1.56 - 1.86 mm, average 1.70 mm. Measurements paratypes 5♂: Pronotum length (5♂): 7.8 - 8.97 mm, average 8.37 mm; pronotum lobe width (5♂): 3.25 - 3.49 mm, average 3.33 mm; pronotum height (5♂): 1.8 - 2.0 mm, average 1.90 mm; hind femur length (4♂): 8.06 - 8.32 mm, average 8.26 mm; hind femur width (4♂): 1.55 - 1.60 mm, average 1.56 mm; vertex width (5♂): 0.31 - 0.43 mm, average 0.39 mm; eye width (5♂): 0.59 - 0.64 mm, average 0.61 mm; antenna length (5♂): 7.8 - 9.10 mm, average 8.35 mm; head length (5♂): 4.5 - 4.75 mm, average 4.63 mm; head index (5♂): 1.55 - 1.90 mm, average 1.68 mm.

Differential diagnosis: *O. kaitani* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with dorsal margin straight or curved backwards. The dorsal 1/4 of the segment's length of fourth antennal segment from the tip directed parallel or convergent towards the tip, and third antennal segment from the tip without long protruded tip. *O. kaitani* sp. nov. is morphologically similar to *O. lorentzi* Bolívar, 1929 (Lorentzi species group), *O. flyriveriensis* sp. nov., *O. katharinae* sp. nov., *O. karimuiensis* sp. nov. and *O. quateorum* sp. nov. (Katharinae species group). The species can be distinguished from *O. lorentzi, O. katharinae* sp. nov. and *O. quateorum* sp. nov. by fourth antennal segment from the tip morphology - dorsal margin has more or less long and acute tip and is not straight or only with a protruding edge. It differs from *O. karimuiensis* sp. nov. by two apical antennal segments which are together shorter than third antennal segment from the tip (not as long as). It differs from *O. flyriveriensis* sp. nov. by three apical antennal segments together longer than fourth antennal segment from the tip (not as long as).

Distribution: Environment of Lae.

***Ophiotettix karimuiensis* sp. nov.** (Plate 106 figs 3-4, plate 110 figs 3-4, plate 114 figs 3-4, plate 118 figs 3-4, plate 121 fig. 13)

Holotype ♂ BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 2.–3.VI.1961, leg. J. L. Gressitt.

Paratypes: 2♀ (1/22–2/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 2.–3.VI.1961, Malaise trap, leg. J. L. Gressitt, deposited in NCB–RMNH (1/22); 1♀ (3/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 3.VI.1961, leg. J. L. Gressitt; 1♂ (4/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 3.VI.1961, leg. J. L. & M. Gressitt, deposited in NCB–RMNH; 1♂ (5/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 4.VI.1961, leg. J. L. & M. Gressitt, deposited in BMNH; 1♀ (6/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 4.VI.1961, 1000 m, Malaise trap, leg. J. L. & M. Gressitt; 1♀, 3♂ (7/22–10/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 4.VI.1961, leg. J. L. Gressitt, deposited in NCB–RMNH (9/22); 2♀ (11/22–12/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, South of Goroka, 1000 m, [6°30'S 144°51'E], 4.VI.1961, leg. J. L. & M. Gressitt, deposited in ZFMK (11/22); 6♀, 1 ♂ (13/22–19/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, South of Goroka, 1000 m [6°30'S 144°51'E], 5.VI.1961, leg. J. L. & M. Gressitt, deposited in BMNH (18/22); 1♀ (20/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, 1080 m [6°30'S 144°51'E], 8.–10.VII.1963, leg. J. Sedlacek; 1♀ (21/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, 1080 m [6°30'S 144°51'E], 13.VII.1963, leg. J. Sedlacek; 1♂ (22/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Mt. Karimui, 1000 m [6°30'S 144°51'E], 16.–20.IV.1977, leg. J. L. Gressitt.

Additional material [all adult specimens antennae lost]: 1♀ BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, South of Goroka, 1000 m [6°30'S 144°51'E], 2.VI.1961, leg. J. L. & M. Gressitt; 1♀, 1♂, 1♀ nymph BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 2.–3.VI.1961, leg. J. L. Gressitt & M. Thompson; 1♀ nymph BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 2.–3. VI.1961, Light Trap, leg. J. L. & M. Gressitt; 1♀, 2♂



BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 2.–3.VI.1961, Malaise Trap, leg. J. L. Gressitt; 1♀ BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 4.VI.1961, Malaise Trap, leg. J. L. & M. Gressitt; 1♀ BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, South of Goroka, 1000 m [6°30'S 144°51'E], 4.VI.1961, leg. J. L. & M. Gressitt; 4♀, 2♂, 1♂ nymph BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui [6°30'S 144°51'E], 4.VI.1961, leg. J. L. Gressitt; 1♂ (20/22) BPBM: PAPUA NEW GUINEA, Chimbu Prov., Karimui, 1080 m [6°30'S 144°51'E], 8.–10.VII.1963, leg. J. Sedlacek.

Derivatio nominis: The specific epithet is third Latin declension adjective in feminine gender, derived from the type locality toponym (karimuiensis, -e), Karimui.

Description: Antennal segments dark brown. Fourth and fifth antennal segments from the tip (segments 12+13 in ♀♀, 11+12 in ♂♂) broadly lamellate. Only fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with a distinct protruded tip at inner margin. Inner dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) curved backwards. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). The dorsal 1/4 of fourth segment parallel. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with some narrow whitish bristles. Lateral carinae of the vertex run little bit convergent to the tip. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen and hind femora partially yellow. Measurements holotype ♂: pronotum length 7.80 mm, pronotum lobe width 3.25 mm, pronotum height 2.10 mm, hind femur length 7.93 mm, hind femur width 1.55 mm, vertex width 0.35 mm, eye width 0.66 mm, antenna length 7.80 mm, head length 4.65 mm, head index 1.73. Measurements paratype ♀ (13/22): pronotum length 8.71 mm, pronotum lobe width 3.35 mm, pronotum height 2.30 mm, hind femur length 9.10 mm, hind femur width 1.65 mm, vertex width 0.37 mm, eye width 0.68 mm, antenna length 8.58 mm, head length 5.20 mm, head index 1.65. Measurements paratypes 15♀: pronotum length (15♀): 7.93 - 9.49 mm, average 8.78 mm; pronotum lobe width (15♀): 3.15 - 3.95 mm, average 3.71 mm; pronotum height (15♀): 1.75 - 2.40 mm, average 2.01 mm; hind femur length (14♀): 8.71 - 9.23 mm, average 8.93 mm; hind femur width (14♀): 1.55 - 1.80 mm, average 1.69 mm; vertex width (15♀): 0.37 - 0.49 mm, average 0.46 mm; eye width (15♀): 0.62 - 0.68 mm, average 0.65 mm; antenna length (15♀): 8.19 - 9.36 mm, average 8.68 mm; head length (15♀): 4.88 - 6.08 mm, average 5.16 mm; head index (15♀): 1.66 - 2.05 mm, average 1.82 mm. Measurements paratypes 8♂: pronotum length (8♂): 7.41–7.80 mm, average y mm; pronotum lobe width (8♂): 3.15–3.40 mm, average 3.25 mm; pronotum height (8♂): 1.6–2.10 mm, average 1.83 mm; hind femur length (8♂): 7.54–8.71 mm, average 8.19 mm; hind femur width (8♂): 1.45–1.65 mm, average 1.52 mm; vertex width (8♂): 0.35–0.48 mm, average 0.41 mm; eye width (8♂): 0.39–0.68 mm, average 0.64 mm; antenna length (8♂): 7.8–9.10 mm, average 8.45 mm; head length (8♂): 4.56–4.88 mm, average 4.73 mm; head index (8♂): 1.45–1.76 mm, average 1.69 mm.

Differential diagnosis: *O. karimuiensis* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with straight or backwards curved dorsal margin. The dorsal 1/4 of the length of fourth antennal segment from the tip directed parallel or convergent towards the tip, and third antennal segment from the tip with long protruded tip. *O. karimuiensis* sp. nov. is morphologically similar to *O. lorentzi* (Lorentzi species group), *O. flyriveriensis* sp. nov., *O. kaitani* sp. nov., *O. katharinae* sp. nov. and *O. quateorum* sp. nov. (Katharinae species group). It differs from *O. lorentzi, O. katharinae* sp. nov. and *O. quateorum* sp. nov. by fourth antennal segment from the tip morphology - the dorsal margin has more or less long acute tip, not straight or with protruded edge. It differs from *O. kaitani* sp. nov. by two apical antennal segments together as long as third antennal segment from the tip (not shorter than). It differs from *O. flyriveriensis* sp. nov. by three antennal segments from the tip together longer than fourth antennal segment from the tip (not as long as).

Distribution: Karimui.

***Ophiotettix katharinae* sp. nov.** (Plate 106 figs 5-6, plate 110 figs 5-6, plate 114 figs 5-6, plate 118 figs 5-6, plate 121 fig. 14)

Holotype ♂ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 14.IV.2000, Malaise trap, leg. T. A. Sears.




Paratypes: 2♀ (1/21–2/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 2.–14.XI.1999, leg. S. L. Heyden, N. Schiffer & T. A. Sears; 1♀ (3/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 3.–15.XI.1999, leg. S. L. Heyden, N. Schiffer & T. A. Sears; 1♀ (4/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, Malaise Trap, 19.–25.XI.1999, leg. T. A. Sears; 1♂ (5/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, Malaise Trap, 10.–12.II.2000, leg. T. A. Sears, deposited in ZFMK; 1♀ (6/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 1.–10.III.2000, leg. T. A. Sears; 1♀ (7/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 26.–30.III.2000, Malaise Trap, leg. T. A. Sears & binatung brigade, deposited in NCB–RMNH; 1♀ (8/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 3.IV.2000, leg. T. A. Sears & binatung brigade; 2♀ (9/21–10/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 6.IV.2000, leg. T. A. Sears; 1♀ (11/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 13.IV.2000, Malaise Trap, leg. T. A. Sears; 1♀ (12/21) BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 18.IV.2000, leg. T. A. Sears; 2♀, 2♂ (13/21–16/21) BMEC: PAPUA NEW GUINEA, Morobe Prov., Tekadu, 120 m, 7°38'S 146°34'E, I.2000, Malaise Trap, leg. T. A. Sears & binatung brigade, deposited in BMNH (13/21, 14/21) and NCB–RMNH (16/21); 3♀ (17/21–19/21) BMEC: PAPUA NEW GUINEA, Morobe Prov., Tekadu, 120 m, 7°38'S 146°34'E, 1.–20.IV.2000, Malaise Trap, leg. T. A. Sears & binatung brigade; 1♀ (20/21) BMEC: PAPUA NEW GUINEA, Morobe Prov., Tekadu, 120 m, 7°38'S 146°34'E, 5.IV.2000, leg. T. A. Sears & binatung brigade, deposited in ZFMK; 1♀ (21/21) BMEC: PAPUA NEW GUINEA, Morobe Prov., sweep from Ivimka to Tekadu, 10.XI.1999, leg. T. A. Sears & binatung brigade. Additional material (antennae lost in all adult specimens): 1♂ nymph BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 16.–25.XI.1999, leg. T. A. Sears; 1♀ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, Malaise Trap, 19.–25.XI.1999, leg. T. A. Sears; 1♀ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 5.–10.III.2000, Malaise trap, leg. T. A. Sears; 1♂ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 21.III.2000, Malaise trap, leg. T. A. Sears; 1♀ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 6.IV.2000, leg. T. A. Sears; 1♂ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 18.IV.2000, Malaise Trap, leg. T. A. Sears; 1♀ BMEC: PAPUA NEW GUINEA, Gulf Prov., Lakekamu Basin, Ivimka Res. Station, 120 m, 7°44'S 146°30'E, 19.–23.IV.2000, Malaise Trap, leg. T. A. Sears; 1♀ BMEC: PAPUA NEW GUINEA, Morobe Prov., Tekadu, 120 m, 7°38'S 146°34'E, I.2000, Malaise Trap, leg. T. A. Sears & binatung brigade; 1♀ BMEC: PAPUA NEW GUINEA, Morobe Prov., Tekadu, 120 m, 7°38'S 146°34'E, 13.IV.2000, leg. T. A. Sears & binatung brigade.

Derivatio nominis: Patronymic. The specific epithet is genitive case female noun of Latin first (-a) declension, derived from name (Katharina, -ae, f.). The species is dedicated to Katharina Tumbrinck, wife of the first author that has been married to him already 22 years and is mother of two wonderful children. Let the coincidence be accidental, Katarina (Skejo) is also name of the second author's sister (the only difference in spelling being 't' vs digraph 'th'). Thus, for all wonderful Katharinas - 'Katharina's Giraffehopper'.
Description: Antennal segments dark brownish. Fourth and fifth antennal segments (segments 12+13 in ♀♀, 11+12 in ♂♂) broadly lamellate. Only fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with protruded edge at inner margin. Inner dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) straight. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). The dorsal 1/4 of fourth segment parallel. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with some narrow whitish bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen and hind femora partially yellow. Measurements holotype ♂: pronotum length 8.58 mm, pronotum lobe width 3.55 mm, pronotum height 1.50 mm, hind femur length 8.84 mm, hind femur width 1.55 mm, vertex width 0.39 mm, eye width 0.68 mm, antenna length 9.10 mm, head length 4.95 mm, head index 1.74. Measurements paratypes 18♀: pronotum length (18♀): 8.84 - 11.18 mm, average 9.89 mm; pronotum lobe width (18♀): 3.7 - 4.45 mm, average 3.97 mm; pronotum height (18♀): 1.9




- 2.60 mm, average 2.15 mm; hind femur length (18♀): 8.06 - 10.53 mm, average 9.22 mm; hind femur width (18♀): 1.5 - 1.95 mm, average 1.77 mm; vertex width (18♀): 0.39 - 0.49 mm, average 0.44 mm; eye width (18♀): 0.62 - 0.72 mm, average 0.67 mm; antenna length (18♀): 7.67 - 11.05 mm, average 9.26 mm; head length (18♀): 4.8 - 5.52 mm, average 5.17 mm; head index (18♀): 1.41 - 1.92 mm, average 1.67 mm. Measurements paratypes 4♂: pronotum length (4♂): 7.93 - 8.58 mm, average 8.16 mm; pronotum lobe width (4♂): 3.3 - 3.55 mm, average 3.44 mm; pronotum height (4♂): 1.5 - 1.95 mm, average 1.71 mm; hind femur length (4♂): 8.06 - 8.84 mm, average 8.29 mm; hind femur width (4♂): 1.45 - 1.55 mm, average 1.53 mm; vertex width (4♂): 0.37 - 0.39 mm, average 0.39 mm; eye width (4♂): 0.64 - 0.68 mm, average 0.66 mm; antenna length (4♂): 7.45 - 9.10 mm, average 8.07 mm; head length (4♂): 4.48 - 4.95 mm, average 4.73 mm; head index (4♂): 1.48 - 1.74 mm, average 1.59 mm.

Differential diagnosis: *O. katharinae* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with straight or backwards curved dorsal margin. The dorsal 1/4 of the length of fourth antennal segment from the tip directed parallel or convergent towards the tip, and third antennal segment from the tip without long protruded tip. *O. katharinae* sp. nov. is morphologically close to *O. lorentzi* Bolívar, 1929 (Lorentzi species group), *O. flyriveriensis* sp. nov., *O. kaitani* sp. nov., *O. karimuiensis* sp. nov. and *O. quateorum* sp. nov. (Katharinae species group), but differs from them by dark tip of the fastigium.

Distribution: Upper basin of Lakekamu River.

***Ophiotettix luce* sp. nov.** (Plate 106 fig. 7, plate 110 fig. 7, plate 114 fig. 7, plate 118 fig. 7, plate 121 fig. 15)

Holotype ♀ NCB–RMNH: INDONESIAN NEW GUINEA, Pionierbivak [2°20'S 138°00'E], 20.XII.1920–I.1921, leg. W. C. v. Heurn.

Derivatio nominis: Patronymic. The specific epithet is female noun in Nominative case, first Latin declension (Luce, -ae, f.). The epithet is derived from Dalmatian nickname (Luce, one of the versions of Croatian diminutive Luca) of Lucija Šerić Jelaska, excellent Croatian entomologist (primarily carabidologist), molecular biologist, and ecologist. We are happy to dedicate this species in her honor. Lucija Šerić Jelaska bears similar name to previously mentioned heroine, Lucy Evelyn Cheesman.

Description: Antennal segments from dark (apical segments) to brownish (basal segments). No antennal segment broadly lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) distinctly tapering from the middle to the tip. Fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) with straight dorsal margin. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Vertex flattened, median carina as high as lateral carinae. Pronotum with small dark stripes, but colouration remains uncertain. Measurements holotype ♀: pronotum length 9.10 mm, pronotum lobe width 6.0 mm, pronotum height 2.0 mm, hind femur length 8.58 mm, hind femur width 1.50 mm, vertex width 0.37 mm, eye width 0.64 mm, antenna length 8.0 mm, head length 5.0 mm, head index 1.86.

Differential diagnosis: *O. luce* sp. nov. is one of the species with dark antennae and antennal segments with minute margins, not broadly lamellate. Other species of this group are: *O. scolopax* Bolívar, 1929, *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. mountnokensis* sp. nov. and *O. projecta* sp. nov. (all members of the Limosina species group, characteristic in slender antennae). *O. luce* sp. nov. is unique species within the group in having third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) distinctly tapering from the middle towards the tip. In all other species lateral margins of this segment run parallel.

Distribution: Upper Mamberamo River.

***Ophiotettix meggy* sp. nov.** (Plate 106 fig. 8, plate 110 fig. 8, plate 114 fig. 8, plate 118 fig. 8, plate 121 fig. 16)

Holotype ♀ SMTD: PAPUA NEW GUINEA, West Sepik Prov., Torricelli Gebirge, 900 m, 1910, leg. Dr. Schlaginhaufen.

Derivatio nominis: Patronymic. The specific epithet is Nominative case noun in feminine gender, derived from Anglicized nickname




(Meggy, -ae, f.). The species is dedicated to Meggy Bofdružić, barmaid in Zagreb Department of Biology 'Kantina Medulich'. She was amazed by diversity of Giraffehoppers and very curious about our research.

Description: Apical segments of the antennae pale (third segment only a little bit). No antennal segments with clear tip at the inner margin but third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+ 11+12 in ♂♂) broadened and lamellate. Fourth and fifth antennal segments (segments 12+13 in ♀♀, 11+12 in ♂♂) with a protruding edge. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). The dorsal 1/4 of fourth segment somewhat widened towards the tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Apical segments with narrow whitish bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, little bit deeper than lateral carinae. Pronotum without yellow stripes. Visible part of the abdomen and hind femora brownish. Only the lateral lobes yellow. Measurements holotype ♀: pronotum length 9.88 mm, pronotum lobe width 3.95 mm, pronotum height 2.35 mm, hind femur length 9.36 mm, hind femur width 1.55 mm, vertex width 0.29 mm, eye width 0.68 mm, antenna length 10.27 mm, head length 5.28 mm, head index 1.75.

Differential diagnosis: As a species with pale apical antennal segments and at least one antennal segment with protruded tip at the inner margin at fourth antennal segment from the tip *O. meggy* sp. nov. is similar to *O. westwoodi* stat. rev. and *O. cheesmanae* sp. nov. (all members of the Westwoodi species group). It differs from these species by flat vertex and fifth antennal segment from the tip that bears protruded edge.

Distribution: Torricelli Mountains.

***Ophiotettix mountnokensis* sp. nov.** (Plate 106 figs 9-10, plate 110 figs 9-10, plate 114 figs 9-10, plate 118 figs 9-10, plate 121 fig. 17)

Holotype ♂ BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, IV.1938, leg. L. E. Cheesman.

Paratypes: 7♀, 4♂ (1/12–11/12) BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, IV.1938, leg. L. E. Cheesman, deposited in ZFMK (2/12, 8/12), [1♀ 11/12 antennae lost]; 1♂ (12/12) BMNH: INDONESIAN NEW GUINEA, Waigeo, Camp Nok, 2500 ft., IV.1938, leg. L. E. Cheesman [antennae lost].

Additional material: 2♂ nymphs BMNH: INDONESIAN NEW GUINEA, Waigeo, Mt. Nok, IV.1938, leg. L. E. Cheesman; 1♀ nymph BMNH: INDONESIAN NEW GUINEA, Waigeo, Camp Nok, 2500 ft., IV.1938, leg. L. E. Cheesman.

Derivatio nominis: Toponymic. The specific epithet represents Nominative feminine adjective of the third Latin declension, derived from 'Mount' + 'Nok' + geographically - related suffix '-ensis' (mountnokensis, -e), meaning from Mount Nok, or can be regarded as noun, meaning - inhabitant of Mt. Nok - binomen literally meaning 'Giraffehopper of Mt. Nok'.

Description: Apical antennal segments lighter brownish. Other segments dark brownish. No antennal segment broadened and lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex convergent towards the tip. Tip of the fastigium little bit brightened in the middle. Median carina of the vertex deeper than lateral carinae. Pronotum with small yellow stripes and a broad yellow saddle in front of prozona. Hind femora dark with some lighter patches. Measurements holotype ♂: pronotum length 8.97 mm, pronotum lobe width 4.25 mm, pronotum height 2.50 mm, hind femur length 10.92 mm, hind femur width 2.05 mm, vertex width 0.49 mm, eye width 0.70 mm, antenna length 10.92 mm, head length 4.88 mm, head index 1.4. Measurements paratypes 7♀: pronotum length (7♀): 10.14 - 11.96 mm, average 11.11 mm; pronotum lobe width (7♀): 4.5 - 5.10 mm, average 4.80 mm; pronotum height (7♀): 2.35 - 2.90 mm, average 2.68 mm; hind femur length (4♀): 10.92 - 11.70 mm, average 11.25 mm; hind femur width (4♀): 1.85 - 2.0 mm, average 1.94 mm; vertex width (7♀): 0.49 - 0.62 mm, average 0.56 mm; eye width (7♀): 0.68 - 0.74 mm, average 0.72 mm; antenna length (6♀): 11.7 - 12.87 mm, average 12.26 mm; head length (7♀): 5.44 - 5.84 mm, average 5.59 mm; head index (7♀): 1.54 - 1.79 mm, average 1.62 mm. Measurements paratypes 6♂: pronotum length (6♂): 8.97 - 10.14 mm, average 9.58 mm; pronotum lobe width (6♂): 4.1 - 4.35 mm, average




4.25 mm; pronotum height (6♂): 1.9 - 2.60 mm, average 2.23 mm; hind femur length (5♂): 10.14 - 10.92 mm, average 10.59 mm; hind femur width (5♂): 1.7 - 2.05 mm, average 1.79 mm; vertex width (6♂): 0.47 - 0.55 mm, average 0.50 mm; eye width (6♂): 0.68 - 0.70 mm, average 0.69 mm; antenna length (5♂): 10.92 - 12.09 mm, average 11.49 mm; head length (6♂): 4.88 - 5.15 mm, average 5.04 mm; head index (6♂): 1.4 - 1.60 mm, average 1.52 mm.

Differential diagnosis: *O. mountnokensis* sp. nov. is one of the species with dark antennas having small margins, but not being lamellate or broadened. Other species of this group are: *O. scolopax* Bolívar, 1929, *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. luce* sp. nov. and *O. projecta* sp. nov. (this is Limosina species group, without *O. limosina* (Snellen van Vollenhoven, 1865), species in which all the segments are rounded in cross section). *O. mountnokensis* sp. nov. differs from all other species in the group (except for *O. depressa* sp. nov.) by deep vertex (median carina deeper than lateral carinae). From *O. depressa* sp. nov. it is easily separated by convergent lateral carinae. In no other *Ophiotettix* species we found a broadened yellow saddle over the pronotum, but it is uncertain if this character of somewhat elevated chitinous structure of discus and colouration is useful for taxonomy and what is its purpose.

Distribution: Mount Nok on the island of Waigeo.

***Ophiotettix parvicollis* sp. nov.** (Plate 106 figs 11-12, plate 110 figs 11-12, plate 114 figs 11-12, plate 118 figs 11-12, plate 121 fig. 18)

Holotype ♂ BPBM: PAPUA NEW GUINEA, Kassem Pass, 1400–1430 m, 4.IX.1964, leg. J. & M. Sedlacek.

Paratypes: 1♀ (1/5) BPBM: PAPUA NEW GUINEA, Kassem Pass, 1400 m, 4.I.1965, leg. J. & M. Sedlacek, deposited in NCB–RMNH [antennae damaged]; 1♀ (2/5) BPBM: PAPUA NEW GUINEA, 20–22 km SE Okapa, 2100–2250 m, 24.VIII.1964, leg. J. & M. Sedlacek deposited in ZFMK [antennae lost]; 1♀ (3/5) BPBM: PAPUA NEW GUINEA, Purosa, 20–26 km SE Okapa [6°40'S 145°34'E], 1800–2020 m, 28.VIII.1964, leg. J. & M. Sedlacek [antennae lost]; 1♀ (4/5) BPBM: PAPUA NEW GUINEA, 18 km SE of Okapa [6°38'S 145°44'E], 1300 m, 31.V.1967, leg. G. A. Samuelson, deposited in BMNH [antennae lost]; 1♀ (5/5) BPBM: PAPUA NEW GUINEA, [Eastern Highland Prov.], Aiyura, nr. Kainantu [6°20'S 145°54'E], 1700–1800 m, 9.I.1965, leg. J. L. Gressitt.

Derivatio nominis: Specific epithet is combination of two Latin words, one adjective and a noun - 'parvi-' being borrowed from first and second declension adjective 'parvus, -a, -um', meaning small, while 'collis' is ablative plural of the neuter gender second (-us) declension noun 'collum, -i, n.' meaning neck. Whole epithet thus means 'Giraffehopper of small necks'. The species is named this way because of the short head, shortest of all known species.

Description: Together with *O. roesleri* sp. nov. this is the smallest *Ophiotettix* species. It is also species of the shortest neck (head index <0.9). All antennal segments brownish. No antennal segment with a clear tip at the inner margin, but third and fourth antennal segments from the tip (segments 12+13 in ♀♀, 11+12 in ♂♂) little bit lamellate, with a distinct edge. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together longer than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, little bit deeper than lateral carinae. Fastigium narrow. Tip of the fastigium, in lateral view, little bit protruding in front of the eyes. Pronotum without or with interrupted yellow stripes. Visible part of the abdomen and hind femora predominantly yellow. Measurements holotype ♂: pronotum length 6.0 mm, pronotum lobe width 3.20 mm, pronotum height 1.75 mm, hind femur length 6.08 mm, hind femur width 1.20 mm, vertex width 0.23 mm, eye width 0.57 mm, antenna length 5.92 mm, head length 3.25 mm, head index 0.68. Measurements paratypes 5♀: pronotum length (5♀): 7.15 - 8.45 mm, average 7.93 mm; pronotum lobe width (5♀): 3.8 - 4.0 mm, average 3.90 mm; pronotum height (5♀): 2.0 - 2.25 mm, average 2.17 mm; hind femur length (4♀): 6.63 - 7.41 mm, average 7.18 mm; hind femur width (4♀): 1.5 - 1.75 mm, average 1.65 mm; vertex width (5♀): 0.25 - 0.31 mm, average 0.27 mm; eye width (5♀): 0.59 - 0.64 mm, average 0.62 mm; antenna length (1♀): 5.59 mm; head length (5♀): 3.55 - 3.90 mm, average 3.72 mm; head index (5♀): 0.65 - 0.90 mm, average 0.81 mm.

Differential diagnosis: Together with *O. hansscholteni* sp. nov. (Hansscholteni species group) the only species without lamellate antennal




segments but little bit tip or protruding edge at the dorsal inner margin of fourth antennal segment from the tip. It differs from this species by much shorter neck (head index of *O. parvicollis* sp. nov. <1). it belongs to the species group composed of species with short neck - Brevicollis species group.
Distribution: Eastern Highlands Province.

***Ophiotettix projecta* sp. nov.** (Plate 106 fig. 13, plate 110 fig. 13, plate 114 fig. 13, plate 118 fig. 13, plate 121 fig. 19)

Holotype ♂ MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Standlager am Aprilfluss [4°32'S 142°29'E], 24.X.1912, leg. S. G. Bürgers.
Paratype: 1♀ (1/1) MFN: PAPUA NEW GUINEA, [East Sepik Prov.], Standlager am Aprilfluss [4°32'S 142°29'E], 24.X.1912, leg. S. G. Bürgers.

Derivatio nominis: The specific epithet is Nominative case feminine gender adjective (projectus, -a, -um), which is in fact participle of the passive voice of perfect tense of the third conjugation verb 'projicio, projicere, projeci, projectum', with meaning - in this case particularly - to protrude (other meanings are also to throw out, to abandon). The species is named with this epithet of this name because of being the only species in the Limosina species group with partially projected vertex.
Description: Antennal segments from dark (apical segments) to brownish (basal segments). No antennal segment broadly lamellate. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with little bit protruding edge, but not broadly lamellate. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Vertex flat, median carina as high as lateral carinae. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 8.45 mm, pronotum lobe width 3.65 mm, pronotum height 1.90 mm, hind femur length 8.32 mm, hind femur width 1.60 mm, vertex width 0.41 mm, eye width 0.59 mm, antenna length 7.02 mm, head length 4.90 mm, head index 2.05. Measurements holotype ♀ (1/1): pronotum length 8.58 mm, pronotum lobe width 4.10 mm, pronotum height 2.25 mm, hind femur length 9.36 mm, hind femur width no measurements, vertex width 0.39 mm, eye width 0.59 mm, antenna length no measurements, head length 4.90 mm, head index 2.2.
Differential diagnosis: *O. projecta* sp. nov. is one of the species with dark antenna and segments with small margins, but not lamellate or broadened. Other species of this group are: *O. scolopax*, *O. bewana* sp. nov., *O. bomberaiensis* sp. nov., *O. depressa* sp. nov., *O. filiforma* sp. nov., *O. luce* sp. nov. and *O. mountnokensis* sp. nov. (all members of the Limosina species group, characterized in slender antennae). *O. projecta* sp. nov. is unique in this group because of the tip of the fastigium which being protruded in front of the eyes.
Distribution: Upper Sepik at April River.

***Ophiotettix pulcherrima* sp. nov.** (Plate 106 fig. 14, plate 110 fig. 14, plate 114 figs 14-15, plate 118 figs 14-15, plate 121 fig. 20, plate 123 figs 1, 3-4)

Holotype ♂ ZSM: INDONESIAN NEW GUINEA, Yapen Island, Serui, Mantembo [Mantembu, 1°51'S 136°15'E], 200–700 m, 6.IX.1991, leg. A. Riedel.
Paratypes: 1♂ (1/8) BPBM: INDONESIAN NEW GUINEA, Yapen Island, SSE Sumberbaba, Dawai R. (jungle) [1°49'S 136°41'E], 10.X.1962, leg. H. Holtmann [antennae lost]; 1♂ (2/8) BPBM: INDONESIAN NEW GUINEA, Yapen Island, SSE Sumberbaba, Dawai R. (jungle) [1°49'S 136°41'E], 28.X.1962, leg. H. Holtmann (antennae damaged); 1♀ (3/8) BPBM: INDONESIAN NEW GUINEA, Yapen Island, SSE Sumberbaba, Dawai R. (secondary jungle) [1°49'S 136°41'E], 2.XI.1962, leg. H. Holtmann; 1♂ (4/8) BMNH: INDONESIAN NEW GUINEA, Yapen, Seroi, Aiam Range, Mt. Baduri, Camp 1, 1000 ft., IX.1938, leg. L. E. Cheesman; 1♀ (5/8) MSNG: INDONESIAN NEW GUINEA, [Schouten Islands, Yapen], Ansus [Ansas, 1°43'S 135°50'E], IV.1875, leg. Beccari; 1♀ (6/8) NCB–RMNH: INDONESIAN NEW GUINEA, Bernhard Camp B. [3°29'S 139°13'E], 100 m, 10.IV.1939, leg. L. J. Toxopeus; 1♂ (7/8) NCB–RMNH: INDONESIAN NEW GUINEA, Bernhard Camp [3°29'S 139°13'E], 50 m, VIII.1938, leg. J. Olthof; 1♂ (8/8) NCB–RMNH: INDONESIAN NEW GUINEA, Bernhard Camp [3°29'S 139°13'E], 50 m, 19.IX.1938, leg. J. Olthof, deposited in ZFMK.
Additional material: 1♀ SMTD: INDONESIAN NEW GUINEA, Prauwenbivak [3°15'S 138°35'E], VI.–VII.1920, leg. W. C. v. Hoorn (photos Orthoptera species files, not seen); 1♀ NCB–RMNH: INDONESIAN NEW GUINEA, Mountain slope above Bernhard Camp [3°29'S 139°13'E], 750 m, 19.III.1939, leg. L. J. Toxopeus [antennae lost]; 2♀ NCB–RMNH: INDONESIAN NEW GUINEA, Bernhard Camp [3°29'S 139°13'E], 50 m, VIII.1938, leg. J. Olthof [antennae lost]; 1♀ nymph NCB–




RMNH: INDONESIAN NEW GUINEA, Bernhard Camp [3°29'S 139°13'E], 50 m, 27.IX.1938, leg. J. Olthof; 1♀, 1♂, INDONESIAN NEW GUINEA, Yapen, Waironi Village, 1°51.293'S 136°32.614'E, photos by David Price.

Derivatio nominis: The specific epithet is nominative case feminine gender Latin adjective in superlative (from pulcher, -ra, -um to pulcherrimus –a, -um, meaning beautiful, neat). The species is named because of its beauty. A literal translation of the binomen would be 'Very neat giraffehopper'.
Description: Apical segments of the antennae pale (third segment from the tip in more than half of it length and fourth segment only little bit from the tip). No antennal segments with clear tip at the inner margin, but third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) a little bit lamellate and fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) with distinct minute protruding edge at the inner margin. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) little bit convergent towards the tip. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, little bit deeper than lateral carinae. Pronotum with yellow and white stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 8.29 mm, pronotum lobe width 3.67 mm, pronotum height 2.10 mm, hind femur length 8.24 mm, hind femur width 1.52 mm, vertex width 0.42 mm, eye width 0.68 mm, antenna length 9.42 mm, head length 5.46 mm, head index 1.94. Measurements paratypes 3♀: pronotum length (3♀): 10.79 - 11.70 mm, average 11.27 mm; pronotum lobe width (3♀): 4.25 - 4.40 mm, average 4.35 mm; pronotum height (3♀): 2.33 - 2.40 mm, average 2.36 mm; hind femur length (2♀): 9.88 - 10.27 mm, average 10.08 mm; hind femur width (2♀): 1.75 - 1.80 mm, average 1.78 mm; vertex width (3♀): 0.41 - 0.45 mm, average 0.43 mm; eye width (3♀): 0.62 - 0.68 mm, average 0.66 2 mm; antenna length (3♀): 8.45 - 9.23 mm, average 8.75 mm; head length (3♀): 5.44 - 6.23 mm, average 5.84 mm; head index (3♀): 2.0 - 2.08 mm, average 2.05 mm. Measurements paratypes 6♂: pronotum length (6♂): 8.29 - 9.36 mm, average 8.90 mm; pronotum lobe width (6♂): 3.6 - 3.75 mm, average 3.67 mm; pronotum height (6♂): 1.8 - 2.25 mm, average 2.05 mm; hind femur length (5♂): 8.24 - 9.36 mm, average 8.82 mm; hind femur width (5♂): 1.5 - 1.65 mm, average 1.55 mm; vertex width (6♂): 0.39 - 0.45 mm, average 0.42 mm; eye width (6♂): 0.62 - 0.68 mm, average 0.66 mm; antenna length (4♂): 8.19 - 9.49 mm, average 8.95 mm; head length (6♂): 4.96 - 6.36 mm, average 5.38 mm; head index (6♂): 1.94 - 2.21 mm, average 2.05 mm.
Differential diagnosis: As a species with pale apical antennal segments and no antennal segment with a protruding tip at the inner margin *O. pulcherrima* sp. nov. (Pulcherrima species group) is near to *O. fritzpahli* sp. nov. (Wesdtwoodi species group) and *O. rebrinae* sp. nov. (Pulcherrima species group). It differs from *O. rebrinae* sp. nov. by pale colouration in the beginning of fourth antennal segment from the tip and from *O. fritzpahli* sp. nov. by flat vertex and brightened tip of the fastigium.
Distribution: Yapen Island and Mamberamo River basin on mainland New Guinea.

***Ophiotettix pushkari* sp. nov.** (Plate 107 figs 1-2, plate 111 figs 1-2, plate 115 figs 1-2, plate 119 figs 1-2, plate 121 fig. 21)

Holotype ♂ BPBM: INDONESIAN NEW GUINEA, Vogelkop, Kebar Valley, W. of Manokwari [0°49'S 133°01'E], 550 m, 4.–31.I.1962, leg. L. W. Quate.
Paratype: 1♀ (1/1) BPBM, INDONESIAN NEW GUINEA Vogelkop, Kebar Valley, W. of Manokwari [0°49'S 133°01'E], 550 m, 4.–31.I.1962, leg. L. W. Quate, deposited in ZFMK.
Additional material: 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop, Kebar Valley, W. of Manokwari [0°49'S 133°01'E], 550 m, 4.–31.I.1962, leg. L. W. Quate.

Derivatio nominis: Patronymic. The specific epithet is the genitive case of the male noun of second (-us) Latin declension, derived from surname (Pushkarus, -i, m.) The species is dedicated to our friend and colleague, Taras I. Pushkar, orthopterist (and also tetrigidologist) from Ukraine. He helped us and collaborated with us a lot on Tetrigidae issues and we are very happy to dedicate this species in Taras' honour.
Description: Apical and subapical segments of the antennae black, other segments brownish. Third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) like a "cup", with a long tip at the inner margin of antennal




segments four and five counted from the tip. The dorsal 1/3 of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) convergent towards the tip. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together shorter than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrow than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with reddish to yellow stripes. Hind femora and visible part of the abdomen partially reddish or yellow. Measurements holotype ♂: pronotum length 8.45 mm, pronotum lobe width 3.20 mm, pronotum height 1.65 mm, hind femur length 7.44 mm, hind femur width 1.60 mm, vertex width 0.43 mm, eye width 0.66 mm, antenna length 6.89 mm, head length 4.25 mm, head index 1.43. Measurements paratype ♀: pronotum length 8.97 mm, pronotum lobe width 3.50 mm, pronotum height 2.20 mm, hind femur length 8.0 mm, hind femur width 1.65 mm, vertex width 0.45 mm, eye width 0.59 mm, antenna length 7.76 mm, head length 4.50 mm, head index 1.33.

Differential diagnosis: *O. pushkari* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and third antennal segment from the tip with a distinctly protruded long tip at the inner margin. *O. pushkari* sp. nov. is near to *O. cygnicollis* Walker, 1871, *O. amberiana* sp. nov., *O. storozhenkoi* sp. nov. (together with *O. pushkari* sp. nov. members of the Cygnicollis species group) and *O. toxopei* sp. nov. (Toxopei species group). *O. toxopei* sp. nov. is unique in having a widened third antennal segment from the tip. *O. pushkari* sp. nov. differs from *O. cygnicollis* and *O. amberiana* sp. nov. in morphology of the fourth and fifth antennal segments from the tip, which are less than twice as wide as the second segment from the tip. It differs from *O. storozhenkoi* sp. nov. by the flat vertex.

Distribution: Kebar Valley.

***Ophiotettix quateorum* sp. nov.** (Plate 107 figs 3-5, plate 111 figs 3-4, plate 115 figs 3-4, plate 119 figs 3-4, plate 122 fig. 4)

Holotype ♀ BPBM: INDONESIAN NEW GUINEA, [Star Mountains], Sibil Valley [4°45'S 140°40'E], 1245 m, 18.X.–8.XI.1961, leg. L. W. Quate.

Paratypes: 5♀, 3♂ (1/8–8/8) BPBM: INDONESIAN NEW GUINEA, [Star Mountains], Sibil Valley [4°45'S 140°40'E], 1245 m, 18.X.–8.XI.1961, leg. S. or L. W. Quate, deposited in ZFMK (1/8, 8/8), NCB–RMNH (2/8) and BMNH (5/8) [4♀, 2♂ antennae lost].

Additional material: 1♀ nymph, 1♂ nymph BPBM: INDONESIAN NEW GUINEA, [Star Mountains], Sibil Valley [4°45'S 140°40'E], 1245 m, 18.X.–8.XI.1961, leg. S. Quate and L. W. Quate.

Derivatio nominis: Patronymic. The specific epithet is the plural genitive case of the second (-us) Latin declension of the female or male noun derived from a surname (Quateus, -i, m./f.). The species is dedicated to its collectors, entomologists Stella H. Quate and Lawrence W. Quate - specialized in Psychodidae. A literal translation of the specific name is 'Giraffehopper of Quates'

Description: Apical and subapical segments of the antennae black, the other segments brownish. Fourth and fifth antennal segments from the tip (segments 12+13 in ♀♀, 11+12 in ♂♂) little bit lamellate, with small protruding inner margin of fourth antennal segment from the tip. The dorsal 1/4 of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) somewhat convergent towards the tip. Inner edge of the dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) directed backwards. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with yellow stripes. Hind femora partially yellow. Visible part of the abdomen partially whitish. Measurements holotype ♀: pronotum length 7.28 mm, pronotum lobe width 3.25 mm, pronotum height 1.95 mm, hind femur length 7.80 mm, hind femur width 1.40 mm, vertex width 0.31 mm, eye width 0.64 mm, antenna length 6.63 mm, head length 4.30 mm, head index 1.65. Measurements paratypes 6♀: pronotum length (6♀): 7.15 - 7.54 mm, average 7.35 mm; pronotum lobe width (6♀): 3.1 - 3.40 mm, average 3.23 mm; pronotum height (6♀): 1.7 - 2.30 mm, average 1.92 mm; hind femur length (3♀): 7.54 - 7.80 mm, average 7.63 mm; hind femur width (3♀): 1.4 - 1.40 mm,




average 1.40 mm; vertex width (6♀): 0.31 - 0.35 mm, average 0.32 mm; eye width (6♀): 0.61 - 0.68 mm, average 0.64 mm; antenna length (2♀): 6.63 - 7.15 mm, average 6.89 mm; head length (6♀): 4.2 - 4.70 mm, average 4.40 mm; head index (6♀): 1.4 - 1.65 mm, average 1.53 mm. Measurements paratypes 3♂: pronotum length (3♂): 5.98 - 6.11 mm, average 6.07 mm; pronotum lobe width (3♂): 2.3 - 2.90 mm, average 2.58 mm; pronotum height (3♂): 1.6 - 1.70 mm, average 1.65 mm; hind femur length (2♂): 6.76 - 6.76 mm, average 6.76 mm; hind femur width (2♂): 1.15 - 1.25 mm, average 1.20 mm; vertex width (3♂): 0.31 - 0.33 mm, average 0.32 mm; eye width (3♂): 0.51 - 0.62 mm, average 0.57 mm; antenna length (2♂): 5.85 - 6.89 mm, average 6.37 mm; head length (3♂): 3.9 - 4.05 mm, average 4.0 mm; head index (3♂): 1.36 - 1.50 mm, average 1.44 mm.

Differential diagnosis: *O. quateorum* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with dorsal margin straight or curved backwards. The dorsal 1/4 of the length of fourth antennal segment from the tip parallel or convergent towards the tip and third antennal segment without protruding tip. *O. quateorum* sp. nov. is morphologically similar to *O. lorentzi* Bolívar, 1929 (Lorenzi species group), *O. flyriveriensis* sp. nov., *O. kaitani* sp. nov., *O. katharinae* sp. nov. and *O. karimuiensis* sp. nov. (Katharinae species group), but differs from other species by its smaller size: pronotum length male <7 mm (in other species >8 mm) and female <8 mm (in other species listed >9 mm).

Distribution: Sibil Valley.

***Ophiotettix rebrinae* sp. nov.** (Plate 107 fig. 6, plate 111 fig. 5, plate 115 fig. 5, plate 119 fig. 5, plate 122 fig. 1)

Holotype ♂ BPBM: INDONESIAN NEW GUINEA, Bodem, 11 km SE of Oerberfaren [1°58'S 138°44'E], 100 m, 7.–17.VII.1959, leg. T. C. Maa.

Derivatio nominis: Patronymic. The specific epithet is male surname in the genitive case of the first Latin declension (-a declension, usually for feminine nouns, but since the surname of dedication ends in –a, we found it appositely to use the first declension instead of the second) - 'Rebrina, -ae, m.' The species is dedicated to Fran Rebrina, a young Croatian entomologist specialized in Orthoptera (especially Ensifera), and a good friend of Skejo. We are very happy to dedicate this species to our enthusiastic colleague.

Description: Apical segments of the antennae pale (third segment from the tip more than half of its length). No antennal segment with tip at the inner margin. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) narrow and parallel. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Inner edge of the dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) directed backwards. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, little bit deeper than lateral carinae. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 8,19 mm, pronotum lobe width 3.45 mm, pronotum height 2.0 mm, hind femur length 8.06 mm, hind femur width 1.45 mm, vertex width 0.37 mm, eye width 0.64 mm, antenna length 7.15 mm, head length 4.25 mm, head index 1.95.

Differential diagnosis: As a species with pale apical antennal segments and no antennal segments with protruding tip at the inner margin *O. rebrinae* sp. nov. (Pulcherrima species group) is near to *O. fritzpahli* sp. nov. (Westwoodi species group, however shares some characters with species of the Pulcherrima group) and *O. pulclherrima* sp. nov. (Pulcherrima species group). It differs from these species by fifth antennal segment, curved backwards at the dorsal inner margin.

Distribution: Bodem.

***Ophiotettix roesleri* sp. nov.** (Plate 107 figs 7-8, plate 111 figs 6-7, plate 115 figs 6-7, plate 119 figs 6-7, plate 122 fig. 2)

Holotype ♂ NCB–RMNH, INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 28.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus.

Paratypes: 1♀, 1♂ (1/18–2/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 17.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus; 1♀, 1♂ (3/18–4/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 19.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus, deposited in BPBM (3/18) and ZFMK (4/18); 1♀




(5/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 22.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus, deposited in BMNH (5/18); 2♀ (6/18–7/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 24.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus, deposited in BMNH (6/18) [1♀ antennae lost]; 1♀ (8/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 25.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus; 1♂ (9/18) NCB–RMNH: INDONESIAN NEW GUINEA, Sigi Camp [3°33'S 139°02'E], 1500 m, 26.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus, deposited in BPBM; 1♀ (10/18) NCB–RMNH: INDONESIAN NEW GUINEA, Lower Mist Camp [3°30'S 139°05'E], 1600 m, 27.I.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus; 3♀, 1♂ (11/18–14/18) NCB–RMNH: INDONESIAN NEW GUINEA, Lower Mist Camp [3°30'S 139°05'E], 1550 m, 31.I.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus, deposited in ZFMK (12/18) [1♂ antennae lost]; 1♀ (15/18) NCB–RMNH: INDONESIAN NEW GUINEA, Lower Mist Camp [3°30'S 139°05'E], 1550 m, I.–II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus; 1♀, 1♂ (16/18–17/18) NCB–RMNH: INDONESIAN NEW GUINEA, Lower Mist Camp [3°30'S 139°05'E], 1550 m, 2.II.1939, Neth. Ind.–American New Guinea Exped., leg. L. J. Toxopeus [1♂ antennae lost]; 1♀ (18/18) ZSM: INDONESIAN NEW GUINEA, Jayawijaya–Prov., Wamena, Pronggoli [4°10'S 139°20'E], 2100–2400 m, 17.–19. IX.1991, leg. A. Riedel.

Additional material: 1♂ ZSM: INDONESIAN NEW GUINEA, Wamena, Pass–Valley [3°55'S 138°44'E], 1900 m, 15.–16.IX.1990, leg. A. Riedel.

Derivatio nominis: Patronymic. The specific epithet is the genitive case of the Latin second declension (-us declension) noun derived from the surname (Roeslerus, -i, m.) The species is dedicated to Stefan Rösler, former chairman of the Naturschutzbund Deutschland (NABU) in Baden-Württemberg.

Description: Together with *O. parvicollis* sp. nov. this is the smallest *Ophiotettix* species, with the shortest neck (head index <0.9). Apical and subapical segments of the antennae are black, other segments brownish. Third and fourth antennal segments from the tip (segments 11+12 in ♀♀, 12+13 in ♂♂) little bit lamellate and with little bit protruding inner margins of fourth antennal segment from the tip. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Inner edge of the dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) directed backwards. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with yellow or reddish stripes. Hind femora and visible part of the abdomen partially yellow or reddish. Measurements holotype ♂: pronotum length 5.72 mm, pronotum lobe width 2.75 mm, pronotum height 1.15 mm, hind femur length 6.11 mm, hind femur width 1.20 mm, vertex width 0.33 mm, eye width 0.57 mm, antenna length 6.37 mm, head length 3.65 mm, head index 0.96. Measurements paratypes 13♀: pronotum length (13♀): 6.75 - 7.80 mm, average 7.36 mm; pronotum lobe width (13♀): 3.25 - 3.50 mm, average 3.38 mm; pronotum height (13♀): 1.65 - 2.20 mm, average 1.95 mm; hind femur length (11♀): 6.5 - 7.67 mm, average 7.0 mm; hind femur width (11♀): 1.15 - 1.50 mm, average 1.35 mm; vertex width (13♀): 0.33 - 0.39 mm, average 0.36 mm; eye width (13♀): 0.55 - 0.64 mm, average 0.60 mm; antenna length (9♀): 5.85 - 7.15 mm, average 6.40 mm; head length (13♀): 3.6 - 4.10 mm, average 3.96 mm; head index (13♀): 1.15 - 1.45 mm, average 1.30 mm. Measurements paratypes 6♂: pronotum length (6♂): 5.72 - 6.50 mm, average 6.15 mm; pronotum lobe width (6♂): 2.75 - 3.0 mm, average 2.86 mm; pronotum height (6♂): 1.15 - 1.90 mm, average 1.56 mm; hind femur length (4♂): 6.11 - 6.50 mm, average 6.27 mm; hind femur width (4♂): 1.1 - 1.20 mm, average 1.24 mm; vertex width (6♂): 0.33 - 0.39 mm, average 0.36 mm; eye width (6♂): 0.57 - 0.62 mm, average 0.59 mm; antenna length (4♂): 5.85 - 6.50 mm, average 6.18 mm; head length (6♂): 3.4 - 3.80 mm, average 3.67 mm; head index (6♂): 0.96 - 1.34 mm, average 1.23 mm.

Differential diagnosis: *O. roesleri* sp. nov. is one of the species with no pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and the upper edge of fifth antennal segment from the tip is straight or curved backwards. Fourth antennal segment from the tip is widened in the whole length towards the tip. There are three other species with similar characters: *O. brevicollis* sp. nov. (Brevicollis species group), *O. stallei* sp. nov. (Stallei species group) and *O. subbrevicollis* sp. nov. (Brevicollis




species group). All species are small. *O. roesleri* sp. nov. can be separated from other species by smaller size (pronotum length male <6 mm (others >6 mm) and female <8 mm (others >8 mm)) and deep vertex.
Distribution: Mountains south of Mamberamo River.

***Ophiotettix rohwedderi* sp. nov.** (Plate 107 fig. 9, plate 111 figs 8-9, plate 115 figs 8-9, plate 119 figs 8-9, plate 122 fig. 3)
Holotype ♂ BPBM: PAPUA NEW GUINEA, [Western Highlands Prov.], Upper Jimmi River, Tsenga [= Jimi River, 5°23'S 144°27'E], 1200 m, 15.VII.1955, leg. J. L. Gressitt [antennae lost].
Paratypes: 2♀ (1/5-2/5) BPBM: PAPUA NEW GUINEA, [Western Highlands Prov.], Upper Jimmi River, Tsenga [= Jimi River, 5°23'S 144°27'E], 1200 m, 15.VII.1955, leg. J. L. Gressitt, deposited in NCB-RMNH (2/5); 1♀, 1♂ (3/3, 4/5) BPBM: PAPUA NEW GUINEA, [Western Highlands Prov.], Baiyer River [5°32'S 144°09'E], 17.X.1958, leg. J. L. Gressit, deposited in BMNH (3/5) and ZFMK (4/5) [♀, ♂ antennae lost]; 1♀ (5/5) BPBM: PAPUA NEW GUINEA, [Western Highlands Prov.], Baiyer River [5°32'S 144°09'E], 18.X.1958, leg. J. L. Gressitt, deposited in ZFMK.

Derivatio nominis: Patronymic. The specific epithet is the genitive case of the second (-us) Latin declension derived from a Latinized surname (Rohwedderus, -i, m.). The species is dedicated to Dirk Rohwedder, an entomologist - coleopterologist and hymenopterist and very helpful colleague from Zoological Research Museum Alexander Koenig (ZFMK) in Bonn.
Description: Antennal segments dark. Third to sixth antennal segments from the tip (segments 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) little bit lamellate with somewhat protruding inner margins. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Inner edge of the dorsal margin of sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) runs backwards. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segments 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Tip of the fastigium, in lateral view, little bit protruded in front of the eyes. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 7.28 mm, pronotum lobe width 3.20 mm, pronotum height 1.85 mm, hind femur length 7.15 mm, hind femur width 1.50 mm, vertex width 0.33 mm, eye width 0.57 mm, antenna length no measurements, head length 4.20 mm, head index 1.57.
Measurements paratypes 4♀: pronotum length (4♀): 8.06 - 9.10 mm, average 8.52 mm; pronotum lobe width (4♀): 3.45 - 3.85 mm, average 3.61 mm; pronotum height (4♀): 1.75 - 2.35 mm, average 2.03 mm; hind femur length (4♀): 7.02 - 8.19 mm, average 7.74 mm; hind femur width (4♀): 1.6 - 1.75 mm, average 1.65 mm; vertex width (4♀): 0.31 - 0.33 mm, average 0.32 mm; eye width (4♀): 0.55 - 0.64 mm, average 0.61 mm; antenna length (3♀): 6.63 - 7.93 mm, average 7.49 mm; head length (4♀): 4.3 - 5.0 mm, average 4.58 mm; head index (4♀): 1.68 - 1.76 mm, average 1.72 mm
Differential diagnosis: *O. rohwedderi* sp. nov. is one of the species with no pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and a fifth antennal segment from the tip with protruded lateral edge into spine or acute angle. The sixth antennal segment from tip is not broadly lamellate. *O. rohwedderi* sp. nov. is near to *O. modesta* stat. rev., *O. imbiana* sp. nov., *O. schapinae* sp. nov. and *O. tenuis* sp. nov. (all species, including *O. rohwedderi* sp. nov. members of the Buergersi species group). It differs from these species by the fourth antennal segment from the tip morphology. This segment is widened to the tip (not parallel or smaller).
Distribution: Jimi and Baiyer River in Western Highlands Province.

***Ophiotettix sanguinea* sp. nov.** (Plate 107 fig. 10, plate 111 figs 10-11, plate 115 figs 10-11, plate 119 figs 10-11, plate 122 fig. 5)
Holotype ♀ BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450 - 500 m, 16.–23.VIII.1959, leg. T. C. Maa.
Paratypes: 2♀ (1/4–2/4) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450– 500 m, 16.–23.VIII.1959, leg. T. C. Maa, deposited in ZFMK (1/4) and BMNH (2/4); 1♂ (3/4) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450– 500 m, 1.–2.VIII.1959, leg. T. C. Maa [antennae lost]; 1♀ (4/4) BPBM: INDONESIAN NEW GUINEA, Waris, S. of Hollandia [3°11'S 140°53'E], 450– 500 m, 24.–31.VIII.1959, leg. T. C. Maa, deposited in NCB–RMNH [antennae damaged].

Derivatio nominis: The specific epithet is a Latin first and second declension adjective in the feminine gender - 'sanguineus, -a. -um', meaning 'bloody', and referring to the reddish hind femora of the holotype.

Description: Antennal segments dark. Only the very apical segment (segment 15 in ♀♀, 14 in ♂♂) and nodes of the basal segments brownish. Fourth to sixth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) lamellate with protruded inner margins of fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂). The dorsal 1/4 of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) parallel towards the tip. Dorsal margin of sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) with distinct edge. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, deeper than lateral carinae. Pronotum with broad yellow lateral stripes. Hind femora reddish with dark knees. Visible part of the abdomen partially yellow. Measurements holotype ♀: pronotum length 9.10 mm, pronotum lobe width 3.80 mm, pronotum height 2.25 mm, hind femur length 7.80 mm, hind femur width 1.95 mm, vertex width 0.43 mm, eye width 0.62 mm, antenna length 7.80 mm, head length 4.65 mm, head index 1.48. Measurements paratypes 4♀: pronotum length (4♀): 8.84 - 9.36 mm, average 9.10 mm; pronotum lobe width (4♀): 3.75 - 3.85 mm, average 3.80 mm; pronotum height (4♀): 1.95 - 2.25 mm, average 2.16 mm; hind femur length (3♀): 7.8 - 8.71 mm, average 8.10 mm; hind femur width (3♀): 1.7 - 1.95 mm, average 1.80 mm; vertex width (4♀): 0.37 - 0.43 mm, average 0.40 mm; eye width (4♀): 0.63 - 0.72 mm, average 0.69 mm; antenna length (3♀): 7.8 - 8.97 mm, average 8.41 mm; head length (4♀): 4.65 - 4.80 mm, average 4.71 mm; head index (4♀): 1.48 - 1.71 mm, average 1.59 mm. Measurements paratype ♂ (3/4): pronotum length 7.28 mm, pronotum lobe width 1.80 mm, pronotum height 1.85 mm, hind femur length 6.50 mm, hind femur width 1.55 mm, vertex width 0.43 mm, eye width 0.66 mm, antenna length no measurements, head length 4.10 mm, head index 1.5.

Differential diagnosis: Together with *O. buergersi* Bolívar, 1929 (both belong to the Buergersi species group) this is the only species with dark apical antennal segments where sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) is broadly lamellate and with a protruding tip or edge at the inner margin. It can be separated from *O. buergersi* by sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂), which bears a not protruding edge. The hind femora of *O. sanguinea* sp. nov. are conspicuously reddish - we did not find such feature in any other species.

Distribution: Waris, south of Jayapura.

***Ophiotettix schapinae* sp. nov.** (Plate 107 fig. 11, plate 111 figs 12-13, plate 115 figs 12-13, plate 119 figs 12-13, plate 122 fig. 6)

Holotype ♀ BPBM: INDONESIAN NEW GUINEA, S[outh] Geelvink Bay, Nabire [3°23'S 135°28'E], 0–30 m, 2.–9.VII.1962, leg. J. L. Gressitt.

Paratypes: 2♀, 1♂ (1/3–3/3) BPBM: INDONESIAN NEW GUINEA, S[outh] Geelvink Bay, Nabire [3°23'S 135°28'E], 0–30 m, 2.–9.VII.1962, leg. J. L. Gressitt, deposited in MNSL (2/3) and ZFMK (3/3) [1♀, 1♂ antennae lost].

Derivatio nominis: Patronymic. The species is named after Ivan Šapina, currently undergraduate student at the Department of Biology (Faculty of Science, University of Zagreb), who helped us with cladistic analysis of Tetrigidae, and who is learning about pygmies and how awesome they are - for all the help and to encourage further interest we are happy to dedicate one species to him - 'Šapina's giraffehopper'. The specific epithet is the genitive case of Ivan's surname, Germanized (making grapheme š into sch) and Latinized (being Genitive case male gender noun of the first Latin declension, usually used for female nouns) Ivan's surname. In Croatian, Serbian, Bosnian, and Montenegrin dialects and languages word šapina is one augmentative of šapa, meaning a large paw.

Description: Antennal segments dark. Third to sixth antennal segments from the tip (segment 10+11+12+13 in ♀♀, 9+10+11+12 in ♂♂) lamellate with little bit protruding inner margins (third to fifth antennal segments from the tip). Inner edge of the dorsal margin of sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) directed backwards. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth




segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) with distinct silver bristles. Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with broad reddish lateral stripes. Hind femora at the dorsal part reddish (female) or whitish (male). Visible part of the abdomen dark. Measurements holotype ♀: pronotum length 9.75 mm, pronotum lobe width 3.60 mm, pronotum height 2.30 mm, hind femur length 8.84 mm, hind femur width 1.80 mm, vertex width 0.41 mm, eye width 0.66 mm, antenna length 8.58 mm, head length 4.90 mm, head index 1.68. Measurements paratype ♀: pronotum length no measurements, pronotum lobe width 4.0 mm, pronotum height 2.25 mm, hind femur length 8.84 mm, hind femur width 1.85 mm, vertex width 0.39 mm, eye width 0.74 mm, antenna length –.– mm, head length 4.90 mm, head index 1.44. Measurements paratype ♂: pronotum length 8.19 mm, pronotum lobe width 3.40 mm, pronotum height 1.80 mm, hind femur length 7.28 mm, hind femur width 1.50 mm, vertex width 0.41 mm, eye width 0.62 mm, antenna length no measurements, head length 4.55 mm, head index 1.55.

Differential diagnosis: *O. schapinae* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with lateral edge protruded into spine or acute angle. Sixth antennal segment from tip is not broadly lamellate. *O. schapinae* sp. nov. is close to *O. modesta* stat. rev., *O. imbiana* sp. nov., *O. rohwedderi* sp. nov. and *O. tenuis* sp. nov. (all members of the Buergersi species group, only *O. buergersi* Bolívar, 1929 not listed). It can be distinguished from the listed species by the dark tip of the fastigium.

Distribution: Nabire.

***Ophiotettix stallei* sp. nov.** (Plate 107 fig. 12, plate 111 fig. 14, plate 115 fig. 14, plate 119 fig. 14, plate 122 fig. 7)

Holotype ♂, IRSNB: PAPUA NEW GUINEA, [Morobe Prov.], Anguaia 1800 m (St. 050) [= Anggaie?, 7°14'S 146°24'E], 21.V.1988, leg. J. van Stalle.

Derivatio nominis: Patronymic. The species is named in honour of its collector Jan van Stalle, a Belgian entomologist, specialized in planthoppers - Homoptera. The specific epithet is the genitive case of the Latinized version of Jan's surname - 'Stalleus, -i, m.'

Description: Apical segments of the antennae black, other segments brownish. Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) little bit lamellate, with only somewhat protruding inner margin of fourth antennal segment from the tip. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Inner edge of the dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) distinct. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together longer than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Inner edge of the dorsal margin of fifth and sixth antennal segments from the tip (segment 10+11 in ♀♀, 9+10 in ♂♂) directed backwards. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) broader than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex, in frontal view, little bit deeper than lateral carinae. Tip of the fastigium, in lateral view, little bit protruding in front of the eyes. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 6.50 mm, pronotum lobe width 3.30 mm, pronotum height 1.75 mm, hind femur length 6.37 mm, hind femur width 1.40 mm, vertex width 0.29 mm, eye width 0.59 mm, antenna length 5.33 mm, head length 3.70 mm, head index 1.2.

Differential diagnosis: *O. stallei* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and the upper edge of fifth antennal segment from the tip straight or curved backwards. Fourth antennal segment from the tip is widened in the whole length towards the tip. It is the only species within the Stallei species group, most similar to Brevicollis species group. There are three other species with similar characters: *O. brevicollis* sp. nov., *O. roesleri* sp. nov. and *O. subbrevicollis* sp. nov. (Brevicollis species group). All species are very small. *O. stallei* sp. nov. differs from *O. brevicollis* sp. nov. and *O. subbrevicollis* sp. nov. by dark tip of the fastigium. From *O. roesleri* sp. nov. it differs in sixth antennal segment from the tip which is widened, has recognizable edges and is




smaller than third antennal segment from the tip.
Distribution: Anggaie (Kuper Range).

***Ophiotettix storozhenkoi* sp. nov.** (Plate 107 figs 13-14, plate 111 figs 15-16, plate 115 figs 15-16, plate 119 figs 15-16, plate 122 fig. 8, plate 124 figs 1-2)

Holotype ♂ BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, sedge (large), 700–900 m, 3.VI.1959, leg. J. L. Gressitt.
Paratypes: 4♀, 2♂ (1/28–6/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 4.VI.1959, leg. J. L. Gressitt, deposited in NME (1/28), ZFMK (2/28, 5/28) and NCB–RMNH (3/28); 2♀, 1♂ (7/28–9/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 5.VI.1959, leg. J. L. Gressitt [2♂ antennae lost]; 4♂ (10/28–13/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 6.VI.1959, leg. J. L. Gressitt, deposited in MNSL (10/28) [1♂ antennae lost]; 2♀, 1♂ (14/28–16/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 7.VI.1959, leg. T. C. Maa, deposited in NCB–RMNH (16/28), [1♀ antennae lost]; 1 ♂ (17/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 7.VI.1959, leg. J. L. Gressitt, deposited in ANSP; 1♂ (18/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 9.VI.1959, leg. J. L. Gressitt, deposited in BMNH; 1♀ (19/28), INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 9.VI.1959, leg. T. C. Maa [antennae lost]; 1♀ (20/28), INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 10.VI.1959, leg. T. C. Maa, deposited in BMNH; 1♂ (21/28) ANSP: INDONESIAN NEW GUINEA, [Vogelkop], Fak Fak, [2°55'S 132°17'E] [antennae lost]; 1♀, 1♂ (22/28–23/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop, Fak Fak, S. coast of Bomberai [2°55'S 132°17'E], 100–700 m, 4.VI.1959, leg. T. C. Maa [1♀ antennae lost]; 2♂, 1♀ nymph (24/28–26/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop, Fak Fak, S. coast of Bomberai [2°55'S 132°17'E], 100–700 m, 5.VI.1959, leg. T. C. Maa [1♂ antennae lost]; 1♀ (27/28) BPBM: INDONESIAN NEW GUINEA, Vogelkop, Fak Fak, S. coast of Bomberai [2°55'S 132°17'E], 100–700 m, 8.VI.1959, leg. T. C. Maa [antennae lost]; 1♀ (28/28), NME: Fak–Fak peninsula, Fak–Fak, 12–13 km N, 2°50'06''S 132°18'22''E, 880–920 m, primeval mossy mountain rainforest on limestone, 24.IX.2010, leg. D. Telnov [antennae damaged].
Additional material: 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, sedge (large), 700–900 m, 3.VI.1959, leg. J. L. Gressitt; 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 4.VI.1959, leg. J. L. Gressitt; 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, sweeping, 700–900 m, 6.VI.1959, leg. T. C. Maa; 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 6.VI.1959, leg. J. L. Gressitt; 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop [Onin Peninsula], Bomberi, 700–900 m, 7.VI.1959, leg. T. C. Maa; 1♀ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop, Fak Fak, S. coast of Bomberai [2°55'S 132°17'E], 100–700 m, 4.VI.1959, leg. T. C. Maa; 2♀ nymphs, 1♂ nymph BPBM: INDONESIAN NEW GUINEA, Vogelkop, Fak Fak, S. coast of Bomberai [2°55'S 132°17'E], 100–700 m, 5.VI.1959, leg. T. C. Maa.

Derivatio nominis: Patronymic. The species is named in honour of Russian entomologist, specialized in classification, distribution, and ecology of Polyneoptera, who significantly contributed to Tetrigidae studies of Asia, Wallacea, and New Guinea - Sergey Yu. Storozhenko, our dear colleague and also member of SIGTET - Special Interest Group Tetrigidae. The specific epithet is the genitive case of Sergey's Latinized surname 'Storozhenkous, -i, m'.
Description: Apical segments of the antennae brownish, subapical segments of the antennae black, other segments more brownish. Third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) like a "cup", with a long tip at the inner margin. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium dark. Median carina of the vertex deeper than lateral carinae of the vertex. Pronotum with yellow stripes. Visible part of the abdomen predominantly black. Hind femora dark. Measurements holotype ♂: pronotum length 7.80 mm, pronotum lobe width 3.10 mm, pronotum height 1.70 mm, hind femur length 7.93 mm, hind femur width 1.45 mm, vertex width 0.43 mm, eye width 0.64 mm, antenna length 7.54 mm, head length 4.75 mm, head index 1.59. Measurements paratypes 12♀: pronotum length (12♀): 8.97 - 10.14 mm, average 9.64 mm; pronotum lobe width (12♀): 3.6 - 3.85 mm, average 3.73 mm; pronotum height (12♀): 1.65 - 2.15 mm, average 1.92 mm; hind femur length (12♀): 8.06 - 9.23 mm, average 8.82 mm; hind femur width (12♀): 1.6 - 1.80 mm, average 1.71 mm; vertex width (12♀): 0.45 - 0.57 mm, average 0.49 mm; eye width (12♀): 0.64 - 0.72 mm, average 0.67 mm; antenna length (7♀): 7.8 - 10.01 mm, average 8.88



mm; head length (12♀): 4.88 - 5.28 mm, average 5.11 mm; head index (12♀): 1.57 - 1.82 mm, average 1.68 mm. Measurements paratypes 13♂: pronotum length (12♂): 7.54 - 8.71 mm, average 8.05 mm; pronotum lobe width (13♂): 3.05 - 3.45 mm, average 3.17 mm; pronotum height (13♂): 1.5 - 1.85 mm, average 1.67 mm; hind femur length (13♂): 7.28 - 8.32 mm, average 7.83 mm; hind femur width (13♂): 1.35 - 1.55 mm, average 1.48 mm; vertex width (13♂): 0.41 - 0.55 mm, average 0.48 mm; eye width (13♂): 0.59 - 0.68 mm, average 0.64 mm; antenna length (9♂): 7.54 - 9.23 mm, average 8.42 mm; head length (13♂): 4.4 - 4.95 mm, average 4.66 mm; head index (13♂): 1.57 - 1.74 mm, average 1.70 mm.

Differential diagnosis: *O. storozhenkoi* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and third antennal segment from the tip with distinctly protruded long tip at the inner margin. *O. storozhenkoi* sp. nov. is morphologically similar to *O. cygnicollis* Walker, 1871, *O. amberiana* sp. nov., *O. pushkari* sp. nov. (members of Cygnicollis species group, together with *O. storozhenkoi* sp. nov.) and *O. toxopei* sp. nov. (Toxopei species group). From aforementioned species this is the only species with deep vertex.

Distribution: Fak Fak Mountains, Onin Peninsula in the west part of the Bomberai Peninsula.

***Ophiotettix subbrevicollis* sp. nov.** (Plate 107 figs 115-16, plate 111 figs 17-18, plate 115 figs 17-18, plate 119, figs 17-18, plate 122 fig. 9)

Holotype ♂ AMS: PAPUA NEW GUINEA, [Morobe Prov.], Melambi R., Lae, Mirilunga Village, 4500 ft, 29.XII.1956, leg. J. H. Ardley.

Paratypes: ♀ (1/11) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Salawaket Range, Baindep, 1260 m, 16.IX.1956, leg. E. J. Ford jr.; 2♀ (2/11–3/11) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Salawaket Range, Mosom, 750 m, 20.IX.1956, leg. E. J. Ford jr.; 1♀ (4/11) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Salawaket Range, Tuwep, 1350 m, 8.IX.1956, leg. E. J. Ford jr.; 1♀ (5/11) BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Salawaket Range, Tuwep, 1350 m, 9.IX.1956, leg. E. J. Ford jr.; 3♀ (6/11–8/11) AMS: PAPUA NEW GUINEA, [Morobe Prov.], Melambi R., Lae, Mirilunga Village, 4500 ft, 29.XII.1956, leg. J. H. Ardley; 1♂ (9/11) AMS: PAPUA NEW GUINEA, [Morobe Prov.], Melambi R., Lae, Mirilunga Village, 4500 ft, 16.VI.1957, leg. J. H. Ardley [antennae lost]; 1♀, 1♂ (10/11–11/11) AMS: PAPUA NEW GUINEA, [Madang Prov..], Finisterre Range, nr. Butemu [5°56'S 146°04'E], 4000 ft, 8.IX.1956, leg. R. Pullen.

Additional material: 1♀ BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Huon Pen., Laleng, 23.IV.1963, leg. J. Sedlacek [antennae lost]; 1♀ nymph BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Salawaket Range, Gewak [6°26'S 146°53'E], 1530m, 7.IX.1956, leg. E. J. Ford jr.

Derivatio nominis: The species name is combination of three words - 'sub', 'brevis', and 'collis'. 'Sub' is preposition with ablative case meaning 'under', 'brevis' is third declension adjective meaning 'short' and 'collis' is ablative of neuter gender noun, meaning 'neck'. Literal translation of the binomen is 'Snakehopper (Giraffehopper) under the short necks'. The species is, as it is already clear, named after its short neck.

Description: Apical and subapical segments of the antennae black, other segments brownish. Fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) little bit lamellate, with only somewhat protruding inner margins. Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Inner edge of the dorsal margin of fifth and sixth antennal segments from the tip (segments 10+11 in ♀♀, 9+10 in ♂♂) directed backwards. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together as long as third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, somewhat deeper than lateral carinae of the vertex. Pronotum with yellow stripes. Hind femora and visible part of the abdomen partially yellow. Measurements holotype ♂: pronotum length 7.02 mm, pronotum lobe width 3.05 mm, pronotum height 1.70 mm, hind femur length 6.89 mm, hind femur width 1.45 mm, vertex width 0.37 mm, eye width 0.61 mm, antenna length 6.63 mm, head length 4.25 mm, head index 1.22. Measurements paratypes 10♀: pronotum length (10♀): 7.8 - 9.36 mm, average 8.35 mm; pronotum lobe width (10♀): 3.4 - 3.85 mm, average 3.55 mm; pronotum height (10♀): 1.8 - 2.35 mm, average 2.12 mm; hind femur length (8♀): 7.65 - 8.45 mm, average 7.91 mm; hind femur width (8♀): 1.55 - 1.70 mm, average 1.62 mm; vertex width (10♀): 0.39 - 0.49 mm, average 0.43 mm; eye width (10♀): 0.59 - 0.64 mm, average 0.61 mm; antenna length (9♀): 6.76 - 7.93 mm, average 7.28 mm; head length (10♀): 4.45 - 4.75 mm, average 4.63 mm; head index (10♀): 1.48 - 1.67 mm, average 1.61 mm.




Measurements paratypes 3♂: pronotum length (3♂): 7.02 - 7.67 mm, average 7.28 mm; pronotum lobe width (3♂): 3.0 - 3.20 mm, average 3.08 mm; pronotum height (3♂): 1.7 –1.75 mm, average 1.73 mm; hind femur length (3♂): 6.89 - 7.41 mm, average 7.19 mm; hind femur width (3♂): 1.4 - 1.50 mm, average 1.45 mm; vertex width (3♂): 0.37 - 0.43 mm, average 0.39 mm; eye width (3♂): 0.57 - 0.61 mm, average 0.59 mm. Antenna length (1): 6.63 mm, average 6.63 mm; head length (3♂): 4.15 - 4.40 mm, average 4.27 mm; head index (3♂): 1.22 - 1.55 mm, average 1.41 mm.

Differential diagnosis: *O. subbrevicollis* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and the upper edge of fifth antennal segment from the tip being straight or curved backwards. Fourth antennal segment from the tip is widened in the whole length towards the tip. There are three other species with similar characters: *O. brevicollis* sp. nov., *O. roesleri* sp. nov. (Brevicollis species group) and *O. stallei* sp. nov. (Stallei species group, close to Brevicollis species group). All species are very small. *O. subbrevicollis* sp. nov. can be distinguished from *O. roesleri* sp. nov. and *O. stallei* sp. nov. by brightened tip of the fastigium. From *O. brevicollis* sp. nov. it can easily be separated by sixth antennal segment from the tip which is widened and has recognizable edge.

Distribution: Finisterre and Saruwaked Range.

***Ophiotettix telefominensis* sp. nov.** (Plate 107 fig. 17, plate 111 fig. 19, plate 115 fig. 19, plate 119 fig. 19, plate 122 Fig. 10)

Holotype ♂ BPBM: PAPUA NEW GUINEA, [Western Prov.], Telefomin (Light Trap) [5°08'S 141°35'E], 1450 m, 4.–7.IX.1963, leg. R. Straatman.

Additional material: ♀ or ♂ nymph BPBM: PAPUA NEW GUINEA, [Western Prov.], Telefomin [5°08'S 141°35'E], 1450 m, 7.VIII.1963, leg. R. Straatman (BPBM).

Derivatio nominis: Toponymic. The species is named after its type locality. The specific epithet is third Latin declension adjective in feminine gender derived from name of the type locality - 'telefominenis, –e', meaning 'from Telefomin', but can also be regarded as noun describing inhabitant (Telefominensis, –is, f.) - meaning 'Giraffehopper - the Telefominian'.

Description: One of the smaller species. Apical segments of the antennae black, other segments brownish. No antennal segments with a clear tip at the inner margin, but fourth and fifth antennal segments from the tip (segments 11+12 in ♀♀, 12+13 in ♂♂) little bit lamellate, with a distinct minute tip. Two apical segments (segment 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run divergent to the tip. Tip of the fastigium dark. Median carina of the vertex, in frontal view, somewhat deeper than lateral carinae of the vertex. Tip of the fastigium, in lateral view, significantly protruded in front of the eyes. Pronotum without or with yellow stripes. Visible part of the abdomen and hind femora partially yellow. Measurements holotype ♂: pronotum length 8.06 mm, pronotum lobe width 3.45 mm, pronotum height 1.80 mm, hind femur length 7.15 mm, hind femur width 1.65 mm, vertex width 0.33 mm, eye width 0.62 mm, antenna length 7.15 mm, head length 4.15 mm, head index 1.05.

Differential diagnosis: *O. telefominensis* sp. nov. could be regarded as a neotenic form, a species with distinctly protruding fastigium (pygmy unicorn giraffehopper). Little bit protruded fastigium in front of the eyes (in lateral view) is found also in *O. westwoodi* stat. rev. (Westwoodi species group), *O. parvicollis* sp. nov. (Brevicollis species group), *O. projecta* sp. nov. (Limosina species group), *O. rohwedderi* sp. nov. (Buergersi species group), *O. stallei* sp. nov. (Stallei species group) and *O. subbrevicollis* sp. nov. (Brevicollis species group). Obviously, this produced vertex is a nymphal character and can be regarded as neotenic. Antennal morphology of species with prolonged vertex is not similar, nor head morphology and colouration. It seems this developed separately in a lot of species groups within *Ophiotettix*. *O. telefominensis* sp. nov. is the only species of *Ophiotettix* with divergent lateral carinae of the vertex.

Distribution: Mount Telefomin.

***Ophiotettix tenuis* sp. nov.** (Plate 108 figs 1-2, plate 112 figs 1-2, plate 116 figs 1-2, plate 120 figs 1-2, plate 122 fig. 11)

Holotype ♂ NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 24.III.1939, leg. L. J. Toxopeus.

Paratypes: 1♀ (1/3) NCB–RMNH: INDONESIAN NEW




GUINEA, Rattan Camp [3°30'S 139°09'E], 1000 m, 7.II.1939, leg. L. J. Toxopeus; 1♀ (2/3) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1150 m, 13.II.1939, leg. L. J. Toxopeus, deposited in BPBM [antennae lost]; 1♂ (3/3) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 24.III.1939, leg. L. J. Toxopeus, deposited in ZFMK.

Derivatio nominis: The specific epithet is third declension Latin adjective 'tenuis, -e' meaning thin, fine, slim, or slender. We picked this epithet due to moderately widened antennal segments, which are, within the Buergersi species group - slender and thin.

Description: Apical segments of the antennae black, other segments brownish. Third to fifth antennal segments from the tip (segments 11+12+13 in ♀♀, 10+11+12 in ♂♂) lamellate with somewhat protruding inner margins. Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segment 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). Fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) widened towards the tip. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) as broad as third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex, in frontal view, as high as lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen and hind femora partially yellow. Measurements holotype ♂: pronotum length 7.93 mm, pronotum lobe width 3.45 mm, pronotum height 1.85 mm, hind femur length 9.10 mm, hind femur width 1.35 mm, vertex width 0.43 mm, eye width 0.66 mm, antenna length 10.27 mm, head length 4.96 mm, head index 1.96. Measurements paratype ♀♀ (1/3+2/3): pronotum length 9.75+9.23 mm, pronotum lobe width 3.8+3.65 mm, pronotum height 2.1+1.95 mm, hind femur length - +9.49 mm, hind femur width - +1.55 mm, vertex width 0.51+0.49 mm, eye width 0.68+0.70 mm, antenna length 10.92+ no measurement, head length 5.28+5.20 mm, head index 2.0+1.96. Measurements paratype ♂ (3/3): pronotum length 9.36 mm, pronotum lobe width 3.90 mm, pronotum height 1.95 mm, hind femur length 9.75 mm, hind femur width 1.50 mm, vertex width 0.51 mm, eye width 0.70 mm, antenna length 10.14 mm, head length 5.44 mm, head index 2.0.

Differential diagnosis: *O. tenuis* sp. nov. is one of the species without pale coloured apical antennal segments, subapical antennal segments with lamellate inner margins and fifth antennal segment from the tip with lateral edge protruded into spine or acute angle. Sixth antennal segment from tip is not broadly lamellate. *O. tenuis* sp. nov. is similar in morphology to *O. modesta* stat. rev., *O. imbiana* sp. nov., *O. rohwedderi* sp. nov. and *O. schapinae* sp. nov. (all members of the Buergersi species group, only *O. buergersi* Bolívar, 1929 here not listed). It differs from *O. rohwedderi* sp. nov. and *O. schapinae* sp. nov. in two apical antennal segments which are together shorter than third antennal segment from the tip (not as long as). It can be separated from *O. modesta* stat. rev. and *O. imbiana* sp. nov. by the flat, not deep vertex.

Distribution: Upper Mamberamo River basin.

***Ophiotettix toxopei* sp. nov.** (Plate 108 figs 3-4, plate 112 figs 3-4, plate 116 figs 3-4, plate 120 figs 3-4, plate 122 fig. 12)

Holotype ♂ NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800m, 8.III.1939, leg. L. J. Toxopeus

Paratypes: 1♀, 1♂ (1/11–2/11) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1000 m, 7.II.1939, leg. L. J. Toxopeus, deposited in BPBM (1/11), [antennae lost]; 1♀ (3/11) NCB–RMNH: INDONESIAN NEW GUINEA, Rattan Camp [3°30'S 139°09'E], 1100 m, 2.III.1939, leg. L. J. Toxopeus; 1♂ (4/11) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 14.III.1939, leg. L. J. Toxopeus, deposited in ZFMK [antennae lost]; 1♀, 1♂ (5/11–6/11) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 18.III.1939, leg. L. J. Toxopeus [1♀, 1♂ antennae lost]; 1♀ (7/11) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 22.III.1939, leg. L. J. Toxopeus, deposited in BMNH [antennae lost]; 4♀ (8/11–11/11) NCB–RMNH: INDONESIAN NEW GUINEA, Araucaria Camp [3°30'S 139°11'E], 800 m, 2.IV.1939, leg. L. J. Toxopeus, deposited in ZFMK (11/11), [8/11–10/11 antennae lost].

Derivatio nominis: Patronymic. The species is named after its collector and Dutch India (Java born) entomologist, primarily lepidopterist and zoology professor (University of Batavia), Lambertus Johannes Toxopeus (1894-1951). He took part in the 1938-1939 Richard Archbold expedition in New Guinea, where he collected vast amount of, among others - *Ophiotettix* specimens. We are glad to dedicate this species to him. The specific epithet in Genitive case of Lamertus' surname (second, -us Latin declension) - Toxopei. Haec species est




Lamberti Joahannis Toxopei.

Description: Apical segments of the antennae black, other segments brownish. Third and fourth antennal segments from the tip (segments 11+12 in ♀♀, 10+11 in ♂♂) broadly lamellate with a short tip at the inner margin (this is characteristic only for this species - alone in the Toxopei species group). Two apical segments (segments 14+15 in ♀♀, 13+14 in ♂♂) together shorter than third apical segment (segment 13 in ♀♀, 12 in ♂♂). Three apical segments (segments 13+14+15 in ♀♀, 12+13+14 in ♂♂) together longer than fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂). The dorsal 1/4 of fourth antennal segment from the tip (segment 12 in ♀♀, 11 in ♂♂) convergent towards the tip. Inner dorsal margin of fifth antennal segment from the tip (segment 11 in ♀♀, 10 in ♂♂) curved backwards. Sixth antennal segment from the tip (segment 10 in ♀♀, 9 in ♂♂) narrower than third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂). Lateral carinae of the vertex run parallel. Tip of the fastigium brightened. Median carina of the vertex deeper than lateral carinae. Pronotum with yellow stripes. Visible part of the abdomen and hind femora partially yellow. Measurements holotype ♂: pronotum length 7.67 mm, pronotum lobe width 3.35 mm, pronotum height 1.65 mm, hind femur length 9.10 mm, hind femur width 1.50 mm, vertex width 0.43 mm, eye width 0.70 mm, antenna length 10.66 mm, head length 4.72 mm, head index 1.71. Measurements paratypes 8♀: pronotum length (8♀): 9.36 - 11.05 mm, average 9.95 mm; pronotum lobe width (8♀): 3.7 - 4.25 mm, average 3.91 mm; pronotum height (8♀): 2.05 - 2.30 mm, average 2.21 mm; hind femur length (7♀): 9.75 - 10.66 mm, average 10.03 mm; hind femur width (7♀): 1.55 - 1.65 mm, average 1.59 mm; vertex width (8♀): 0.49 - 0.55 mm, average 0.53 mm; eye width (8♀): 0.62 - 0.74 mm, average 0.69 mm; antenna length (2♀): 10.4 - 10.66 mm, average 10.53 mm; head length (8♀): 5.2 - 5.76 mm, average 5.39 mm; head index (8♀): 1.52 - 1.96 mm, average 1.83 mm. Measurements paratypes 4♂: pronotum length (4♂): 6.63 - 7.93 mm, average 7.44 mm; pronotum lobe width (4♂): 3.15 - 3.50 mm, average 3.34 mm; pronotum height (4♂): 1.65 - 1.80 mm, average 1.71 mm; hind femur length (4♂): 8.97 - 9.49 mm, average 9.23 mm; hind femur width (4♂): 1.4 - 1.50 mm, average 1.43 mm; vertex width (4♂): 0.43 - 0.51 mm, average 0.48 mm; eye width (4♂): 0.64 - 0.70 mm, average 0.68 mm; antenna length (1♂): 10.66 mm, average 10.66 mm; head length (4♂): 4.72 - 5.10 mm, average 4.89 mm; head index (4♂): 1.71 - 1.78 mm, average 1.74 mm.

Differential diagnosis: *O. toxopei* sp. nov. is unique in having widened third antennal segment from the tip (segment 13 in ♀♀, 12 in ♂♂) that is as broad as the widened fourth segment from the tip (segment 12 in ♀♀, 11 in ♂♂).

Distribution: Upper Mamberamo River basin.

Annotated list of unidentifiable material

1♀ BPBM: INDONESIAN NEW GUINEA, S[outh] Geelvink Bay, Nabire [3°23'S 135°28'E], 0-30 m, 2.-9.VII.1962, leg. J. L. Gressitt [antennae lost].

Only known species from this region is *O. schapinae*. This specimen cannot be assigned to this species, or to any of the species distributed nearby, namely *O. luce, O. bomberaiensis, O. scolopax, O. filiforma*. More specimens and especially specimens with antennae are essential for understanding the identity of this specimen.

2♀ BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Muming [= Mumeng, 6°59'S 146°35'E], 600 m, 9.-10.III.1962, leg. J. Sedlacek [antennae lost].

O. brevicollis is the only species known in this region according to the examined collection. These females are not conspecific with this species or with other species nearest to this place (*O. parvicollis, O. stallei, O. kaitani*). More specimens, with preserved antennae are needed to identify these specimens accurately.

1♂ BPBM: PAPUA NEW GUINEA, [Morobe Prov.], Waru [6°59'S 146°35'E], 180 m, 5.VII.1963, leg. R. Straatman [antennae lost].

Specimen seems to be conspecific with *O. westwoodi,* despite of *O. modesta* being distributed in this area, as well - but final confirmation is not possible because the antennae are lost.

1♂ NCB-RMNH: INDONESIAN NEW GUINEA, Star Range, tussen Sibil en Ariemkop [= Arimkop, 4°46'S 140°38'E], 1240 m, 25.V.1959 [antennae lost].

Not conspecific with *O. quateorum* and may be a new species.

1♀ NCB-RMNH: INDONESIAN NEW GUINEA, Egemendora [Paniai Regency], midden X.1939, Nieuw Guinea Exp. K.NAG., leg. Eyma [antennae lost].

Close to *O. roesleri,* however bigger and different in colouration. In frontal view above the clypeal triangle there are reddish triangles on its left and right sides.




1♀ TELNOV: Doberai Peninsula, Ayamaru vill., 2,5-2,1 km NW, forest along Framu creek, 1°15'30''S 132°11'13''E, ~310-265 m, primary lowland rainforest on limestone, 3.IX.2015, leg. D. Telnov [antennae lost]; 1♀ TELNOV: Doberai Peninsula, Ayamaru vill., ~23 km SE, Aqafu spings, 1°23'15''S 132°22'04''E, ~330-340 m, primary lowland rainforest on limestone, near the spring, 4.IX.2015, leg. D. Telnov [antennae lost].
Not assignable to the known species from Doberai Peninsula (*O. limosina, O. pushkari, O. cygnicollis*). It seems to be closely related to *O. bomberaiensis*, but is visibly bigger than the species from the Bomberai Peninsula. Likely new species.

2♀, 1♂ BPBM: PAPUA NEW GUINEA, [East Sepik Prov.], Angoram [4°3'S 144°4'E], 20-30 m, 14.-16.VIII.1969, leg. J. L. & M. Gressitt [all antennae lost].

1♀, 1♂ BPBM: PAPUA NEW GUINEA, [East Sepik Prov.], Amok [3°35'S 142°57'E], 165 m, 6.I.1960, leg. T. C. Maa [antennae lost or damaged].

1♀ BPBM: PAPUA NEW GUINEA, East Sepik Prov., Dreikikir [3°35'S 142°46'E], Palms, 350 m, 24.VI.1961, leg. J. L. & M. Gressitt [antennae lost]. 1♀ nymph BPBM: PAPUA NEW GUINEA, Sepik Distr., Dreikikir, 350 m, 25.VI.1961, leg. J. L. & M. Gressitt.

1♂ BPBM: INDONESIAN NEW GUINEA, Morobe Prov., Mt. Lawson [7°44'S 146°37'E], 50-200 m, on *Trema orientalis*, 16.III.1974, leg. Gressitt & Reni.

1♀ BPBM: PAPUA NEW GUINEA, Morobe Prov., Kuper Range, 25 km SE Salamaua [7°15'S 146°57'E], 25.-26.I.1969, leg. J. Sedlacek.
The specimen is close in morphology to *O. kaitani* but is found significantly outside the distribution area. More specimens from Kuper Range are needed to assign identity of this population.

One species that is not described because of lack of physical specimens was photographed by a few authors in Muller Range (Papua New Guinea) - among them Piotr Naskrecki (Plate 104 fig. 5, plate 123 figs 2 & 5) and David Rentz. There are no specimens collected in Muller Range and after studying the photos it is obviously a new species.

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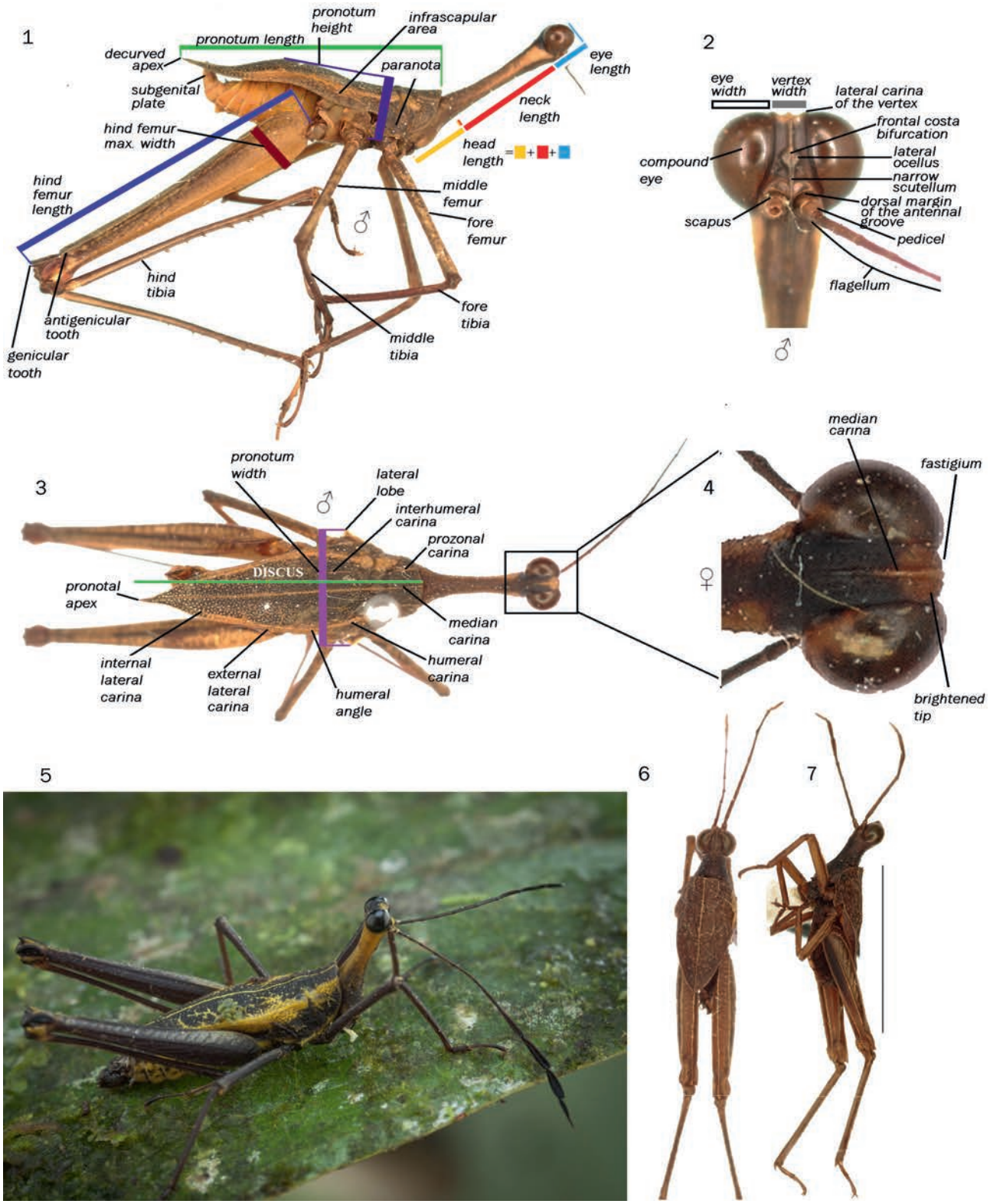
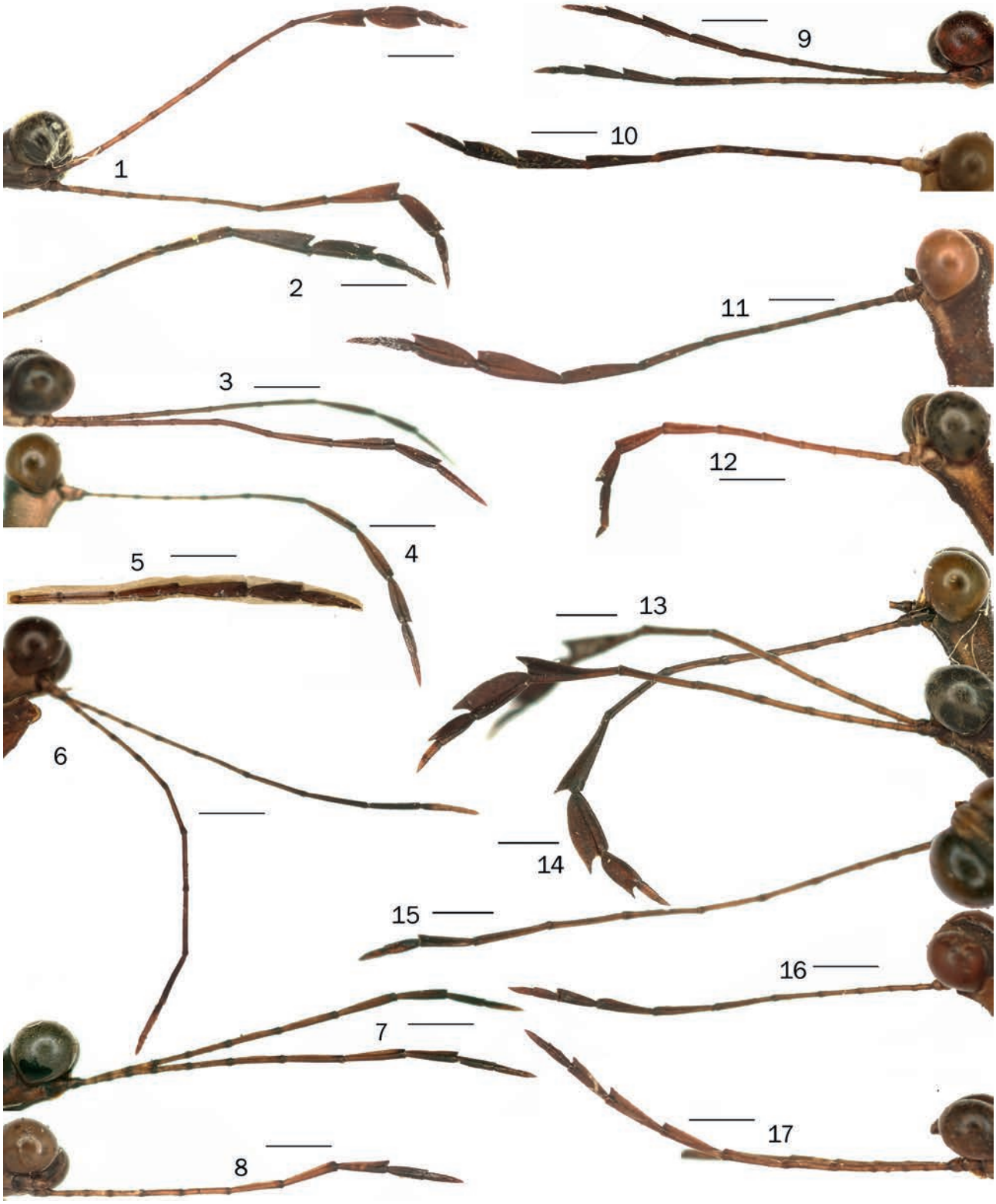


Figures 1-7. Morphology and measurements relevant for *Ophiotettix* taxonomy. 1-4 – Morphological terminology and measurements shown on the example of *O. scolopax* Bolívar, 1929, various views; 5 – Living specimen of undescribed *Ophiotettix* sp. from Muller range, Papua New Guinea, Southern Highlands Province (photo: P. Naskrecki, published with permission); 6-7 – Nymph morphology shown on the example of *O. bomberaiensis* sp. nov. [scale bar 1 cm].

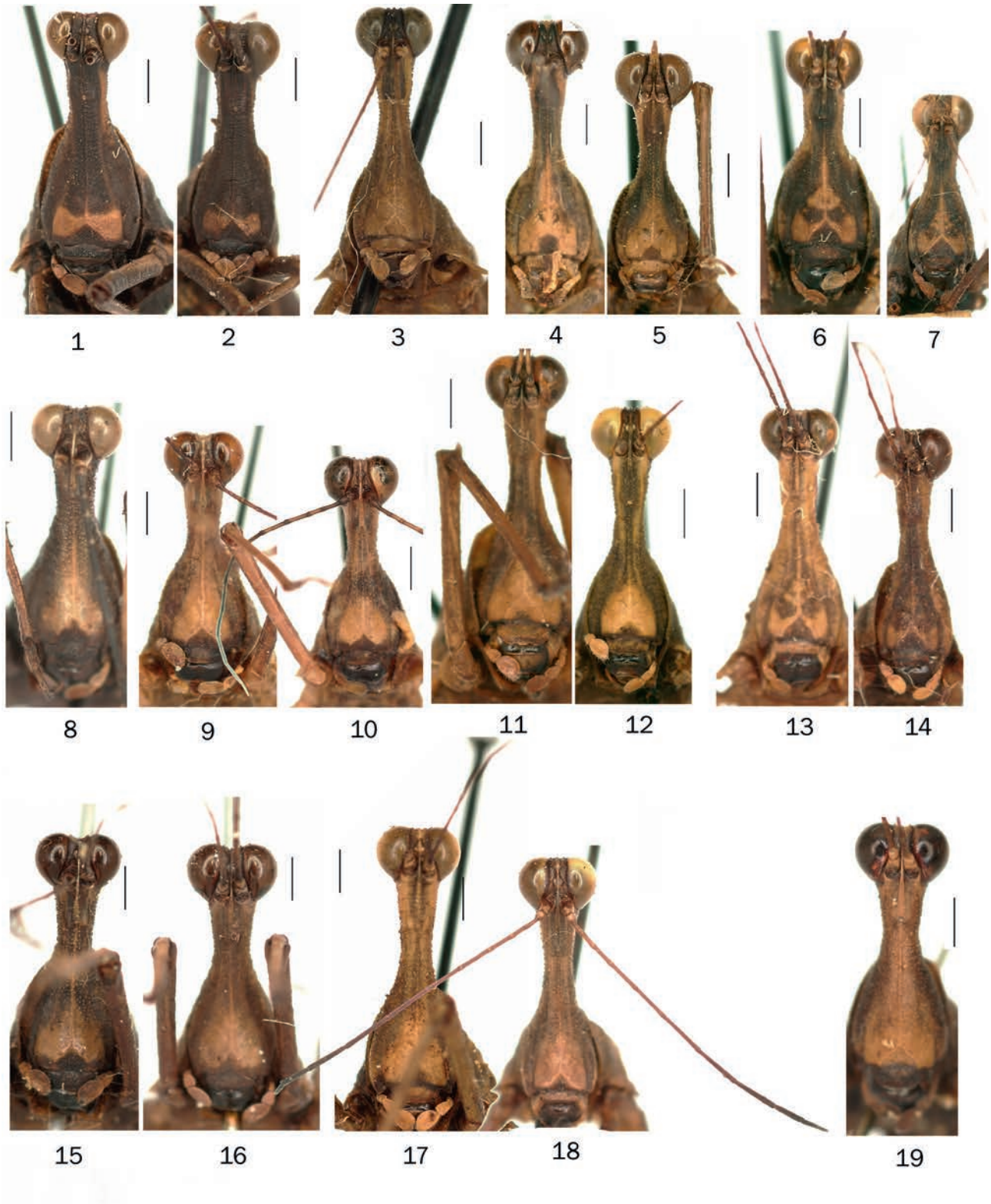
Figures 1-17. Antennal morphology of *Ophiotettix* species. 1 – *O. amberiana* sp. nov., holotype (HT) ♂; 2 – *O. bewana* sp. nov., HT ♀; 3 – *O. bomberaiensis* sp. nov., paratype (PT) 20/27 ♀; 4 – ditto, HT ♂; 5 – *O. brevicollis* sp. nov., PT 13/41 ♀; 6 – ditto, HT ♂; 7 – *O. cheesmanae* sp. nov., HT ♀; 8 – *O. depressa* sp. nov., PT 1/4 ♀; 9 – ditto, HT ♂; 10 – *O. filiforma* sp. nov., PT 5/31 ♀; 11 – ditto, HT ♂; 12 – *O. flyriveriensis* sp. nov., PT 21/24 ♀; 13 – ditto, HT ♂; 14 – *O. fritzpahli* sp. nov., HT ♂; 15 – ditto, PT 1/18 ♀; 16 – *O. hansscholteni* sp. nov., PT 1/3 ♀; 17 – *O. imbiana* sp. nov., HT ♂ [scale bars 1 mm].

Figures 1-14. Antennal morphology of *Ophiotettix* species. 1 – *O. kaitani* sp. nov., paratype (PT) 7/11 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. karimuiensis* sp. nov., PT 13/22 ♀); 4 – ditto, HT ♂; 5 – *O. katharinae* sp. nov., PT ♀; 6 – ditto, HT ♂; 7 – *O. luce* sp. nov., HT ♀; 8 – *O. meggy* sp. nov., HT ♀; 9 – *O. mountnokensis* sp. nov., PT 6/12 ♀; 10 – ditto, HT ♂; 11 – *O. parvicollis* sp. nov., PT 5/5 ♀; 12 – ditto, HT ♂; 13 – *O. projecta* sp. nov., HT ♂; 14 – *O. pulcherrima* sp. nov., PT 3/8 ♀ [scale bars 1 mm].



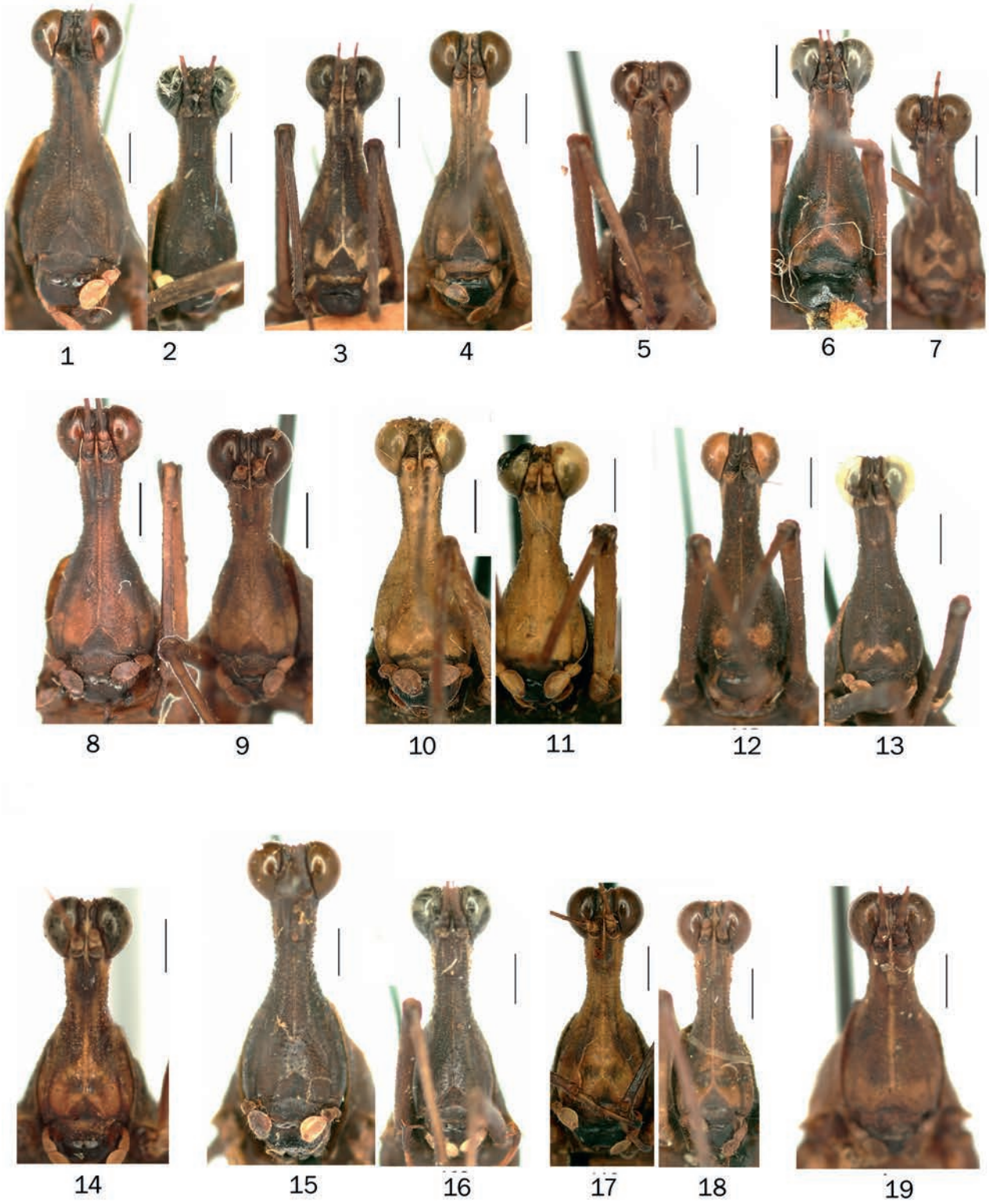
Figures 1-17. Antennal morphology of *Ophiotettix* species. 1 – *O. pushkari* sp. nov., holotype (HT) ♂; 2 – ditto, paratype (PT) ♀; 3 – *O. quateorum* sp. nov., HT ♀; 4 – ditto, PT 1/8 ♀; 5 – ditto, PT 7/8 ♂; 6 – *O. rebrinae* sp. nov., HT ♂; 7 – *O. roesleri* sp. nov., PT 1/18 ♀; 8 – ditto, HT ♂; 9 – *O. rohwedderi* sp. nov., PT 1/5 ♀; 10 – *O. sanguinea* sp. nov., HT ♀; 11 – *O. schapinae* sp. nov., HT ♀; 12 – *O. stallei* sp. nov., HT ♂; 13 – *O. storozhenkoi* sp. nov., PT ♀; 14 – ditto, HT ♂; 15 – *O. subbrevicollis* sp. nov., PT 1/11 ♀; 16 – ditto, HT ♂; 17 – *O. telefominensis* sp. nov., HT ♂ [scale bars 1 mm].

Figures 1-14. Antennal morphology of *Ophiotettix* species. 1 – *O. tenuis* sp. nov., paratype (PT) 1/3 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. toxopei* sp. nov., PT 3/11 ♀; 4 – ditto, HT ♂; 5 – *O. buergersi* Bolívar, 1929, HT ♂; 6 – *O. cygnicollis* Walker, 1871, ♂ from Ramoi, Doberai Peninsula, W New Guinea (not a type); 7 – ditto, ♀ from Ransiki, Doberai Peninsula, W New Guinea (not a type); 8 – *O. limosina* (Snellen van Vollenhoven, 1865), lectotype ♀; 9 – ditto, ♂ from Klamono, Doberai Peninsula, W New Guinea (not a type); 10 – *O. lorentzi* Bolívar, 1929, HT ♀; 11 – *O. modesta* Bolívar, 1929, PT ♂; 12 – ditto, HT ♂; 13 – *O. scolopax* Bolívar, 1929, HT ♀; 14 – *O. westwoodi* Bolívar, 1929 stat. rev., HT ♂ [scale bars 1 mm].



Figures 1-19. Heads of *Ophiotettix* species in frontal view. 1 – *O. amberiana* sp. nov., paratype (PT) 1/7 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. bewana* sp. nov., HT ♀; 4 – *O. bomberaiensis* sp. nov., PT 20/27 ♀; 5 – ditto, HT ♂; 6 – *O. brevicollis* sp. nov., PT 13/41 ♀; 7 – ditto, HT ♂; 8 – *O. cheesmanae* sp. nov., HT ♀; 9 – *O. depressa* sp. nov., PT 1/4 ♀; 10 – ditto, HT ♂; 11 – *O. filiforma* sp. nov., HT ♂; 12 – ditto, PT 5/31 ♀; 13 – *O. flyriveriensis* sp. nov., PT 21/24 ♀; 14 – ditto, HT ♂, 15 – *O. fritzpahli* sp. nov., PT 1/18 ♀; 16 – ditto, HT ♂; 17 – *O. hansscholteni* sp. nov., PT 1/3 ♀; 18 – ditto, HT 1/3 ♂; 19 – *O. imbiana* sp. nov., HT ♂ [scale bars 1 mm].

Figures 1-14. Heads of *Ophiotettix* species in frontal view. 1 – *O. kaitani* sp. nov., paratype (PT) 7/11 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. karimuiensis* sp. nov., PT 13/22 ♀; 4 – ditto, HT ♂; 5 – *O. katharinae* sp. nov., PT ♀; 6 – ditto, HT ♂; 7 – *O. luce* sp. nov., HT ♀; 8 – *O. meggy* sp. nov., HT ♀; 9 – *O. mountnokensis* sp. nov., HT ♂; 10 – ditto, PT 6/12 ♀; 11 – *O. parvicollis* sp. nov., PT 5/5 ♀; 12 – ditto, HT ♂; 13 – *O. projecta* sp. nov., HT ♂; 14 – *O. pulcherrima* sp. nov., PT 3/8 ♀ [scale bars 1 mm].



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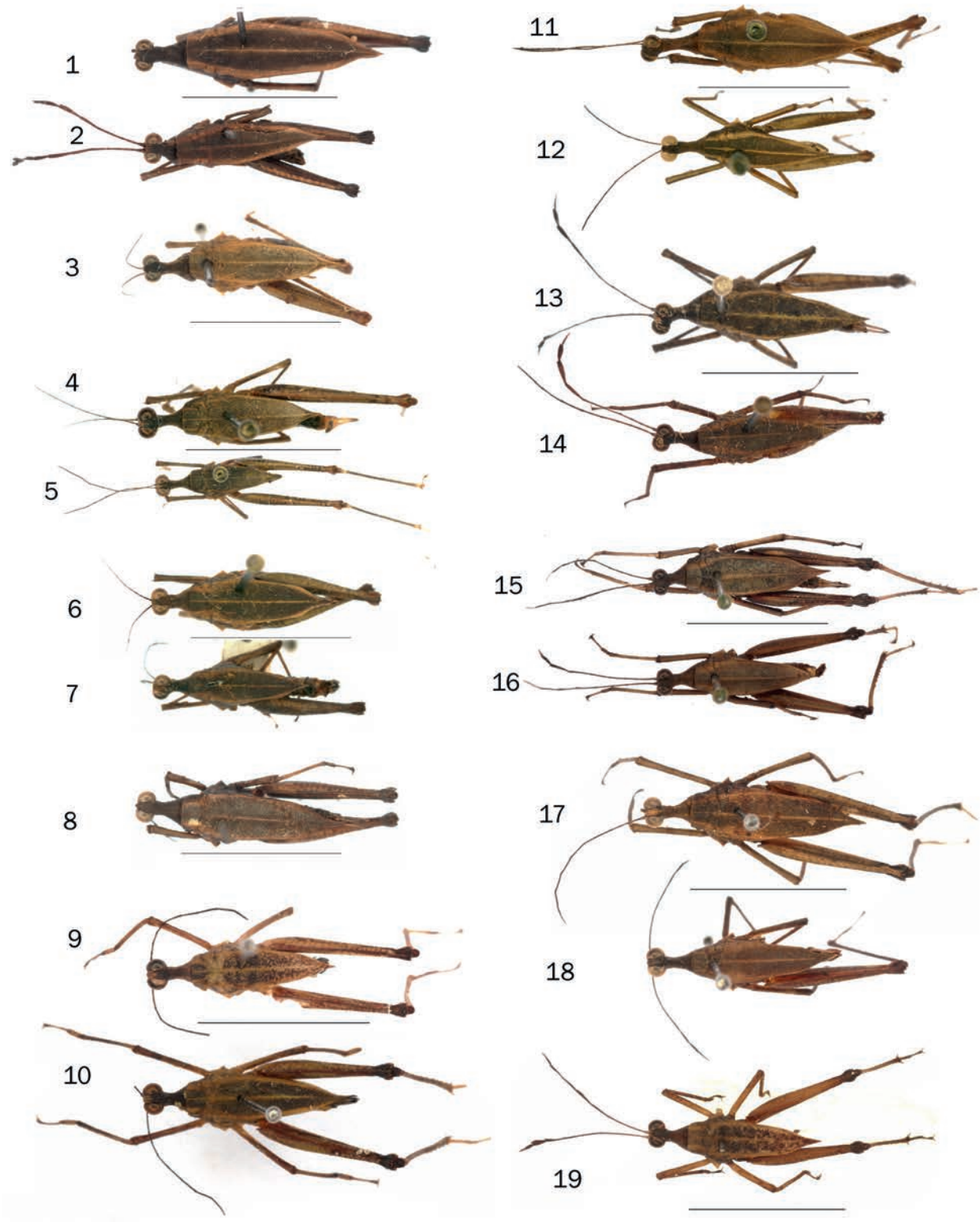
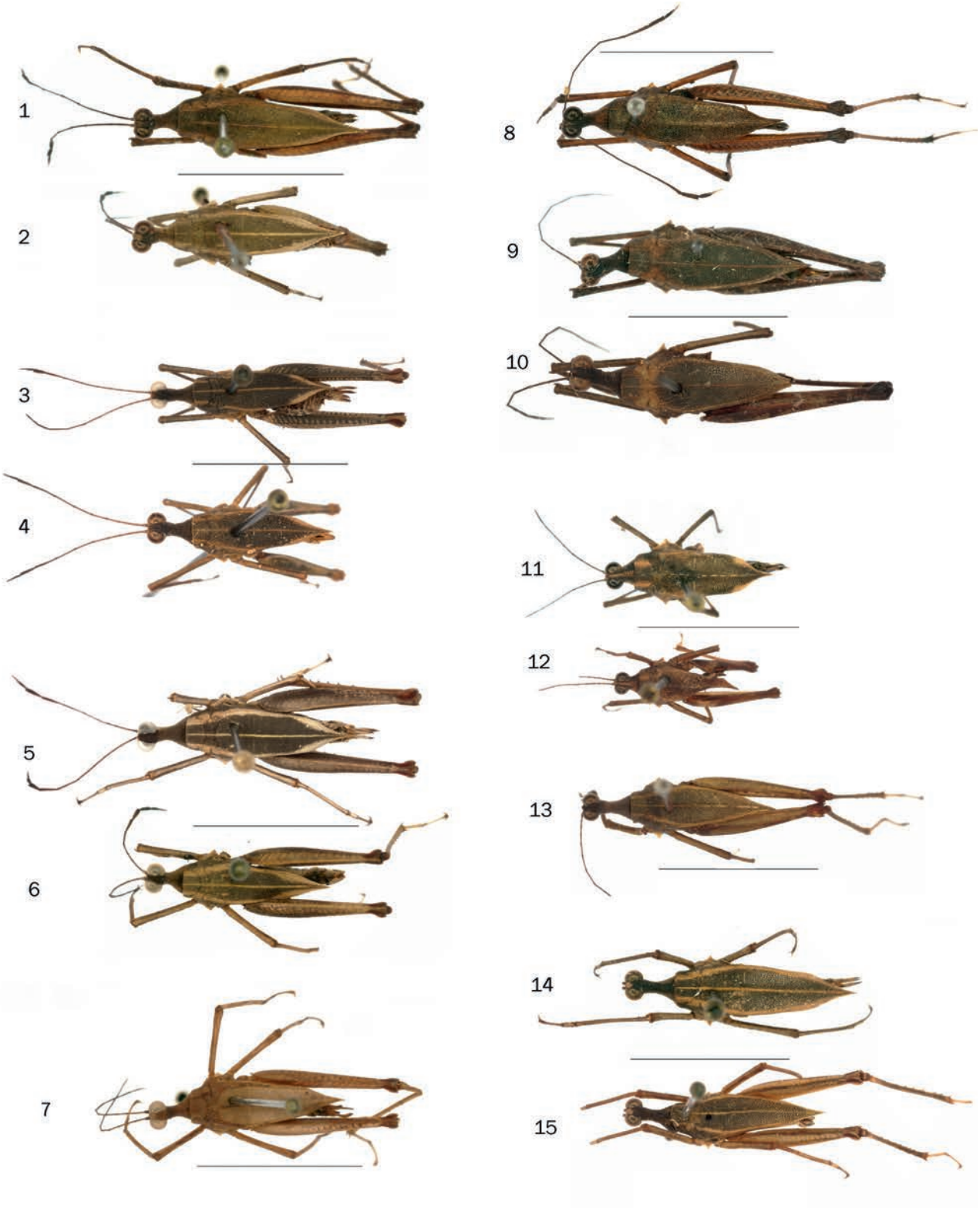
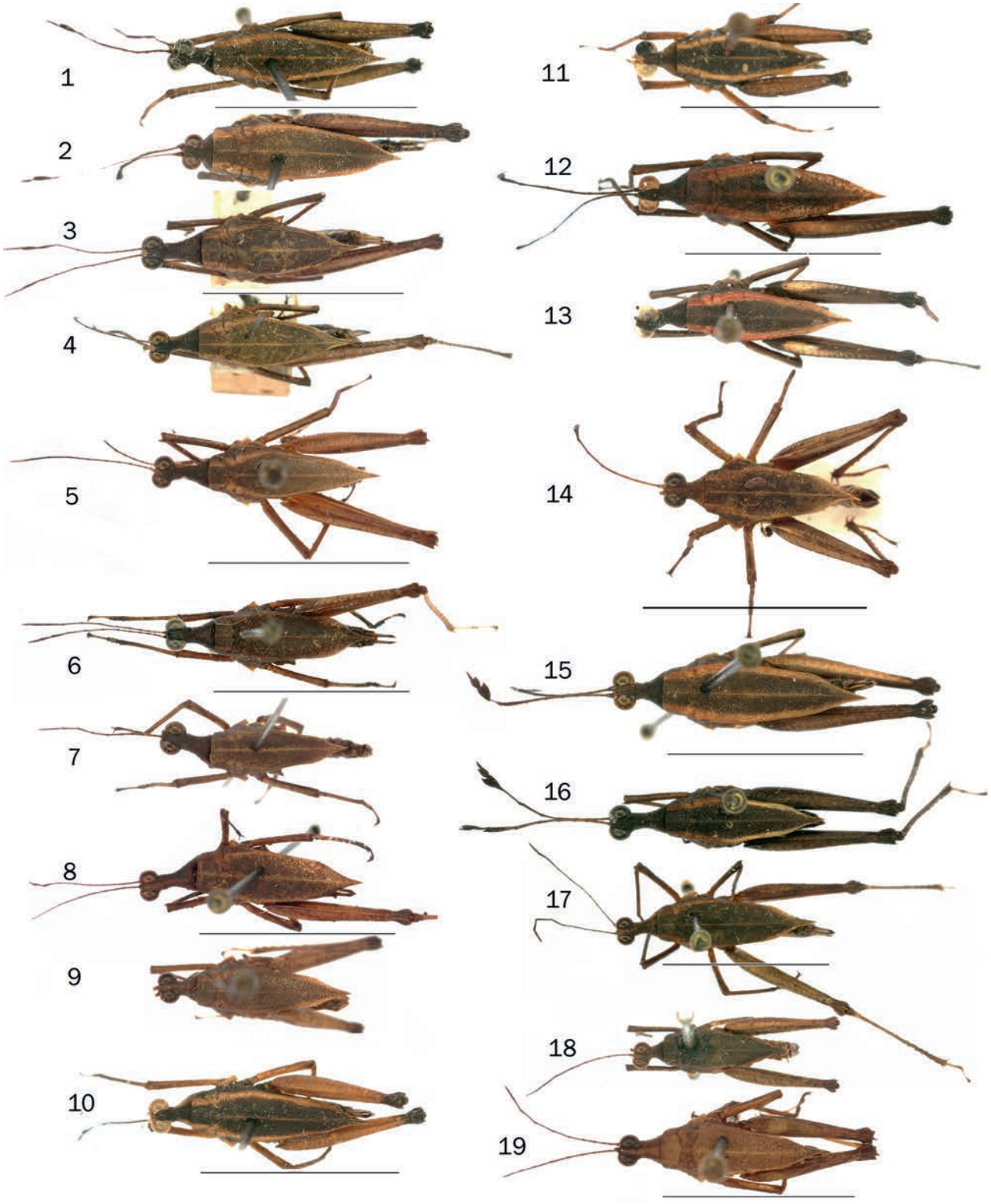
Figures 1-19. Heads of *Ophiotettix* species in frontal view. 1 – *O. tenuis* sp. nov., paratype (PT) 1/3 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. toxopei* sp. nov., PT 3/11 ♀; 4 – ditto, HT ♂; 5 – *O. buergersi* Bolívar, 1929, PT labelled as allotype ♀; 6 – ditto, HT ♂; 7 – *O. cygnicollis* Walker, 1871, HT ♀; 8 – ditto, ♂ syntype of *Tetricodina luteomarginata* Westwood, 1874; 9 – *O. limosina* (Snellen van Vollenhoven, 1865), paralectotype ♀; 10 – ditto, lectotype ♀ labelled as holotype; 11 – ditto, ♂ from Klamono, Doberai Peninsula, W New Guinea (not a type); 12 – *O. lorentzi* Bolívar, 1929, HT ♀; 13 – *O. modesta* Bolívar, 1929, ♀ from Regenberg, N New Guinea (not a type); 14 – ditto, ♂ from Regenberg, N New Guinea (not a type); 15 – ditto, HT ♂; 16 – *O. scolopax* Bolívar, 1929, HT ♀; 17 – ditto, PT ♂; 18 – *O. westwoodi* Bolívar, 1929 stat. rev., PT ♀ labelled as allotype; 19 – ditto, HT ♂ [scale bars 1 mm].



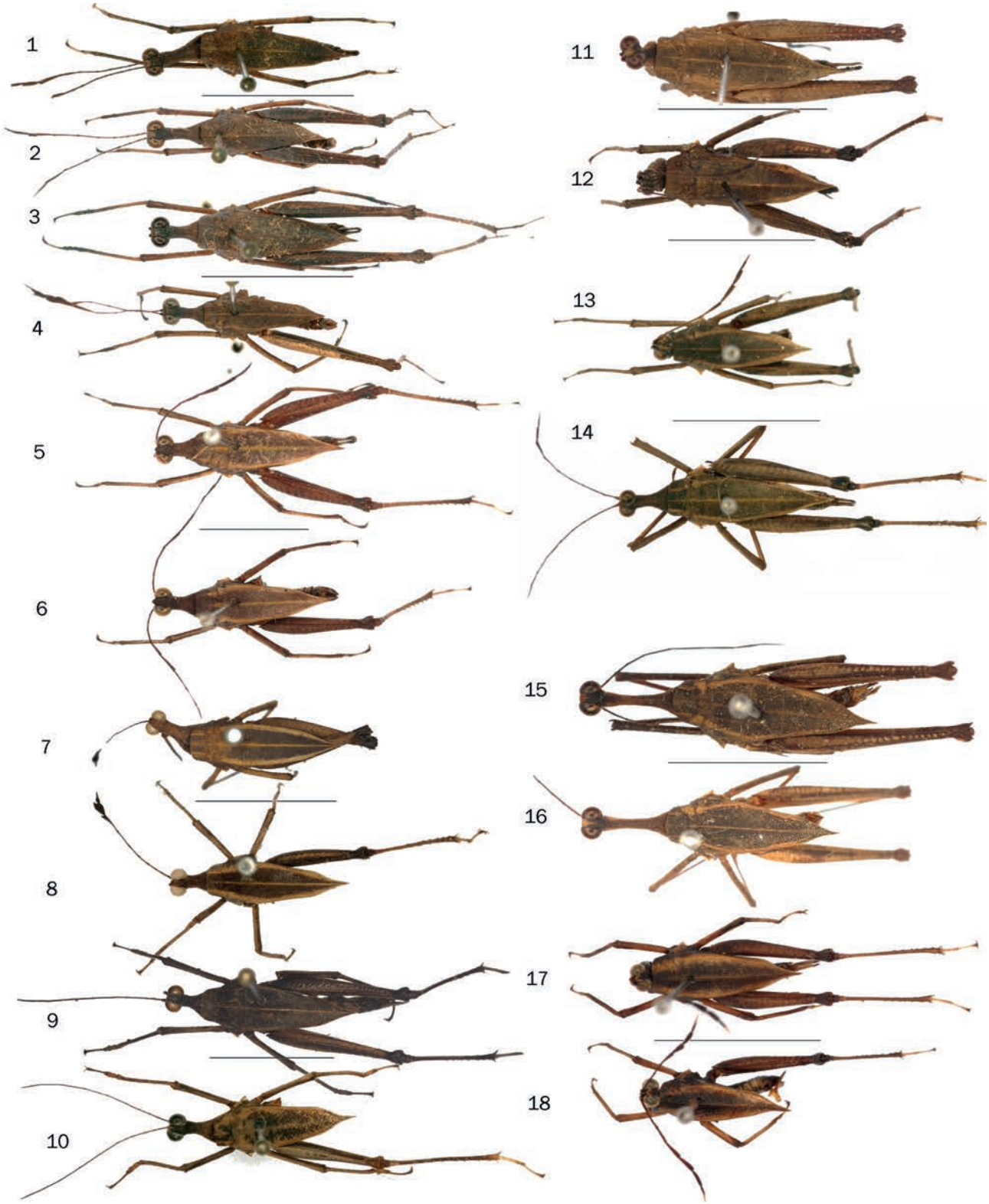
Figures 1-19. Habitus of *Ophiotettix* species in dorsal view. 1 – *O. amberiana* sp. nov., paratype (PT) 1/7 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. bewana* sp. nov., HT ♀; 4 – *O. bomberaiensis* sp. nov., PT 20/27 ♀; 5 – ditto, HT ♂; 6 – *O. brevicollis* sp. nov., PT 13/41 ♀; 7 – ditto, HT ♂; 8 – *O. cheesmanae* sp. nov., HT ♀; 9 – *O. depressa* sp. nov., HT ♂; 10 – ditto, PT 1/4 ♀; 11 – *O. filiforma* sp. nov., PT 5/31 ♀; 12 – ditto, HT ♂; 13 – *O. flyriveriensis* sp. nov., PT 21/24 ♀; 14 – ditto, HT ♂, 15 – *O. fritzpahli* sp. nov., PT 1/18 ♀; 16 – ditto, HT ♂; 17 – *O. hansscholteni* sp. nov., PT 1/3 ♀; 18 – ditto, HT ♂; 19 – *O. imbiana* sp. nov., HT ♂ [scale bars 1 cm].



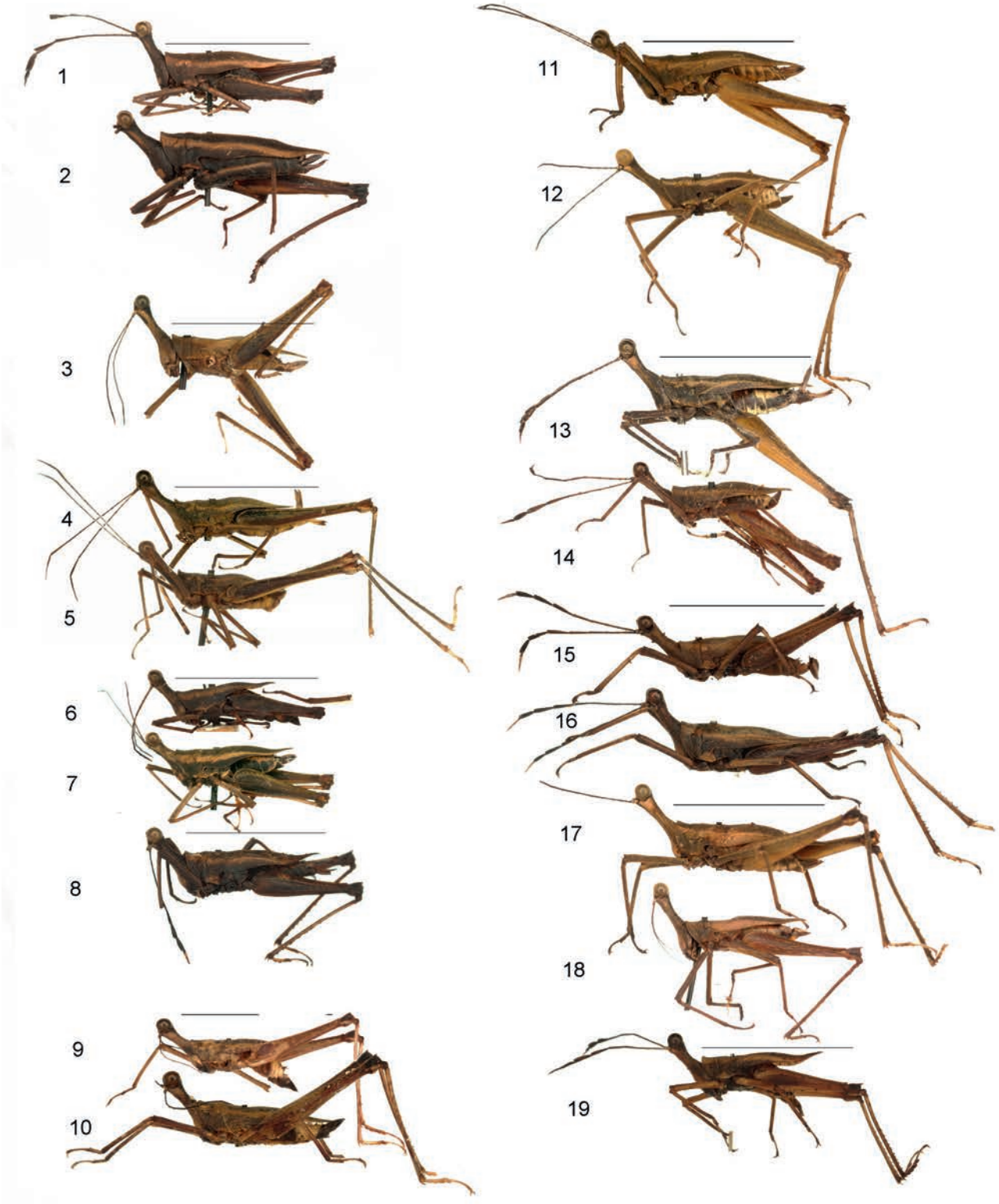
Figures 1-15. Habitus of *Ophiotettix* species in dorsal view. 1 – *O. kaitani* sp. nov., paratype (PT) ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. karimuiensis* sp. nov., PT 13/22 ♀; 4 – ditto, HT ♂; 5 – *O. katharinae* sp. nov., PT ♀; 6 – ditto, HT ♂; 7 – *O. luce* sp. nov., HT ♀; 8 – *O. meggy* sp. nov., HT ♀; 9 – *O. mountnokensis* sp. nov., PT 6/12 ♀; 10 – ditto, HT ♂; 11 – *O. parvicollis* sp. nov., PT 5/5 ♀; 12 – ditto, HT ♂; 13 – *O. projecta* sp. nov., HT ♂; 14 – *O. pulcherrima* sp. nov., PT 3/8 ♀; 15 – ditto, PT 7/8 ♂ [scale bars 1 cm].



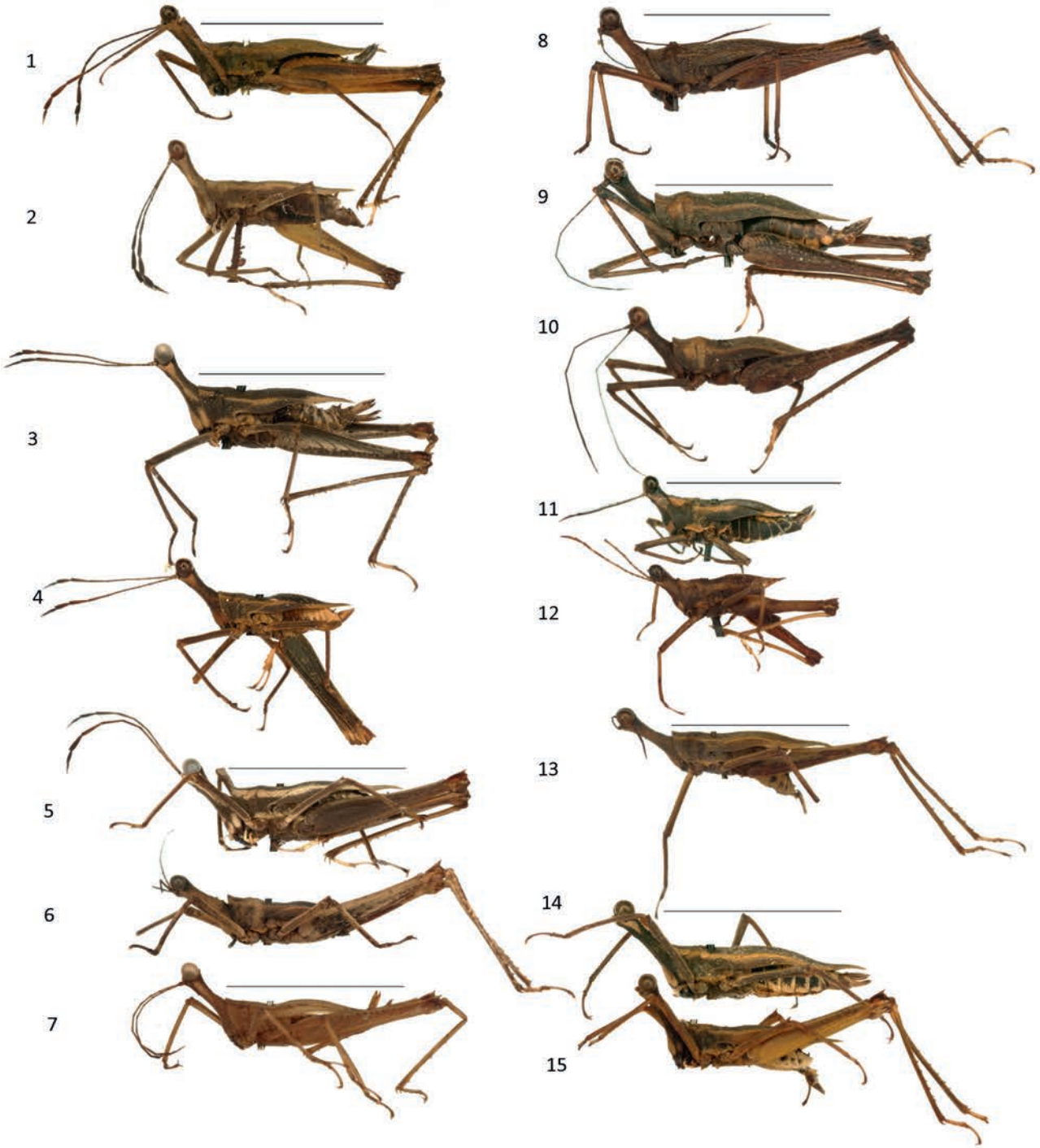
Figures 1-19. Habitus of *Ophiotettix* species in dorsal view. 1 – *O. pushkari* sp. nov., holotype (HT) ♂; 2 – ditto, paratype (PT) ♀; 3 – *O. quateorum* sp. nov., HT ♀; 4 – ditto, PT 1/8 ♀; 5 – *O. rebrinae* sp. nov., HT ♂; 6 – *O. roesleri* sp. nov., PT 1/18 ♀; 7 – *O. roesleri* sp. nov., HT ♂; 8 – *O. rohwedderi* sp. nov., PT 1/5 ♀; 9 – ditto, HT ♂; 10 – *O. sanguinea* sp. nov., PT 3/4 ♀; 11 – ditto, HT ♀; 12 – *O. schapinae* sp. nov., HT ♀; 13 – ditto, PT ♀; 14 – *O. stallei* sp. nov., HT ♂; 15 – *O. storozhenkoi* sp. nov., PT ♀; 16 – ditto, HT ♂; 17 – *O. subbrevicollis* sp. nov., PT 1/11 ♀; 18 – ditto, HT ♂; 19 – *O. telefominensis* sp. nov., HT ♂ [scale bars 1 cm].



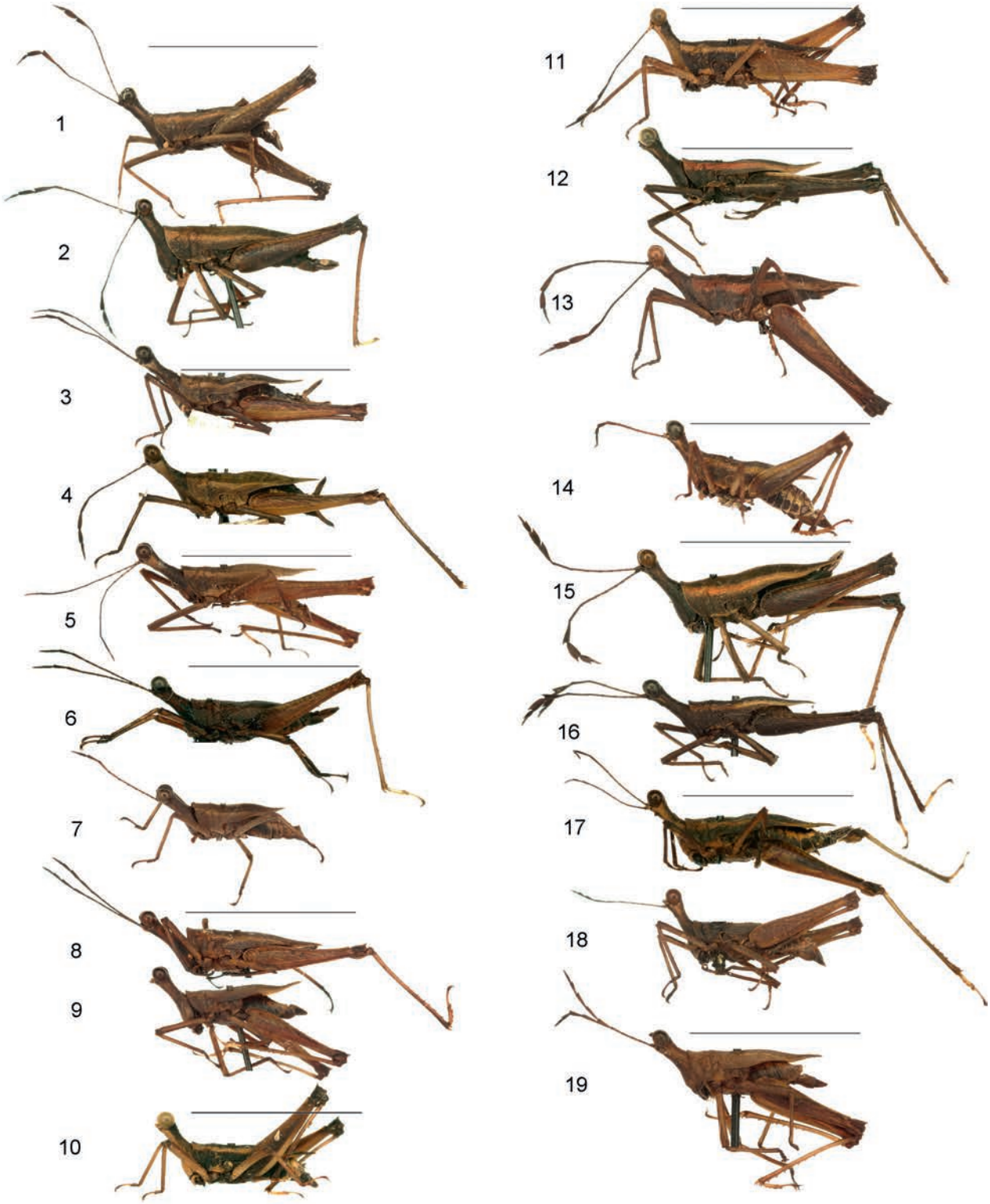
Figures 1-18. Habitus of *Ophiotettix* species in dorsal view. 1 – *O. tenuis* sp. nov., paratype (PT) 1/3 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. toxopei* sp. nov., PT 3/11 ♀; 4 – ditto, HT ♂; 5 – *O. buergersi* Bolívar, 1929, PT ♀ labelled as allotype; 6 – ditto, HT ♂; 7 – *O. cygnicollis* Walker, 1871, HT ♀; 8 – ditto, ♂ syntype of *Tetricodina luteomarginata* Westwood, 1874; 9 – *O. limosina* (Snellen van Vollenhoven, 1865), paralectotype ♀; 10 – ditto, ♂ from Klamono, Doberai Peninsula, W New Guinea (not a type); 11 – *O. lorentzi* Bolívar, 1929, HT ♀; 12 – *O. modesta* Bolívar, 1929, PT ♀; 13 – ditto, HT ♂; 14 – ditto, ♀ from Regenberg, N New Guinea (not a type); 15 – *O. scolopax* Bolívar, 1929, HT ♀; 16 – ditto, PT ♂; 17 – *O. westwoodi* Bolívar, 1929 stat. rev., PT ♀ labelled as allotype; 18 – ditto, HT ♂ [scale bars 1 cm].



Figures 1-19. Habitus of *Ophiotettix* species in lateral view. 1 – *O. amberiana* sp. nov., holotype (HT) ♂; 2 – ditto, paratype (PT) 1/7 ♀; 3 – *O. bewana* sp. nov., HT ♀; 4 – *O. bomberaiensis* sp. nov., PT 20/27 ♀; 5 – ditto, HT ♂; 6 – *O. brevicollis* sp. nov., HT ♂; 7 – ditto, PT 13/41 ♀; 8 – *O. cheesmanae* sp. nov., HT ♀; 9 – *O. depressa* sp. nov., HT ♂; 10 – ditto, PT 1/4 ♀; 11 – *O. filiforma* sp. nov., PT 5/31 ♀; 12 – ditto, HT ♂; 13 – *O. flyriveriensis* sp. nov., PT 21/24 ♀; 14 – ditto, HT ♂, 15 – *O. fritzpahli* sp. nov., HT ♂; 16 – ditto, PT 1/18 ♀; 17 – *O. hansscholteni* sp. nov., PT 1/3 ♀; 18 – ditto, HT ♂; 19 – *O. imbiana* sp. nov., HT ♂ [scale bars 1 cm].



Figures 1-15. Habitus of *Ophiotettix* species in lateral view. 1 – *O. kaitani* sp. nov., paratype (PT) 7/11 ♀; 2 – ditto, HT ♂; 3 – *O. karimuiensis* sp. nov., PT 13/22 ♀; 4 – ditto, HT ♂; 5 – *O. katharinae* sp. nov., PT ♀; 6 – ditto, HT ♂; 7 – *O. luce* sp. nov., HT ♀; 8 – *O. meggy* sp. nov., HT ♀; 9 – *O. mountnokensis* sp. nov., PT 6/12 ♀; 10 – ditto, HT ♂; 11 – *O. parvicollis* sp. nov., PT 5/5 ♀; 12 – ditto, HT ♂; 13 – *O. projecta* sp. nov., HT ♂; 14 – *O. pulcherrima* sp. nov., PT 3/8 ♀; 15 – ditto, PT 7/8 ♂ [scale bars 1 cm].



Figures 1-19. Habitus of *Ophiotettix* species in lateral view. 1 – *O. pushkari* sp. nov., holotype (HT) ♂; 2 – ditto, PT ♀; 3 – *O. quateorum* sp. nov., HT ♀; 4 – ditto, PT 1/8 ♀; 5 – *O. rebrinae* sp. nov., HT ♂; 6 – *O. roesleri* sp. nov., PT 1/18 ♀; 7 – ditto, HT ♂; 8 – *O. rohwedderi* sp. nov., PT 1/5 ♀; 9 – ditto, HT ♂; 10 – *O. sanguinea* sp. nov., HT ♀; 11 – ditto, PT 3/4 ♀; 12 – *O. schapinae* sp. nov., PT ♀; 13 – ditto, HT ♀; 14 – *O. stallei* sp. nov., HT ♂; 15 – *O. storozhenkoi* sp. nov., PT ♀; 16 – ditto, HT ♂; 17 – *O. subbrevicollis* sp. nov., PT 1/11 ♀; 18 – ditto, HT ♂; 19 – *O. telefominensis* sp. nov., HT ♂ [scale bar 1 cm].

Figures 1-17. Habitus of *Ophiotettix* species in lateral view. 1 – *O. tenuis* sp. nov., paratype (PT) 1/3 ♀; 2 – ditto, holotype (HT) ♂; 3 – *O. toxopei* sp. nov., PT 3/11 ♀; 4 – ditto, HT ♂; 5 – *O. buergersi* Bolívar, 1929, HT ♂; 6 – ditto, PT ♀ labelled as allotype; 7 – *O. cygnicollis* Walker, 1871, ♂ syntype of *Tetricodina luteomarginata* Westwood, 1874; 8 – ditto, HT ♀; 9 – *O. limosina* (Snellen van Vollenhoven, 1865), ♂ from Klamono, Doberai Peninsula, W New Guinea (not a type); 10 – ditto, paralectotype ♀; 11 – *O. lorentzi* Bolívar, 1929, HT ♀; 12 – *O. modesta* Bolívar, 1929, PT ♀; 13 – ditto, PT ♀ labelled as allotype; 14 – *O. scolopax* Bolívar, 1929, HT ♀; 15 – ditto, PT ♂; 16 – *O. westwoodi* Bolívar, 1929 stat. rev., PT ♀ labelled as allotype; 17 – ditto, HT ♂ [scale bars 1 cm].

Figures 1-21. Holotype labels of new *Ophiotettix* species 1 – *O. amberiana* sp. nov.; 2 – *O. bewana* sp. nov.; 3 – *O. bomberaiensis* sp. nov.; 4 – *O. brevicollis* sp. nov.; 5 – *O. cheesmanae* sp. nov.; 6 – *O. depressa* sp. nov.; 7 – *O. filiforma* sp. nov.; 8 – *O. flyriveriensis* sp. nov.; 9 – *O. fritzpahli* sp. nov.; 10 – *O. hansscholteni* sp. nov.; 11 – *O. imbiana* sp. nov.; 12 – *O. kaitani* sp. nov.; 13 – *O. karimuiensis* sp. nov.; 14 – *O. katharinae* sp. nov.: 15 – *O. luce* sp. nov.; 16 – *O. meggy* sp. nov.; 17 – *O. mountnokensis* sp. nov.; 18 – *O. parvicollis* sp. nov.; 19 – *O. projecta* sp. nov.; 20 – *O. pulcherrima* sp. nov.; 21 – *O. pushkari* sp. nov.

Figures 1-19. Type labels of new and hitherto described *Ophiotettix* species. 1 – *O. rebrinae* sp. nov.; 2 – *O. roesleri* sp. nov.; 3 – *O. rohwedderi* sp. nov.; 4 – *O. quateorum* sp. nov.; 5 – *O. sanguinea* sp. nov.; 6 – *O. schapinae* sp. nov.; 7 – *O. stallei* sp. nov.; 8 – *O. storozhenkoi* sp. nov.; 9 – *O. subbrevicollis* sp. nov.; 10 – *O. telefominensis* sp. nov.; 11 – *O. tenuis* sp. nov.; 12 – *O. toxopei* sp. nov.; 13 – *O. buergersi* Bolívar, 1929; 14 – *O. cygnicollis* Walker, 1871, holotype and syntype *Tetricodina luteomarginata* Westwood, 1874 syn. acc.; 15 – *Tetrix limosina* Snellen van Vollenhoven, 1865, lectotype; 16 – *O. lorentzi* Bolívar, 1929, holotype; 17 – *O. modesta* Bolívar, 1929, holotype; 18 – *O. scolopax* Bolívar, 1929, holotype; 19 – *O. westwoodi* Bolívar, 1929, holotype.

Figures 1-5. Field photographic records of living *Ophiotettix*. 1 – *O. pulcherrima* sp. nov. mating pair from Yapen Island, Cenderawasih Bay, W New Guinea, lateral view (photo: D. Price); 2 – ♀ of undescribed pygmy giraffehopper species from Muller Range, Papua New Guinea, Southern Highlands Province, dorsal view (photo: P. Naskrecki); 3 – *O. pulcherrima* sp. nov. maiting pair from Yapen Island, Cenderawasih Bay, W New Guinea, lateral view (photo: D. Price); 4 – ditto, frontal view (photo: D. Price); 5 – ♀ of undescribed giraffehopper from Muller Range, Papua New Guinea, Southern Highlands Province, lateral view (photo: P. Naskrecki). All photographs reproduced with permission.

Figures 1-5. Field photographic records of living *Ophiotettix*. 1 – *O. storozhenkoi* sp. nov., ♀ from Fak Fak Mts., Onin Peninsula, W New Guinea, on bark and bearing photosynthetic organisms on its pronotum (likely epizoic interaction, symbiosis), lateral view (photo: D. Telnov); 2 – ditto, on a leaf, lateral view (photo: D. Telnov); 3 – *O. limosina* (Snellen van Vollenhoven, 1865) ♂ from Arfak Mts., Doberai Peninsula, W New Guinea (photo: M. Stefunko); 4-5 – *O. filiforma* sp. nov., ♂ from Kali Biru, N New Guinea, on a leaf, dorsolateral view (photos: D. Price). All photographs reproduced with permission.