
Key words. *Mesa*, *Tiphia*, Oriental Region.

Introduction

It can be easily deduced from related literature that only a few areas of this region have been investigated to a fair degree. Indonesia, Borneo and the border between South China and Vietnam/Laos, together with Cambodia and the archipelago of the Phillipines are almost virgin lands and highly probable sources of further biodiversity. Regarding Tiphidae the borders of the oriental region are well defined westwards by the arid zone of Rajasthan and northwards by the Himalayan range ending at Assam. Eastwards, the border becomes somewhat unsettled, running through Southern China where Oriental and Eastern...
Palaearctic fauna can mingle with more ease. The Japanese islands are considered as belonging to the Palaearctic Region, while Taiwan and the islands southwards are considered as belonging to the Oriental region. Here the old way of considering Myzininae as belonging to the Tiphiidae has been pursued. The Pilgrim’s results (2008) from molecular analysis regarding the inclusion of the Myzininae in the Thynnidae family, even though highly reliable, probably require a hitherto unperformed morphological confirmation.

Material and methods

Abbreviations

A = height (Altitudo)  
a = fore (anterior)  
CC = costal cell (Cella Costae)  
CD = discoidal cell (Cella Discodialis)  
cHy = hypostomal keel (carina Hypostomae)  
cOc = carina Occipitis (-alis).  
CM = marginal cell (Cella Marginalis)  
CSM = submarginal cell (Cella Sub Marginalis)  
em = epimeron  
es = episternum  
F = female (Foemina).  
Hy = Hypostoma  
iS = interspace (Infra Spatium)  
I = lateralis (lateral)  
LA = width (LATitudo)  
LaSt2 = mesosternal lobes (Lamellae mesoSterni)  
m = median (medianus)  
mR = microreticulation (micro Reticulum) or microreticulated  
M = Male (Mas)  
Ol = lateral ocellum (Ocellum lateralis)  
Om = median ocellum (Ocellum medianum)  
N1 = proNotum  
N3 = metaNotum  
p = puncture (-s) (punctum), punctured  
P = Propodeum  
Pal = labial palpus (Palpus Labialis)  
Pam = maxillary palpus (Palpus maxillaris)  
PoG = genal bridge (Pons Genarum).  
Sc1 = Scutum.  
Sc2 = Scutellum.  
spP = propodeal spiracle (spiraculum Propodei)  
Ssa = subantennal sclerite (Scleritis Sub antenna)  
sup = parapsidal line (sulcus parpsidalis)  
Tsa = Tuberculum supra antennam  
X = coXa

The frontal aspect of the head is performed perpendicularly to the virtual plane joining lateral ocelli and ventral border of clypeal disk; the dorsal and lateral aspects, perpendicular to each other, are performed along the virtual plane along the occipital carina (Boni Bartalucci 2004 & 2010). Abbreviations of wing structures are in italics. ( ) = digits between round brackets in the chorological items mean number of specimens. / / = delimit the single label. ! = Types examined. Italics characters within the description of labels mean handwriting.

The drawings of the gonosquamae/volsella apparatus show their inner and/or outer aspect, unless otherwise indicated. Genitalia are settled in a solidified drop of 5,5–dimethyl hidantoin formaldehyde (5,5-DMHF) on a transparent support. Hair and punctuation have been overlooked in most of the drawings.
MYZININAE

The fauna from the Oriental Region belongs exclusively to the Mesiini tribe. As already mentioned (Bonai Bartalucci 2004) the recorded exception is the sole female specimen collected by Bingham and named *Meria binghami* (Turner 1908) from Maulmain, Tenasserim (Myanmar = Burma); there are reasonable grounds to doubt an eventual shuffled label, given that no other Meriin specimen has been caught eastward of the Rajahstan region, neither before nor thenceforward, in more than two centuries of subsequent research.

*Mesa* Saussure 1892


Designation of lectotypes, new synonymy and combinations.

*Mesa madraspatana* (Smith 1855) comb. nova

Myzine madraspatana Smith 1855: 72

*Mesa fuscipennis* (Smith 1855) comb. nova

Myzine fuscipennis Smith 1855: 72 ♂

*Mesa laeta* (Bingham 1897) comb. nova

Myzine laeta Bingham 1897: 70 ♂

*Mesa burmanica* (Bingham 1897) comb. nova

Elis (Mesa) burmanica: Turner (1912: 722)

Holotypus ♂. Burma = /Tenasserim Amherst 1-94 Bingham coll./ /Myzine burmanica ♂ Bingham Holotype/ /Syntype/ (rounded with outer red ring) /Myzine burmanica ♂ Bingham 1902-120/ /Possibly the holotype. No further specimens det. MC. Day 1979/ /Lectotype Myzine laeta Bingham Design Gorbatovsky 1981/ /Myzine laeta (Bingham) Gorbatovsky det 1987/, BMNH !

Myzine burmanica Bingham 1897: 70. syn. nova
Mesa bengalensis (Cameron 1898) comb. nova
Myzine bengalensis Cameron 1898: 21 ♀
Elis (Mesa) bengalensis: TURNER (1912: 716)
Lectotypus ♀ (here designed in order to ensure the name’s proper and consistent use):
India = /Myzine bengalensis /Cam Type Poona/ /Type Hym. 759 Myzine bengalensis Cameron Ispecm Hope dept. Oxford/, OUM !

Mesa rothney (Cameron 1902) comb. nova
Myzine rothney Cameron 1902: 88 ♀
Elis (Mesa) rothney: TURNER (1912: 717)
Lectotypus ♀ (here designed in order to ensure the name’s proper and consistent use):
India = /Myzine rothney Cam. Type Khasia/ /Type Hym. 761 Myzine rothney Cameron Hope Dept. Oxford/, BMNH !
Examined specimens. ♀: Thailand = (2) /Thailand Chieng Mai province Doi Suthep 14 1500m 2.X.1981 ZMC leg/

Mesa opacifrons (Turner 1908) comb. nova
Plesia (Mesa) opacifrons Turner 1908: 509 ♀
Elis (Mesa) opacifrons: TURNER (1912: 719)
Lectotypus ♀ (here designed in order to ensure the name’s proper and consistent use):
Burma = /Tenasserim Salureen Valley 7-94 Bingham coll./ /Plesia (Mesa) opacifrons Type Turner/ /Type/ (rounded with red outer ring) /Col. Bingham 1902-120/, BMNH !
The name given by Turner means opaque frons and originates from a subtle layer of a sort of wax deposited on holotype, but not consistent with true integument which is really smooth and shining like in other specimens.

Mesa ustulata (Turner 1908) comb. nova
Plesia (Mesa) ustulata Turner 1908: 510 ♀
Elis (Mesa) ustulata: TURNER (1912: 718)
Lectotypus ♀ (here designed in order to ensure the name’s proper and consistent use):
Burma = /Tenasserim Yunzalin Valley Bingham coll./ /Plesia (Mesa) ustulata Type Turner/ /Type/ (rounded with red outer ring) /Col. Bingham 1902-130/, BMNH !
Examined specimens. ♀: Thailand = (2) /Thailand Chieng Mai Province Doi Saket 450m 3.X.1981 ZMC leg/, ZMUC; (1) ZMUC (1) MZUF

Mesa extensa (Turner 1908) comb. nova
Plesia (Mesa) extensa Turner 1908: 511 ♂
Elis (Mesa) extensa: TURNER (1912: 721)
Lectotypus ♂ (here designed in order to ensure the name’s proper and consistent use):
Burma = /Upper Burma Maymyo Rd 2000 5.9.98 Bingham Coll./ /Plesia (Mesa) extensa Type Turner/ /Type/ (rounded with red outer ring) /Col. Bingham 1902-120/, BMNH !
Examined specimens. ♂: Thailand = (2) /Thailand Chieng Mai Province Vajratarn 750m 10.X.1981 ZMC leg./, (1) ZMUC (1) MZUF

Mesa nursei (Turner 1909) comb. nova
Plesia nursei Turner 1909: 480-481 ♂
Elis (Mesa) nursei: TURNER (1912: 721)
Lectotypus ♂ (here designed in order to ensure the name’s proper and consistent use):
India = /Simla 9.98/ /Plesia nursei Type Turner/ /Type/ (rounded with red outer ring) /Col. CG.Nurse Collection 1920-32/, BMNH !
New records

*Mesa dimidiata* (Guèrin 1837)

*Myzine dimidiata* Guèrin 1837: 584
Examined specimens. ♀: India = /India. Karnataka20 km S of Kamakapura 19.VII.1980 Ghorpade lg/, ZMUC

*Mesa petiolata* (Smith 1855)

*Myzine petiolata* Smith 1855: 72
Examined specimens. ♂: India = (1) /S.India. Karnataka Mudigere area c900m 2-10.XI.1977 Zool. Mus. Copenhagen exp./, ZMUC

*Mesa apimacula* (Cameron 1902)

*Plesia apimacula* Cameron 1902: 272

*Mesa apimacula*: GORBATOVSKY (1981: 385)
Lectotypus ♂: India = /Deesa 1.00/ /Plesia apimacula cam. Type deesa/ /col. C.G. Nurse Collection 1920-72/ /Type/ (rounded with red outer ring) /Syntype/ (rounded with blue outer ring) /Lectotypus Plesia apimacula Cameron design. Gorbatovsky 1981/ /Mesa apimacula (Cam) Gorbatovsky det. 1987/, BMNH !
Examined specimens. ♂: India = (1) /S.India Karnataka Kemmangundi 1200-1500m 11-16.XI 1977 ZMC exp/, ZMUC

TIPHIINAE

Until present roughly 140 taxa of the subfamily have been recorded from the Oriental Region. One is *Cyanotiphia ruficauda* Cameron 1907, a monotypic genus from Malaysia, while the vast majority belong to *Tiphia* Fabricius 1775 “sensu lato”. Some among the latter 6 have been ascribed to the subgenus *Jaynesia* Allen & Jaynes 1930 and one to the subgenus *Punctotiphia* Tsuneki 1986. The relative data can be found in the ALLEN’s (1975) chief work on *Tiphia* from the Indian subcontinent, in the Hymenopterorum Catalogus Subfamily Tiphinae by G.J. Arbouw published in 1985 and in the successive publications by TSUNEKI (1985 & 1986) on the Japanese and Formosan fauna respectively.

A high degree of endemisms have been hitherto detected within fauna both from islands like Sri Lanka (21) and Taiwan (29) and from arcipelagos like the Philippines (3), the last hitherto poorly investigated. 53 taxa in the aggregate correspond to a particularly high percentage: 38%. Fauna from larger islands such as Indonesia and Borneo are practically unknown. The new taxa described here do not remarkably alter the state of the art.

Morphological terms and tools

In earlier studies regarding subfamily the genitalia have only rarely (ALLEN 1966) been considered a valid systematic tool at specific level. In this study their examination revealed their utility for the purpose to achieve specific discrimination amongst otherwise very similar taxa in external morphology. In particular, the shape of the gonosquamae in lateral aspects and the aedeagus has proven very useful. Volsella has been overlooked, either because its shape shows less detectable diversification or because it is not easily detached from gonosquama without causing damage. Moreover both the shape of the head/ clypeus and process on 5th sternum have been considered of primary importance as useful tools to discriminate taxa; where they are different we can deem that we are dealing with different taxa at an high degree of probability. Other morphological characteristics such as palpi, the shape of the first sternum and apical cells of the forewing could act as a reliable diagnostic tool. The shape and relative proportions of areola on the horizontal propodeum reveal some fluctuation, therefore are not always a very reliable characteristic to be used; nevertheless their eventual discrepancies merit deeper investigation. The features of the surface of 6th tergum in the females is often not useful to discriminate single species since
it shows too few variations, difficultly defined. For the remainder, Allen’s tools and methods (1930 & 1975) have been largely used with very slight modifications. As with Myziniinae there is a differentiated (more often than not by a well developed carina in the males) vertical area between the horizontal disk and collar of N₁, which has been called pronotal plate.

The term rib is used to indicate the prominent processes delimiting areola on P.

To avoid undue repetitions here a list of characters occurring in all the taxa (unless otherwise stated) in addition to those indicated by Allen & Jaynes (1930) and Boni Bartalucci (2010):

- **p** on clypeus and lower frons denser than in the remainder of head (both sexes);
- anterior surface of es₂ normally with densely packed minute p (both sexes);
- omaxa well expressed downward till signum on es₂ (both sexes);
- tegula trespassing apical Sc₁ but not getting half the Sc₂ (both sexes);
- posterior transversal carina on P (both sexes)- lateral P transversally wrinkled (both sexes);
- narrow long sensorium on hind tibia (males);
- CM more or less exceeding tip of CSMII (males);
- preapical row of p on 1st tergal disk (both sexes);
- well differentiated 1st laterotergum (both sexes);
- 1st tergum without gradulus (both sexes);
- subapical stripe of single or plural rows of p on terga. (both sexes);
- 1st sternum with apical transversal groove (both sexes);
- colpus of 2nd tergum bordered by adiacent large groove with numerous buttressing ridges normally longer and stronger in males;
- rows of withish hair along apical edge of terga and sterna longer than elsewhere (both sexes);
- p on terga becoming denser from 2nd toward 6th (both sexes);
- 7th tergum with well impressed dense p without or with IS narrower than their diameter (males).

**New Species**

*Tipha brachycera* nova sp.

Holotypos ♂: Philippines = /Philippines Tawi Tawi Lapid at Manalik Channel 19 Nov.1961 Noona dan. Exp. 61-62/, ZMUC.

Paratypi ♂: Philippines = (3) /Philippines Tawi Tawi Lapid at Manalik Channel 19 Nov.1961 Noona dan. Exp. 61-62/, ZMUC.

Male. Holotype. Figs. 1-11. Measurements: body length = 5.5 mm

Black. Brown: eye, mandible, most of clypeus, antennae, tegulae, viens and pterostigma, legs but coxae, apex of 7th tergum and 6th sternum. Wings hyaline.

Frons with not punctuated areas larger than mid ocellus. Genae bi-punctuated. Flagellum only 1.3 times longer than width of the head. Mandible without prominent sub apical tooth.

Low laminated keel along fore border of N₁ disk followed by a large groove along it bearing regular and strong buttressing ridges; lateral N₁ with a well impressed arched groove; the disk with only weak sparse p (3rd degree density) as well as most of the head and mesosoma. em₃ mostly smooth, es₃ with evident (at x20) micro reticulation. Areola and posterior edge of P disk delimited by strong ribs; all the horizontal surface bears feeble micro sculpture. Lateral P with irregularly spaced few wrinkles. Posterior area of P with strong buttressing ridges along its upper edge forming sort of large p; the remainder of the surface with micro punctures progressively denser downward. Basal hind tibia feebly keeled. 1st tergum with almost smooth disk; the pre apical row of pits preceded by a sort of broad shallow gradulus wearing out laterally. 2nd tergum with the post gradar arched grove bearing regular strong buttressing ridges like in the vast majority of the species. 1st Sternum with an almost not punctuated surface, having laterally two short apical grooves parallel to its sides. Process on 5th sternum well present, arched and subtending inward a shallow hollow. Hair whitish throughout but on metasoma where is brownish. Microreticulation more or less detectable on most of the body.

Female. Unknown

Ecology. Unknown

Derivation nominis. From Greek words βροχύς (= short) and κέρας (= horn).

*Tipha cyclonota* nova sp.

Male. Holotype. Figs. 12-19. Measurements: body length = 7 mm
Black. Brown: mandible tip, apex of scape, flagellum, eyes, legs but coxae, pterostigma, semitransparent apical stripe of N₁ disk, veins and tegulae. Wings hyaline. Head with a median ridge on the lower frons; very sparse p throughout, bipunctate by very small p; a regular simple row of medium impressed p along inner border of the eyes; mandible without sub apical tooth; mR detectable at x30 throughout; well expressed median ridge on the frons. Lamellar carina with short and weak buttressing ridges along fore border of N₁ disk; prominent (semi-rounded in frontal aspect) ridge on the pronotal plate. Shallow primary p of 3rd degree on its disk and on Sc₁, Sc₂ and post-scutoareal area; lateral N₁ without any groove, with only some wrinkles on its posteroventral corner. es₁ with shallow p and bipunctate throughout by smaller p. es₂ with p like pronotal disk. em₃ with weak wrinkles on its upper half. Inner surface of hind tibia clearly keeled, sensillum elongated. CM of forewing strongly exceeds CMII toward apical edge. Horizontal P with only mR. Lateral ribs of areola weak and buttressed by very small and short ridges, the median rib larger basally; all of them vanishing before reaching posterior edge which is bordered by a very weak carina along which feeble wrinkles spring forward. Posterior P smooth and shining on its upper half. Lateral P wrinkled. Lateral outline of P is regularly rounded without evident angle between horizontal and posterior areas. 1st and 2nd terga with sparse very small and shallow weak p which become stronger on the following terga. Colpus on 2nd tergum wears out medially and the contiguous groove is smooth and completely lacking in buttressing ridges. Sterna with sparse and small p too. 1st sternal disk shining with very small and sparse small p and a short gradulus at its apical corner. Tubercle on 5th sternum poorly prominent and weak, almost parallel to sternal edge. Female. Unknown

Ecology. Unknown

Derivatio nominis. From Greek words κύκλος (= rounded) and νῶτον (= back).

Note. Well distinct taxon by the ridge on the pronotal plate, peculiar shape of propodeum and basal 2nd tergum; all of them are hitherto unique character states in the Old World Tiphiini, the last resembling female Silifkinii. Following the ALLEN’s key (1975) we run to couplet 29 (T. pecki Allen 1975), following TSUNEKI’s key to couplet 9 (T. puliensis Tsuneki 1986). It is very known from them by the shape of head in frontal aspect, beside above said characters.

_Tiphia dichroptera_ nova sp.


Male. Holotype. Figs. 20-28. Measurements: body length = 7.4 mm
Black. Brown: eye, mandible, antenna, semitransparent tegula and veins, pterostigma, apical 7th tergum and 6th sternum. Apical half of forewing darkened; apical hind wing less darkened.

Frons with sparse p; large impunctate areas around ocelli and on rith vertex; temples and genae bipunctate, with very sparse p surrounded by many minute p. Toruli larger than distance between them and eyes. No preapical tooth on mandible. Progena enlarged medially toward PoG. Fore border of N₁ disk with a regular carina without buttressing ridges, present only along its lateroventral extension; disk with very sparse weak p; lateral N₁ impunctate for its upper ¾ with a concave gradulus delimiting its ventral fourth. Sparse irregularly spaced p also on Sc₁, Sc₂ and es₂; es₁ bipunctate. Horizontal P without p; upper fourth of posterior surface smooth and shining, ventral ¾ bipunctate by minute p among sparse larger p; areola with lateral and median ribs well produced and complete with feeble buttressing wrinkles. Tip of CM of forewing exceeding tip of CMII. Distinct keel on the apical inner surface of hind tibia. 1st tergum with very few and weak p, becoming a bit denser in the remainder of terga and 2nd to 6th sterna; 1st sternum almost p-less too. Long (about twice diameter of mO), strong buttressing ridges along colpus of 2nd tergum.

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mR (well detectable at x40) covers most of the body, clypeal disk and legs included, becoming weaker on the frons, anterior surface of femurs and tibiae, upper em₃, apical 2nd sternum.

Note. Following the ALLEN’s key (1975) we run to couplet 29 (T. pecki Allen 1975); in TSUNEKI’s key (1986) we get couplets 29 or 30 (T. bunun Tsuneki 1986, T. wushita Tsuneki 1986, T. yonagunensis Tsuneki 1986). It differs from all of them by the coloured wings, enlarged progena near PoG, different shape of head, N₁ disk, genitalia and other minor characters in the p.

Derivatio nominis. From the Greek words δίχρους (= bicolour) and πτερόν (wing).

**Tiphia erythromera nova sp.**


Male. Holotype. Figs 29-37. Measurements: body length = 10.5 mm

Black. Brown: eye, mandible, scape, upper side of flagellum, LaSt₂, back surface of hind Examed specimens. femur, most of tarsi, pterostigma and semitransparent veins, apical metameri. Ferruginous brown are ventral flagellomeri, remainder of legs but coxae (black). Fore wing slightly darkened, hind wings hyaline. Whitish hair on most of the body, brownish on last four metameri.

Mandible with a preapical denticle. Frons and vertex with irregularly and sparsely p; distinct long median furrow on the frons; temples and genae bipunctate. Lower genae near PoG almost p-less and shining. PoG narrow and prominent. Toruli larger than their distance from eye. Well expressed carina with buttressing ridges along fore border of N₁ disk; its surface with small shallow p and apical smooth stripe; lateral N₁ with few p uppermost, a sub-vertical shallow but distinct gradulus at its middle and fine wrinkles on postero-ventral corner. Sc₁ with irregular more impressed p than on N₁. Sc₂ almost p-less. Post-scuteLLar area prominent with small p. Tegula with a narrow deep groove along its postero-lateral edge. es₁ and fore coxa sparsely, mid and hind coxa more densely p. es₂ with p progressively becoming less dense from omaulus backward and sparsely bipunctate by smaller p. em₃ smooth. es₃ with a strong microreticulation. Hind tibia with a shining longitudinal keel on its inner surface, sensorium flushed with surrounding surface. Most of the horizontal surface of P with fine, dense irregular sculpture, with strong mR laterally; lateral rib of areola and posterior carina form a regular arch buttressed by strong wrinkles; mid rib of areola incomplete and irregular; posterior area covered throughout by piliferous minute p settled in sub-horizontal rows. 1st tergum with well impressed sparse p and large p-less lateral areas; 2nd to 6th sparsely p; 7th densely p, almost sculptured. 1st sternal disk basally with irregular p, almost p-less apically with an arched short groove at its apical corner; 2nd sternum with a median protuberance well evident in lateral aspect (like in T. aurata Allen 1975); 2nd to 6th sterna with surface like terga; very shallow and short, almost undetectable tubercle on 5th sternum. mR well detectable on most of the body but lower genae, back surface of hind femur, 1st sternum and sub-vertical 1st tergum.

Female. Paratype. Figs. 38-40. Measurements. Body length = 14 mm

Black, Brown: dorsal flagellum, mandible, legs but ferruginous portions, most of coxae, semitransparent tegulae, spurs, pterostigma and veins. Ferruginous: ventral flagellum, mid and hind trochanter, femurs.

Sparse p on lateral frons, vertex (which shows smaller ones along cOc), temples and genae. Horizontal fore border of N₁ disk without carina; anterior surface with sparse p, delimited by irregular row of larger and stronger p from apical smooth surface (which is twice high than punctured surface in the middle); lateral N₁ with mR above the rounded gradulus delimiting postero ventral corner which shows many regular fine wrinkles. Colpus on Sc₁ not connected to sup, Sc₂ and postscutellar area irregularly p. es₁, es₂ and fore coxa with sparse shallow p. em₃ with finely wrinkled upper half and smooth ventral...
surface. Inner surface of hind tibia clearly keeled, sensorium gutta-like and flushed with smooth and shining surrounding surface. Well developed groove on hind basal tarsomerus. Horizontal area of P with inextricable mixture of mR, shallow sculpture and sparse p; area of spP clearly delimited by a regular rib; posterior surface densely finely sculptured with sparse p becoming denser along surrounding carinae. Sparse p on terga and sterna. 1st sternum with a median stripe of dense minute p becoming sparser laterally and clear furrow at its apical corner. Very small tubercle on 5th sternum. Detectable mR at x40 on apical clypeus, frons, progena and lower genae, es3, inner hind tibia 1st sternum.

Ecology. Unknown

Derivatio nominis. From Greek words έρυθρός (= red) and μηρός (= thigh)

Note. Following ALLEN (1930) this male meets T. cilicincta Allen & Jaynes 1930 if we overlook the small tubercle of 5th sternum, otherwise T. malayana Cameron 1910; from both of them is heavily distinct by different head in frontal aspect and median furrow on the frons, pronotal shape and its lateral surface, presence of tegular groove, shape of 2nd sternum. Also T. pecki Allen 1975 which it meets in ALLEN (1975) at couplet 29 is different taxon because of all that and genitalia. None taxon can be found close to it in TSUNEKI (1986). The female looks like a big T.davarae Allen 1975 from which is known by different head shape, colour of flagellum, different disk and sides of N1, Sc1, es3, horizontal P, size. The large smooth apical stripe on N1 disk and shape of its lateral area, well defined ribs around spP and areola, surface of 1st and 2nd sterna severe it from T. khasiana Cameron 1902 and T. rufomandibulata Smith 1855.

Tiphia laticlypeata nova sp.


Male. Holotypus. Figs. 41-49. Measurements = 6.5 mm. It lacks final four left flagellomeri. Black. Brown: eye, , most of flagellum, upperside of the scape, tip of mandible, LaSt2, , hind femur and tibia, most of tarsi, apical metameri, semitransparent tegula and apex of sterna. Ventral scape and flagellum, most of mandible, remainder of legs but coxae are light brown. Yellowish hair throughout.

Frontal head, clypeus and lower frond included, with sparse p and large p-less areas around ocelli and on vertex; temples and genae bipunctate but smooth areas near PoG, which is not featured by a prominent ridge but by a suture like a stitch; progena enlarged Mandible without preapical tooth. Progena (lateral extension of hypostoma) very large along posterior FoO. Fore border of N1 disk with a carina buttressed by strong long (as long as half its height in the middle) ridges and irregular variously sized p. Lateral area of N1 with irregularly spaced p on the middle and a strong concave gradulus, wrinkled uppermost, on its lower fourth. Pon Fore and hind coxae with sparse medium p, mid coxa with denser smaller p, p on Sc1 like N1 disk; Sc2 and postscutellar area with smaller p, es1 bipunctate. es2 with sparse p throughout but along omaulus where a rough sculpture exists. es3 covered by mR. Horizontal area of P, inside and outside areola mostly smooth and shining; lateral ribs of areola regular and without lateral buttressing ridges; the mid one larger, broader and incomplete; long but weak buttressing ridges originate from posterior carina; regular polished rib limits area around spP; posterior area with few large p along posterior carina and smaller sparse p on the remainder surface.lateral P with about 20 strong wrinkles. Hind coxa with a strong longitudinal lamellar carina on its inner border. Hind tibia not keeled. Terga and sterna with weak and sparse p, becoming denser from 1st toward 7th. 1st sternum with impressed groove at apical corners. Well produced tubercle on 5th sternum with a sub rectilinear uplifted edge.

Female. Unknown

Ecology. Unknown

Derivatio nominis. From Latin words latus (= wide) and clypeus (= shield).

Note. Its main distinctive features are the large clypeal disk, the strong buttressing ridges on pronotal disk, the large median progena, the lamellar carina on hind tibia; the latter character state is shared with T. birganjae Allen 1975 which has also similar genitalia but
from which it is well known by different colour of legs, shape of tubercle on 5\textsuperscript{th} sternum (rounded uplifted edge in Allen’s taxon) besides the above said characters.

\textit{Tipha lucai} \textit{nova sp.}

Holotypus \(\delta\): Vietnam = /N-Vietnam Pho Tho Prov., Xuan Son National Park, 500m13-17.VI.2010 L. Bartolozzi \& S. Bambi legit (N\(^{o}\) Mag. 2894)/, MZUF.
Paratypus \(\delta\): Vietnam = /N-Vietnam Pho Tho Prov., Xuan Son National Park, 500m13-17.VI.2010 L. Bartolozzi \& S. Bambi legit (N\(^{o}\) Mag. 2894)/, MZUF.
Paratypus \(\varnothing\): Vietnam = /N-Vietnam Pho Tho Prov., Xuan Son National Park, 500m13-17.VI.2010 L. Bartolozzi \& S. Bambi legit (N\(^{o}\) Mag. 2894)/, MZUF.

Male. Holotypus. Figs. 50-59. Measurements: body length = 9 mm Black. Brown: eye, mandible tip, calcaria, veins and pterostigma, shadows on tarsi. Apical \(N_1\) disk, tegula, \textit{LaSt} \textit{2} and apical border of metameri are black and opaque. Wings darkened. Yellowish hair throughout, but brown hairs on 7\textsuperscript{th} tergum. Frons and vertex with well impressed, irregularly spaced \(p\) (iS shorter than their diameter along eye and between Ol, elsewhere longer). Lower frons with a short median ridge. Vertex with a large abruptly descending posterior half which is shagreened along \textit{coOc}. Temples and mid genae densely haired by dense deep piliferous \(p\). Lower genae smooth with very sparse shallow \(p\). \textit{cOc} with a small diameter, half the width of the head. Temples and mid genae very thin, 1/3 width of the eye in lateral aspect. Clypeal lamella with a shallow notch and no \(p\)-less areas. Scape with a longitudinal \(p\)-less stripe on its inner (anterior) side. Fore border of \(N_1\) disk with a strong carina buttressed by quite long irregular ridges; pronotal plate slightly convex so that it is detectable in dorsal aspect; lateral area mostly smooth and shining, with a gradulus separating the postero ventral corner which has weak irregular wrinkles. \textit{Sc} \textit{1} and \textit{Sc} \textit{2} irregularly \(p. \textit{es} \textit{1}\) bipunctate by sparse small \(p\) among larger ones. Large deep \(p\), with iS smaller then their diameter, on upper \textit{es} \textit{2} disk, becoming sparse and weaker toward ventral area with secondary small \(p\); omaulus well expressed with regular contour. \textit{es} \textit{3} finely wrinkled uppermost, smooth elsewhere. \textit{em} \textit{3} shagreened. Lobes of \textit{St} \textit{3} deeply and completely hollowed. Fore and mid coxa bipunctate. Tegula with an arched shallow groove near apical edge. Hind coxa more densely \(p\) with acutely keeled inner (posterior) edge. Horizontal \(P\): - lustrous surface; - very high lateral ribs of areola and posterior carina, from which obscure wrinkles cross area toward \textit{spP}; - median rib of areola thicker, low and very short; - strong transversal rib bisect it obliquely; - area surrounding \textit{spP} completely delimited by a strong inner rib; - area behind \textit{spP} deeply hollowed. Complete lateral carina between lateral and horizontal surface. Posterior area of \(P\) smooth and shining on its upper fourth, with small piliferous \(p\) becoming denser toward apex. Lateral area with about 15 regularly spaced strong wrinkles. 1\textsuperscript{st} tergum almost \(p\)-less throughout, with very sparse small and shallow \(p\) and without any stripe of minute \(p\) on its vertical surface; subapical stripe made by stronger single \(p\), a bit depressed; following terga progressively more densely \(p\); last tergum strongly compressed apically. 1\textsuperscript{st} sternal disk flattened and smooth. 2\textsuperscript{nd} sternum with scattered shallow \(p\). 3\textsuperscript{rd} to 5\textsuperscript{th} sternae basally \(p\)-less, with an irregular narrow groove between subapical row of \(p\) and edge. No lateral tubercle on 5\textsuperscript{th} sternum. 6\textsuperscript{th} sternum apically compressed and keeled, without notch at its apex. \textit{mR} on scape, pedicel, clypeus, mid \textit{es} \textit{2}, \textit{LaSt} \textit{2}, hind coxa and most of legs but tarsi, 3\textsuperscript{rd} to 7\textsuperscript{th} terga, 3\textsuperscript{rd} to 6\textsuperscript{th} sternae.

Female. Paratype. Figs. 60-62. Measurements: body length = 10 mm Black. Brown: most of mandible, shadows on the scape and legs, semitransparent apical \(N_1\) disk, the whole tegula, veins and pterostigma, \textit{LaSt} \textit{2}, metameral borders.

Sparce \(p\) on frons and vertex, with many smooth areas larger than ocelli; more dense \(p\) on temples and mid genae, still sparsely on lower genae. \textit{PoG} as long as 2\textsuperscript{nd} flagellomera; clypeus with a smooth and shining rounded lateral extension under which a very thin transparent lamella exists. Apical extension on 3\textsuperscript{rd} element of \textit{Pam}, Low complete carina along fore border of \(N_1\) disk, where scattered \(p\) exist; lateral area mostly covered by \(mR\), with a transversal large groove separating the lower postero-ventral corner. Colpus on \textit{Sc} \textit{1} connected to parapsidal lines by a continuous gradulus and irregularly \(p\) like \textit{Sc} \textit{2}. \textit{es} \textit{1} sparingly \(p. \textit{es} \textit{2}\) bipunctate; subtegular area well detectable and as large as tegula itself. \textit{em} \textit{3} with \(mR\) on ventral 2/3, finely sculptured uppermost. \textit{St} \textit{3} flattened and bipunctate. Fore and hind coxae sparsely \(p\), mid coxa with dense piliferous
small p basally. Hind tibia broadly keeled with a gutta like sensorium. No groove on hind basal tarsomerus. Areola slightly tightened apically; lateral and mid ribs of areola straight and moderately prominent; the mid one worn out just a bit before posterior carina; surface of horizontal area completely covered by regular mR without any sculpture and/or ribs or wrinkles (apart areola) and also without differentiated area surrounding spP. Lateral area with densely packed oblique wrinkles weakening downward to confuse with striaolation of the underneath es3. Posterior area concave and laterally smooth, with a median bipunctate stripe and a median ridge on its basal 2/3. Sparse minute p on the vertical surface; the horizontal disk with only a median row of few (about 10) scattered small and shallow p and subapical row made by far deeper and more densely packed single p. 2nd tergum with very sparse shallow p. 1st sternal disk with central stripe of minute p and sparse ones elsewhere. Following metameri with denser p. mR only on 6th sternum.

Ecology. Unknown

Derivation nominis. In honour of collector Luca Bartolozzi.

Note. Male well distinct by the small cOc, abruptly descending large posterior vertex, p-less stripe on the scape, strong ribs on horizontal P, the entire apical border of 6th sternum. Female by the large lateral extension of clypeal disk and the following complex of character states: apical extension on 3rd element of Pam, complete carina on pronotal disk, the entire gradulus on Sc1, no groove on hind basal tarsomerus, mR surface of horizontal P, 1st tergal surface.

Male runs at couplet 2 in ALLEN & JAYNES (1930), facing with T. cilicincta Allen & Jaynes 1930, which differs also in general p, wings, propodeal areola and surface of horizontal area, 1st tergum and sternum, long haired distal border of metameri. It runs at couplet 5 in ALLEN (1975), but greatly differs by both T. clavinerva CAMERON and T. dutti Allen 1975, and at couplet 9 in TSUNEKI (1986) where his new species T. kotoshensis and T. puliensis are very different taxa too.

Female meets T. sternocarinata Allen & Jaynes 1930 and T. rufomandibulata Smith 1873 in ALLEN & JAYNES’s key (1930), T. cinchonae Allen 1975 in ALLEN’s key (1975), all of which have different complex of charaters.

**Tiphia mastigophora nova sp.**

Male. Holotype. Figs. 63-70. Measurements = 10.2 mm
Upper frons, lateral vertex and with sparse p; lower genae near PoG has also sparse p while middle vertex and temples along cOc have a stripe of dense p, all of these areas are bipunctate by densely packed small p. Mandible without subapical tooth. Toruli a bit wider than their distance from eye. N1 disk, Sc1 and Sc2 with sparse irregularly spaced p. Distinct low carina, not buttressed by any ridge, along fore border of N1 disk. Lateral N1 without any p only shagreened and with a waving large groove on its postero ventral corner. es1, es2 and forecoxa bipunctate by small densely packed secondary p among sparser primary larger p. em3 more finely, es3 more heavily shagreened; dorsal P finely shagreened outside areola but wrinkles springing from posterior carina, more roughly sculptured inside; ribs of areola well produced. Posterior P with densely packed, bearing short hair, small p throughout with very sparse larger ones. Back surface of hind coxa strongly angled longitudinally. Back surface of hind tibia longitudinally broadly angled and completely covered by p bearing short hair Terga and sterna but 1st with sparse shallow p
becoming progressively denser and more impressed from basal to apical ones. 1st sternum. With smooth central area and rows of p laterally. Very shallow and small tubercle on 5th sternum. mR covering es5, detectable at least at x50, over all the body but temples, lower genae, flagellum, mandible, anterior, medium and posterior es2, back surfaces of tibiae and femurs, horizontal and posterior P, the shagreened areas.

Female. Paratype. Figs. 71-74. Measurements: body length = 15 mm
Black. Brown: mandible, palpi, LaSt2, pterostigma, shadows on legs, calcaria, apical half of 6th tergum. Ventral flagellomeri, veins and spines of legs are light brown. Wings darkened, hindwing lighter.

Sparse shallow p on frons and vertex, but along cOc where they are denser like on temples and genae. N1 disk without carina along horizontal fore border; anterior surface with regularly spaced medium p delimited posteriorly by a row of single strong p from large apical smooth surface. Lateral N1, with an angled groove delimiting ventral area covered by weak bristles. Colpus of Sc1 not connected to parapsidal lines, large smooth areas between middle and lateral surfaces; irregular p on Sc2, denser on postscutellar area. es1, and fore coxa bipunctate. Outer and ventral surface of es2 irregularly bipunctate, posterior surface with dense minute p, ventrally smooth, uppermost with very minute p bearing microscopic hair. es3 with strong mR. 2r-m vein of forewing clearly sinuous. Posterior P covered by small p, with scattered larger ones and irregular wrinkles along the surroundings carinae. Areola 4 times higher than its median width; lateral and median ribs complete appearing like a fish-bone. Posterior transversal carina with short buttressing ridges both on horizontal and vertical areas. Inner surface of hind tibia bluntly angled longitudinally, with a short sub triangular sensorium. Hind basal tarsomerus with a deep ridges both on horizontal and vertical areas. Inner surface of hind tibia bluntly angled longitudinally, with a short sub triangular sensorium. Hind basal tarsomerus with a deep ridges both on horizontal and vertical areas.

N1, N2, N3 disk, the male in the smooth shining posterior area of P and shape of genitalia.

Tipha oxycittara nova sp.

Holotypus ♂: Philippines = /Philippines, Palawan Mantalingajan Pinigisan 600 meter 9 Sept. 1961 Noona Dan Exp. 61-62/, ZMUC
Paratypi ♀: Philippines = (1) /Philippines, Palawan Mantalingajan Pinigisan 600 meter 1 Sept. 1961 Noona Dan Exp. 61-62/, ZMUC; (1) /Philippines, Palawan Mantalingajan Pinigisan 600 meter 8 Sept. 1961 Noona Dan Exp. 61-62/, ZMUC; (1) /Philippines, Palawan Mantalingajan Pinigisan 600 meter 21 Sept. 1961 Noona Dan Exp. 61-62/, ZMUC; Male. Holotype. Figs. 75-84. Measurements: body length = 7.2 mm

Frons, vertex, lower genae with sparse p and large smooth areas around ocelli; temples bipunctate. Mandible without sub apical denticle. Well expressed carina along fore border of N1 disk, without any buttressing ridge; lateral area: irregular buttressing ridges along ventral portions of the carina and before the subvertical groove placed near posterior border. N1 disk, Sc1 and Sc2 with p like on the vertex. es2 bipunctate along omaulus. Upper em3 with horizontal wrinkles. Tegula with a groove along its postero inner corner. es1 and fore coxa with sparse weak p, mid and hind coxae with stronger ones. CM far exceeding tip of CSM II. Hind tibia without longitudinal keel.
Horizontal P with a subtrapezoidal areola and well expressed lateral and median ribs; surface inside areola irregularly and finely sculptured, the outside areas completely crossed by fine oblique wrinkles. No ribs around spP and from it onward. Posterior area mostly smooth with a narrow vertical stripe of small p near the short median ridge and irregular weak buttressing ridges along the posterior and lateral carinae.

1st terga disk almost devoid of p, with a subapical row of single p and a waving gradulus before it wearing out laterally. 2nd tergum and 2nd sternum almost p-less. 3rd to 6th terga and 2nd to 6th sterna with denser and more impressed p and irregular small groove just along distal borders. 7th tergum with elongated p. Short apical grooves and only very few p on the smooth and shining 1st sternal disk. Tubercle on 5th sternum with long curved uplift edge. Well detectable at x40 mR on Last2, mid and hind coxae, 3rd to 7th terga and 3rd to 6th sterna, weaker on lateral N1 and es2.

Female. Unknown

Ecology. Unknown

Derivatio nominis: from the Greek words ǎǍǘǐ = sharp and ljǘIJIJĮǏǎǐ = cell, because of the sharpening tip of marginal cell of forewing.

Note. Following ALLEN (1975) key it meets T. cinchonae from which strongly differs in shape of the head, CM, tubercle on 5th sternum and genitalia, besides other minor differences. The same differences exist from T. ashmeadi CRAWFORD 1910, T. lucida CRAWFORD 1910 and T. segregata CRAWFORD 1910. In according to TSUNEKY’s key (1986) this taxon should be T. ilanensis Tsuneky 1986 nevertheless it differs because of width of toruli far larger than their distance from eye, no mR on head and N1 disk, different sub apical stripe on 1st tergum and genitalia, lesser size.

Tiphia, rhousiokalyptra nova sp.


Female. Holotype. Figs. 85-89 . Measurements: body length = 14.5 mm

Black. Veins and Pterostigma are semitransparent brown. Ferruginous are ventral flagellum, apical scape, mandible, ventral edges of N1 and the collar too, apical coxae trochanters, tibiae and femurs, tarsomeri, apical 6th tergum, the semitransparent tegula and apical smooth stripe of N1 disk. Hair whitish throughout. Base and apex of forewing are pale yellow, with darker coloration on CM, CSM II, apical CSMI and CDII; hindwing uniformly pale yellow.

Frons, vertex and temples with p not densely packed, with iS mostly larger than their diameter; genae bipunctate; last two elements of Pal elongated, their aggregate length about 1.6 times aggregate length of basal two elements. Horizontal disk of N1 with a distinct carina on lateral third of its fore border, medially only angled, and with densely packed large p on its anterior surface; lateral area upperly smooth with wrinkled postero ventral corner. Sc1 mostly p-less, with dense small p along posterior border; colpus almost connected to sup. Sc2 sparsely p. es1 and coxae sparsely bipunctate. Outer and ventral disk of es2 sparsely bipunctate. es3 covered by mR. Inner hind tibia with a longitudinal keel; sensorium small, gutta-like and flushed with surrounding surface. No groove on basal hind tarsomersus. Areola with almost straight low ribs from which obscure transversal ridges start to cross inside surface of areola, covered elsewhere by mR as the remainder of horizontal surface outside areola. Well settled rib delimits a small semicircular area behind spP. Lateral P with dense regular wrinkles. 1st tergal disk with sparse p and subapical row of single p. 2nd to 5th terga and 2nd to 6th sterna sparsely p without definite belt. Apical third of 6th tergum mR. 1st sternal disk with sparse p and minute p throughout and very weak lateral furrows as long as about its lateral length. Well detectable mR on lower genae, progenae, ventral es2, ventral coxae and most of legs but tarsi, 2nd to 6th sterna.

Male. Unknown

Ecology. Unknown

Derivatio nominis. From greek words ρούσιος (= reddish) and καλύπτρα (= lid)

rufomandibulata Smith 1873 in Allen & Jaynes 1930 (couplet 6) and from T. ilanensis Tsuneki 1986 (couplet 8).

Its main distinctive character states are the elongated Pal, inside surface of areola, colour of wings and tegula.

Tiphia toreuta nova sp.
Female. Holotype. Figs. 90-92. Measurements: body length = 11 mm
Black. Brown: eye, mandible, ventral flagellum, tegula, veins and pterostigma, legs but coxae, apical 6th tergum. Ferruginous are mid and hind femurs, sensorium on hind tibia. Forewing well darkened, hindwing with slightly darkened apical half.
Upper frons and vertex with sparser p than mid frons; stripe of minute p along cOc from vertex to temples. Geane and most of temples bipunctate by smaller among sparse larger p. PoG slightly prominent. Roughly defined carina along fore border of N₁ disk which has very sparse p anteriorly (but a lateral slightly smooth prominent area) back delimited by a row of larger p from the large smooth apical area; lateral area with irregularly spaced p uppermost, with a smooth central area, a subrectilinear narrow groove along its posteroventral edge and feeble wrinkles on its postero ventral corner. Sc₁ with anterior colpus almost connected to parapsidal lines, central longitudinal stripe of dense p and sparse laterally. Sc₂ and postscutellar area with scattered weak p. es₁ and coxae sparsely p. Bipunctate outer surface of es₂ with irregular sparse p and scattered smaller p among them. es₃ with mR anteriorly, posteriorly with dense minute p. Horizontal P with regular strong sculpture outside areola; lateral ribs only inwards and medina rib on both sides buttressed by regular short ridges; posterior area covered by small p bearing small hair. Hind tibia with subparallel edges (in lateral aspect) and broad longitudinal keel on its inner surface; sensorium small, gutta like and flushed with surrounding smooth area. Hind basitarsomerus with well produced groove shorter than half its length. Tergal and 2nd to 6th sternal disks with scattered shallow p; 6th tergum with apical half with evident mR and without p. 1st sternal disk covered by minute p, with lateral long (about ¾ its length) groove apically. Smooth areas and iS among p with well detectable at x40 mR on most of the body, (except clypeus, lower frons, apical N₁ disk, Sc₁,Sc₂, postscutellar area and propodeal surface).
Male. Paratype. Figs. 93-99. Measurements: body length = 8.5 mm
Black. Brown: eye, antenna, most of mandible, tegula, vins and pterostigma, back surface of fore tibia, tarsi, apex of last metamerus. Ferruginous is the remainder of legs (but black coxae), apical stripe of mandible. Wings hyaline, with CM slightly exceeding tip of CSMII apically.

Head with shallow sparse p everywhere, without smooth areas, temple and genae bipunctate by smaller ones. Well distinct not prominent carina on fore border of N₁ disk with p like head and a smooth apical belt. Disk of lateral area completely covered by mR uppermost without p, delimitated downwardly by a concave groove connected to the side end of carina to shape a sort of semicircle and with feeble wrinkles on the postero ventral corner. Sc₁ and Sc₂, fore and hind coxae with irregularly sparse p, larger than on N₁ disk. es₁, outer disk of es₂ and hind coxa bipunctate. Horizontal P with surfaces inside areola and near lateral edge irregularly and finely sculptured, the remainder with mR. posterior surface with an upper smooth stripe, mostly covered by widely spaced minute p. Ribs of areola moderately prominent with very feeble radiating ridges. terga and 2nd to 6th sterna with sparse p. 1st sternum smooth with very few small p and long lateral groove at its apex. Tubercle on 5th sternum prominent without orifice nor smooth place flanking it. mR well detectable on frons, vertex, lateral N₁, Sc₁, Sc₂, es₂, fore and hind coxae, 1st to 7th terga and 2nd to 6th sterna.
Ecology. Unknown
Derivatio nominis. From Greek word τορευτός (= chiselled) because of the regular sculpture of the propodeum of the female.
Note. The female is well distinct from other Asiatic female taxa with bright ferruginous mid and hind femurs and grooved basitarsus (*T. rufomandibulata* Smith 1855, *T. magrettii* Cameron 1897, *T. biseculata* Allen & Jaynes 1930, *T. pigmentata* Allen & Jaynes 1930, *T. davaae* Allen 1975, *T. khasiana* Allen 1975) by the presence of a rough carina on N₁ disk, very darkened fore wing and especially by the very peculiar sculpture of P. The coupling here proposed is purely arbitrary, based mainly on the ferruginous colour of the legs. The male is well known from other males from South East Asia by the shape of lateral N₁ and genitalia.

**Taxa with elongated tegula.**

The following taxa show elongate tegula in both sexes, more than 1.5 times higher than wide, mostly with enlarged apical inner corner and often almost reaching the back border of Sc₂ (suture between Sc₂ and N₃). Here the key to their identification:

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
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1

a) Mandible with prominent preapical denticle

*Tiphia oswini* Turner 1911

*Tiphia leclerqi* Krombein 1982

*Tiphia kaszabi* Krombein 1982

*Tiphia bouceki* Krombein 1982

b) Mandible without prominent preapical denticle

2

a) Tubercle on 5ᵗʰ e sternum absent

*Tiphia platykalymma nova sp.*

aa) Tubercle on 5ᵗʰ e sternum present

3

a) Inner surface of hind tibia longitudinally keeled

4

aa) Inner surface of hind tibia flattened, without any keel

7
4
a) 6th sternum clothed with dense, short sub erect bristles, forming a distinct tuft in lateral aspect
   \textit{Tiphia knutsoni} Krombein 1982
aa) 6th sternum without such a tuft, with sparse bristles

5
a) Lower frons with a median vertical ridge
   \textit{Tiphia hillyardi} Krombein 1982
aa) Lower frons without evident median vertical ridge

6
a) Tegula glossy with semitransparent apical half at least
   b) Tibiae, tarsi and femurs more or less bright red
   \textit{Tiphia longitegulata} Allen & Jaynes 1930
   \textit{Tiphia sakagamii} Krombein 1982
aa) Tegula mainly opaque black, without semitransparent apical half
   bb) Legs mostly castaneous, with black hind leg
   \textit{Tiphia tegelonga} Allen 1975

7
a) Propodeum rounded in lateral aspect without carina between horizontal and posterior areas outside areola.
   b) Orifice lying under uplifted edge of tubercle of 5th sternum
   \textit{macroplaka nova sp.}
aa) Propodeum distinctly angled in lateral aspect with complete carina between horizontal and posterior areas.
   bb) No orifice under tubercle of 5th sternum

8
a) Head stout in dorsal aspect, ratio $\text{LA/A}$ more than 1.6.
   b) Head in frontal aspect almost as wide as high
c) Ocelli very close to each other, distance $O_l - O_m$ less than half their diameter

d) Clypeus very prominent downward, ratio its $L_A/A_m$ about 2

e) Large, prominent on the surrounding surface, sensorium of hind tibia, its length about half maximal width of tibia

Tipha tegulita Allen 1975

aa) Ratio $L_A/A$ of head in dorsal aspect more than 2

bb) Head larger than high in frontal aspect

c) Ocelli less close to each other, distance $O_l - O_m$ about as large as their diameter

dd) Clypeus less prominent, ratio $L_A/A_m$ no more than 1.7

e) Small, flushed with surrounding surface, sensorium, its length about $\frac{1}{4}$ width of tibia at the best

9

a) Prominent median ridge on the frons

b) Apical width of clypeus larger than toruli

c) Fore border of pronotal disk with a strong carina with well expressed buttressing ridges

d) Propodeum stouter; areola with ratio median height/apical width ($A_m/L_A$) about 1.5

e) Basal two metameri stouter; 1st sternal disk just a bit longer than wide in ventral aspect

Tipha platykerama nova sp.

aa) Very shallow median ridge on frons

bb) Apical width of clypeus narrower than toruli

c) Fore border of pronotal disk with low carina lacking of buttressing ridges

dd) Propodeum slender; areola with ratio $A_m/L_A$ more than 1.8

ee) Basal two metameri more slender; 1st sternal disk 1.7 times longer than wide in ventral aspect

Tipha platysma nova sp.

10

a) Basal hind tarsomerus with a longitudinal groove on its upper surface

11
aa) Basal hind tarsomerus without longitudinal groove on its upper surface

11

a) Lower frons strongly prominent like a sort of rounded shed above toruli, acutely expressed medially in dorsal aspect
b) 3rd element of Pam strongly dilated, its thickness more than twice thickness of following elements.
c) Tegula dilated outwardly at its middle
d) Large size, about 20 mm

*Tipha dolichaula* nova sp.

aa) Lower frons either only gently swollen either longitudinally ridged, but never like a sort of rounded shed above toruli
bb) 3rd element of Pam not so strongly dilated, its thickness less than 1.5 times twice thickness of following elements.
cc) Tegula with enlarged apical inner corner
dd) Size never more than 13mm

*Tipha longitegulata* Allen & Jaynes 1930

*Tipha tegelonga* Allen 1975

*Tipha oswini* Turner 1911

*Tipha leclerqi* Krombein 1982

*Tipha sakagamii* Krombein 1982

*Tipha knutsoni* Krombein 1982

*Tipha hillyardi* Krombein 1982

*Tipha bouceki* Krombein 1982

*Tipha moczari* Krombein 1982

12

a) Head more transversal; Ratio LA/A about 1.3 in frontal aspect
b) Ratio lengths Pal/labium about 1.6
c) Areola of propodeum with five, more or less complete, ribs
d) Most of legs bright ferruginous
e) Sensorium of hind tibia sub rounded
f) Ratio LA/A of 1st sternal disk about 1.2 or less
aa) Head less transversal with ratio LA/A in frontal aspect just a bit more than 1
bb) Ratio lengths Pal/labium about 1.3
cc) Areola of propodeum 1st sternal disk, ratio LA/A a bit less than 1.5
dd) Legs brown
e) Sensorium sub triangular
ff) Ratio LA/A of 1st sternal disk almost 1.5

_Tiphia platykalymma_ nova sp.

a) Frons with evident mR
b) Complete carina along fore border of pronotal disk
c) Mid and supplementary ribs incomplete, not getting posterior carina
d) Lateral and supplementary ribs of areola with inner wrinkled edge

_Tiphia macroplaka_ nova sp.

aa) Frons without evident mR
bb) Carina along fore border of pronotal disk weaker and broken in the middle
cc) Only the supplementary ribs incomplete, not getting posterior carina
dd) Lateral and supplementary ribs of areola with simple edges

_Tiphia tegulita_ Allen 1975

Note. Male _Tiphia alishana_ Ishikawa 1967 lacks lateral tubercle on 5th sternalum like _T. platykalymma_ nova sp. but it has darker legs, different head in dorsal an frontal aspect, different distance toruli-eye, different clypeus, different areola and more slender 1st metamerus (ratio L/LA about 2). Male _Tiphia yushana_ Tsuneki 1986 runs at item 4 meeting _T. tegulita_ Allen 1975 to which it looks very like; nevertheless it differs greatly in the shape of the head in dorsal aspect, larger apical clypeus, backward tapering areola, smaller and different lateral tubercle on 5th sternalum. Female _Tiphia yushana_ Tsuneki 1986 differs from all these taxa in having the colpus (escarpment) on fore border of Sc1 connected to sup and bent lateral ribs of areola. Moreover it differs from _T. tegulita_ and _T. macroplaka_, with which share the bright ferruginous legs, in the more transversal 1st metamerus (LA/A more than 1.3, like in _T. platykalymma_ nova sp.). _Tiphia alishana_ Tsuneki 1986 runs at item 11, but differs from _T. oswini_ Turner 1911 in having brown parts of the body, from _T. tegelonga_ Allen 1975 and _T. longitegulata_ Allen & Jaynes 1930 because of bigger size; from all of them by the shape of the head and frons. Female _T. tsukengensis_ Tsuneki 1986 runs too at item 11 where it links with _T. tegelonga_ and _T. longitegulata_ because of size, but differs greatly in the strong connection of colpus on Sc1 with sup, less elongate areola (ratio L/LA about 2.1 instead of 3 in those taxa) and more dense p everywhere.

_Tiphia tegulita_ Allen 1975

_Tiphia tegulita_ Allen 1975: 16-17


Holotype. Figs. 100-110

**Tiphia platykalymma nova sp.**


Male. Holotype. Figs. 111-122. Measurements: body length = 5.2 mm

Balck. Brown: eye, 2-11 flagellomeri, veins, pterostigma, coxae. Pedicel, 1st flagellomerus, palpi, the remainder of legs and apex of metasoma are light ferruginous-brown. Tegulae completely transparent pale yellow. Frons, vertex, very sparsely p, with large smooth areas; temples and genae bipunctate with scattered both primary and secondary p. Progena with mR. Pal with apical two segments very long, everyone twice longer than single basal segment. N1 disk with a strong carina with very weak buttressing ridges along its fore border; lateral area without any furrow. N1 disk, Sc1, Sc2 with p like head, postscutellar area smooth, without any p. es1 bipunctate by dense secondary small p. es2 with p like genae. Lower half of tegula with subhorizontal obscure wrinkles springing from its outer edge. Fore coxa smooth and shining, mid coxa with dense minute p, hind coxa with scattered p. Sub rounded sensorium on hind tibia which has not median longitudinal keel. Surface of areola roughly sculptured with a trace of additional longitudinal ribs; the remainder surface of horizontal P with a rough mR and no ridge around spP and anteriorly to it; posterior area without median ridge and completely covered by piliferous minute p. Terga and sterna with very sparse weak p. 1st tergal disk with a pre-apical stripe mono-punctured in the middle and with a weak gradulus just after it. Pre-apical band on terga made by distanced p followed by a small irregular furrow. 1st sternal disk smooth with short apical longitudinal ridges at its sides instead of grooves as usual. No tubercle on 5th sternum. mR present on clypeus, es3, horizontal P, 4th to 7th terga and 3rd to 6th sterna.

Female. Paratype. Figs. 123-125. Measurements: body length = 4.8 mm

Black. Brown: eye, mandible, antenna, legs but coxae, apical 6th tergum. Semitransparent yellowish are the apical half of tegula, veins and pterostigma. Very weakened cOc along the vertex. Frons, vertex, temples and genae with well impressed scattered p. Head but clypeus covered by very weak mR. Well expressed carina with weak irregular buttressing ridges along fore border of N1 disk; lateral areas mostly smooth with a down transversal groove delimiting the feebly wrinkled corner. Anterior gradulus on Sc1 connected to parapsidal lines. Scattered p on Sc2, almost smooth postscutellar area. es1 and coxae sparsely p. Surface of es2 like head with bipunctate by small p narrow area along posterior border with es3, which has strong mR. em3 shagreened. Hind tibia longitudinally keeled, with a subtriangular sensorium flushed with the surrounding surface. No groove on basal hind tarsomerus. Areola with delimiting ridges having gently irregular contours by vertical to it small ridges; inside area vertically sculptured with trace of additional ribs, outside areas covered by mR. 1st tergal disk with very scattered p and an irregular prepalical stripe of p without gradulus. Terga and sterna with scattered p almost absent medially. 6th tergum with scattered p and mR covering IS on its basal half medially broken by a forward large protrusion of the smooth apical area surface.

Note. Well known species because of the character states given in the key, by the ridges on 1st sternum and the genitalia of the males. The association of sexes is intuitive basing mainly on the similarity of areola and their temporal and spatial proximities.

Ecology. Unknown

Derivatio nominis. From the Greek words πλατύς = large and κόλπυμα = tile

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**Tiphiphia macroplaka nova sp.**
Holotypus ♀: Thailand = /Thailand Chiang Mai Province Doi Inthanon NP. Main road 1900m 7.X.1981 Zool. Mus. Copenhagen leg/, ZMUC
Male. Holotype. Figs 126-138. Measurements: body length = 6.8 mm
Black. Brown: eye, antenna, most of the legs but lighter fore and mid tibiae and femurs, basal half tegula with semitransparent apical half, apical metameri.
Frons and vertex with spars p, denser along inner border of the eye; temples and genae like vertex but bipunctate by dense minute piliferous p which gave them a velvety appearance under incident light. Palpi elongated. Fore border of N1 disk with a moderate carina buttressed by weak and short ridges; lateral area mostly smooth with only a sub vertical shallow groove delimiting a finely wrinkled postero ventral corner. Sc1 and Sc2 like head, postscutellar area with denser and smaller p. es1, es2 disk and coxae bipunctate by small p among scattered larger ones. Inner (back) hind coxa with a well produced longitudinal keel (no laminated carina). Inner (back) hind tibia not keeled and with a very small subellissoidal sensorium surrounded by a slightly prominent shining surface above the main surface of the element. Horizontal P with a somehow irregular microscuplature and mR. Areola delimited by well expressed ribs, the median one does not get the fore border. No posterior carina laterally to areola and poorly expressed between posterior and lateral areas. Posterior area strongly convex. Lateral surface wrinkled only on its antero dorsal half, underneath with a rough mR like em3 without any distinction between them. 1st, 2nd terga and sterna almost p-less; 1st tergal disk with a subapical narrow row of p bordered posteriorly by a sort of gradulus on the sides. The remainder terga with denser p. 1st sternal disk swollen and smooth with a short lateral furrow at its apex. mR well detectable on IS on most of the body and legs.
Female. Paratype. Figs 139-144. Measurements: body length = 5.5 mm
Black. Brown: eye, mandible, scape, upperside of flagellum, LaSt2, mid and hind coxae. Ventral flagellum, legs but coxae. Tegula, veins and stigma are semitransparent yellowish.
Head with scattered p throughout with large p-less areas on the frons, which show a quite short median furrow. p on N1 disk, Sc1 and Sc2 like on the head. Moderate well distinct carina along fore border of N1 disk. Lateral N1 without p with a shallow groove with fine wrinkles underneath from it. N1 disk. Postscutellar area completely smooth. es1 and es2 disk with shallow sparse p. Pterostigma very small. Hind tibia obscurely wrinkled with a sub rounded sensorium flushed with the surrounding surface. Basal hind tarsomerus without groove. Propodeum: posterior carina well expressed; areola with supplementary ribs between lateral and mid one; all three not getting posterior carina and their inner edges with irregular contour by short buttressing ridges; side surfaces covered by mR; posterior area with regularly packed small piliferous and sparse larger p; lateral areas like in the male, with wrinkled anterodorsal half and microreticulated posteroventral half confused with em3 surface. 1st tergum completely p-less apart the subapical area subtended by a distinct gradulus; 2nd tergum with sparse p like the following ones and 2nd to 5th sterna. 1st sternal disk completely p-less. mR well expressed on most of the head, lateral N1, es2, es3, LaSt2.
Note. Their conspecificity too has to be proved definitively. The female strongly resembles T. devalae ALLEN 1975 (= T. tegulita Allen 1975 according to KROMBEIN 1982), from which is well distinct by different shape of head in dorsal aspect, different ventral contour of the clypeus, different palpi, hind tibial sensorium and characters of the key. The male is strongly segregated from all other forms by the peculiar propodeum, besides other smaller differences.
Ecology. Unknown
Derivation nominis. From the Greek words μακρός = long and πλαξ, πλακός = slab

**Tiphiphia platykerama nova sp.**
Black. Brown: eye, mandible tip, scape, dorsal flagellum, pterostigma, hind leg, basal 7th tergum. Ventral flagellum, palpi, most of mandible and fore and mid legs are light brown. Semitransparent tegula.

Frons and vertex almost devoid of p, only few along inner edge of eye; temples and genae bipunctate by denser small p among sparse and larger ones. Long prominent ridge on the frons. Apical width of clypeus larger than toruli. N1 disk with a strong carina along its fore border, buttressed by well produced ridges. Lateral N1 smooth with a distinct groove and shagreened surface on the posteroventral area underneath from it. N1 disk, Sc1 and Sc2, es1 and forecoxa with scattered p. es2 bipunctate almost throughout. 1st tergum with only sparse minute p. 2nd tergum bipunctate by sparse small p among scattered larger ones. 1st sternal disk smooth with apical lateral short grooves. Arched tubercle on 5th sternum, with large shining smooth area on its inside. mR on frons, lateral N1, es3, mid and hind coxae, propodeal disk, 3rd to 7th terga and 3rd to 6th sterna.

Note. Distinct species by the prominent ridge on frons, strong carina on N1 disk, slender basal metameri and genitalia.

Ecology. Unknown

Female. Unknown

Derivatio nominis. From the Greek words πλατύς = large and κέραμος = tile

Tiphia platysma nova sp.

Holotypus ♀: Malaysia = /Malaysia Pahang Cameron highlands 2000m 27.XI.1979 Peter Nielsen leg/, ZMUC
Male. Holotype. Figs. 155-164. Measurements: body length = 6.5 mm

Black. Brown: eye, mandible, antenna, coxa e, portion of legs, apical metamerus, the semitransparent tegulae, veins and pterostigma. Palpi and most of legs are light brown. Most of the body with very scattered shallow p giving it a shining aspect; temple and genae show also very scattered minute p among them. Very shallow groove on the middle frons. es3 weakly sculptured. em3 with weak wrinkles and hair upperly and smooth and shining ventrally. Inner surface of hind coxa only bluntly angled. Hind tibia not keeled with a very small sub rounded sensorium. Propodeum with horizontal an dupper posterior areas also shining with very large mR; lower posterior area with dense small p without any ridge; lateral area with weak almost indistinct wrinkles. 5th to 7th terga and 3rd to 6th sterna covered by well detectable at x40 mR. Arched tubercle on 5th sternum with a large polished area (not depressed) on its inner side.

Note. Similar to T. platykerama, from which is well segregated by lacking strong ridge on the middle of the frons, narrower apical clypeus, longer propodeum in dorsal aspect, quite slender basal metameri, genitalia.

Ecology. Unknown

Female. Unknown

Derivatio nominis. From the Greek word πλάτυμα = slab

Tiphia dolichaula nova sp.

Female. Figs 165-172. Measurements: body length = 20 mm.

Most of propoerae (es1) and forecoxae are missing because of dermastid attack.

Black. Dark reddish brown: eye; most of mandible; ventral side of flagellum; palpi; semitransparent apical border of N1 disk; most of semitransparent tegula, LaSt2, pterostigma and veins; apex of coxae, femurs and tibiae; tarsi; sensorium of hind tibia; basal plate of hind femur; apex of 6th tergum. Fore wing strongly yellowed, hind wing less coloured. Lower frons strongly and acutely prominent better seen in dorsal aspect. Basal third Pam enlarged. Fore border of N1 disk roughly keeled only at its sides; lateral N1 without evident neither median groove neither graduulus, only with weak wrinkles on its postero-ventral corner; its apical border evenly arched. Colpus on Sc1 connected to sup
through unbroken gradulus (the Allen’s “escarpment”). Omaulus present on es₂, em₃ with microreticulated upper half and finely wrinkled basal half like es₃. Large irregular depression along basal border of P; areola elongated, about five times longer than wide, slightly tightening apically; its inner surface sculptured by delicate sub horizontal ridges, the remaining horizontal areas microreticulated; lateral areas densely and regularly wrinkled; posterior area without any median vertical ridge. LaSt₂ completely smooth and shining. Ventral lobes of St₃ flat with only 4-5 p. Inner surface of hind tibia with a clear longitudinal keel and a large sensorium. Basin hind tarsomerus with a large deep groove. Hair yellowish with cupreous reflections under incident light. Spines light brown. Spurs red brown.

Note. Size, general habitus and punctuation are very like in annandalei Turner 1908. The examination of its lectotype preserved at BMNH [/Annandale Robinson Siamese & Malay States 1903-127/ /Semangko Selangor 3500’ 10.V.02 on bank/ /Tiphia annandalei Type Turne/(autographic) /Lectotype/(rounded with outer blue ring) /Lectotype Tiphia annandalei Turner H.W: Allen/(red), BMNH; figs 173-178], permits to exclude their conspecificity. Here the differences with TURNER’s taxon (in brackets): shape of the head; presence of a protuberance on the lower frons between toruli; shape of the clypeal ventral edge; stouter scape (ratio L/A about 2.2 instead of 2.5); different 3rd element of Pam; evenly arched apical edge of N₁ disk (with a median backward prominence); shape of N₁ in lateral aspect; no groove on lateral N₁ disk (clear rectilinear sub vertical groove near posterior border); unbroken gradulus between sup along fore border of Sc₁ (absent laterally); different shape of tegula; different areola (subparallel outer ridges); bigger propodeal spiracle; stouter hind tibia; by far larger sensorium on hind tibia; longer and deeper groove on basal hind tarsus (0,60 times times length of the element in front of 0,44); different surface of 1st sternum; yellow wings (brownish); rectilinear apical border of 2nd CSM (strongly bent).

Male. Unknown
Ecology. Unknown
Distribution: type locality

Derivatio nominis: from the Greek δόλιχος (= elongated) and συλός (= stem), because of the elongated body.

**New records**

*Tiphia levipunctata Allen 1975*  

*Tiphia clavinerva Cameron 1904*  
♀: Thailand = (1) / Thailand Near Singora Syd-Siam Oc.1940 AM. Hammingsen/, ZMUC

*Tiphia murrea Allen 1975*  
♂: India = (1) / India Uttar Pradesh Mussoorie c 1500-2000m 3-14.VIII.1978m Zool. Mus. Copenhagen exp./, ZMUC

*Tiphia shillonga Allen 1975*  

*Tiphia pulchaukiae Allen 1975*  
♂: India = (1)/India (Kashmir) c 2200m Kashmir Valley (Tangmarg) 17.VIII-7.IX.1978 Zool. Mus. Copenhagen exp./, ZMUC
Tiphia davarae Allen 1975
♂: India = (1) /India Uttar Pradesh Mussoorie c 1500-2000m 3-14.VIII.1978m Zool. Mus. Copenhagen exp./, ZMUC

Tiphia nilgirensis Allen 1975

Tiphia decrescens Walker 1859

Tiphia cinchonae Allen 1975

Tiphia vanlithi Krombein 1982
♂: Sri Lanka = (1) /Ceylonia Mus. Drews/, ZMUC

Tiphia pulawsky Krombein 1982
♂: Sri Lanka = (2) /Ceylonia Mus. Drews/, ZMUC

Tiphia dayi Krombein 1982
♂: Sri Lanka = (1) /Ceylonia Mus. Drews/, ZMUC

Tiphia hilliardi Krombein 1982
♂: Sri Lanka = (2) /Ceylonia Mus. Drews/, ZMUC

Tiphia oswini Krombein 1982
♂: Sri Lanka = (3) /Ceylonia Mus. Drews/, ZMUC

Tiphia consueta Smith 1879
♂: Sri Lanka = (2) /Ceylonia Mus. Drews/, ZMUC

Tiphia hirashimai Krombein 1982
♂: Sri Lanka = (4) /Ceylonia Mus. Drews/, ZMUC
♂: Sri Lanka = (4) /Ceylonia Mus. Drews/, ZMUC
**Tiphia malayana** Cameron 1910  
♂: Malaysia = (1) /Malaysia, Selangor Templer Park 1-5.XII.1979 peter Nielsen leg./, ZMUC

**Tiphia palmi** Krombein 1938  
♀: India = (1) /India Tamil nadu Valpari 1070m 4-6.XII.1982 KD. Ghorpade leg./, ZMUC.  
♂: India = (1) / India. Karnataka Bangalore 915m 7.12.1980 Belavadi coll./, ZMUC.

**Tiphia nathani** Allen 1975  
♀: Thailand = (1) /7km NW of Fang Horticolt. Exp. Station c.900m 2-10.X.1977 Zool. Mus. Copenhagen Exp./, ZMUC  
♂: India (1) / India. Karnataka Bangalore 916 m 1-17.IV.1980 Belavadi coll./, ZMUC; (1) /S. India Karnataka Mudigere area c.900m 2-10.XI.1977 Zool. Mus. Copenhagen exp./, ZMUC

**Tiphia lawrencei** Allen 1975  

**Tiphia capillata** Allen & Jaynes 1930  
♂: India = (1) /S. India Karnataka Mudigere area c.900m 2-10.XI.1977 Zool. Mus. Copenhagen exp./, ZMUC

**Tiphia nilgiria** Allen 1975  
♂: India = (1) /S. India Karnataka Kermangundi 1200-1500m 11-16.XI.1977 Zool. Mus. Copenhagen exp./, ZMUC

**Tiphia flavipalpis** Allen 1975  

**Tiphia dampara** Allen 1975  

**Tiphia tegelonga** Allen 1975  
♂: Thailand= (1) /Thailand Chieng Mai Province Doi saket 950m 3.X.1981 Zool. Mus. Copenhagen exp./, ZMUC
Figs. 1-11. *Tiphia brachycera* nova sp. - (1): head, dorsal aspect; (2): head, frontal aspect; (3): antenna; (4): mesosoma, dorsal aspect; (5): pronotum, lateral aspect; (6): back aspect of posterior surface of propodeum; (7): apical fore wing; (8): side of 5th sternum, sub ventral aspect; (9): gonosquama, lateral aspect; (10): gonosquama, sub latero-ventral aspect; (11): aedeagus, lateral aspect. (7: scale bar = 2 mm) (1, 2, 3, 4, 5, 6: scale bar = 1 mm) (8, 9, 10, 11: scale bar = 0.5 mm)
Figs. 12-19. *Tiphia cyclonota* nova sp. - (12): head, dorsal aspect; (13): head frontal aspect; (14): mesosoma, dorsal aspect; (15): lateral outline of mesosoma; (16): pronotal plate, frontal aspect; (17): pronotum, lateral aspect; (18): gonosquama, lateral aspect; (19): aedeagus lateral aspect. (15: scale bar = 2 mm) (12, 13, 14, 16, 17: scale bar = 1 mm) (18, 19: scale bar = 0.5 mm)
Figs. 20-28. *Tiphia dichroptera* nova sp. - (20): head, dorsal aspect; (21): head frontal aspect; (22): head, ventral aspect; (23): pronotum, dorsal aspect; (24): apical fore wing; (25): side of 5th sternum, sub ventral aspect; (26): gonosquama, lateral aspect; (27): gonosquama, sub ventral aspect; (28): aedeagus lateral aspect. (24: scale bar = 2 mm) (20, 21, 22, 23: scale bar = 1 mm) (25, 26, 27, 28: scale bar = 0.5 mm)
Figs. 29-40. *Tiphia erythromera* nova sp. ♂ - (29): head, dorsal aspect; (30): head frontal aspect; (31): pronotum, dorsal aspect; (32): propodeum, dorsal aspect; (33): apical fore wing; (34): 2nd metamerus, lateral aspect; (35): Gonosquama, lateral aspect; (36): Gonosquama, ventral aspect; (37): aedeagus lateral aspect. ♀; (38): head and pronotum, dorsal aspect; (39): head frontal aspect; (40): apical hind tibia, inner aspect. (29, 30, 31, 32, 33, 34, 38, 39: scale bar = 2 mm) (40: scale bar = 1 mm) (35, 36, 37: scale bar = 0.5 mm)
Figs. 41-49. *Tiphia laticlypeata* nova sp. ♂ - (41): head, dorsal aspect; (42): head frontal aspect; (43): mesosoma, dorsal aspect; (44): apical fore wing; (45): hind femur, inner aspect; (46): side of 5th sternum, ventral aspect; (47): Gonosquama, outer lateral aspect; (48): gonosquama, inner lateral aspect; (49): aedeagus lateral aspect. (44: scale bar = 2 mm) (41, 42, 43: scale bar = 1 mm) (45, 46, 47, 48, 49: scale bar = 0.5 mm)
Figs. 50-62. *Tiphia lucai* nova sp. ♂ - (50): head, dorsal aspect; (51): head frontal aspect; (52): head lateral aspect; (53): labrum, frontal aspect; (54): pronotum, dorsal aspect; (55): pronotum, lateral aspect; (56): apical forewing; (57): propodeum, dorsal aspect; (58): gonosquama, inner lateral aspect; (59): aedeagus ventral aspect. ♀; (60): head, dorsal aspect; (61): head frontal aspect; (62): Pam and labrum. (50, 51, 52, 54, 55, 56, 57, 60, 61: scale bar = 1 mm) (53, 58, 59, 62: scale bar = 0.5 mm)
Figs. 63-70. *Tiphia mastigophora* nova sp. ♂ - (63): head, dorsal aspect; (64): head frontal aspect; (65): labrum, frontal aspect; (66): apical fore wing; (68): gonosquama, outer lateral aspect; (69): gonosquama, ventral aspect; (70): aedeagus lateral aspect. (63, 64, 66: scale bar = 2 mm) (67: scale bar = 1 mm) (65, 68, 69, 70: scale bar = 0.5 mm)
Figs. 71-74. *Tiphia mastigophora* nova sp. ♀ - (71): head, dorsal aspect; (72): head frontal aspect; (73): mesosoma, dorsal aspect; (74). (71, 72, 73: scale bar = 2 mm) (74: scale bar = 1 mm)
Figs. 75-84. *Tiphia oxycittara* nova sp. ♀. (75): head, dorsal aspect; (76): head frontal aspect; (77): pronotum, dorsal aspect; (78): propodeum, dorsal aspect; (79): apical fore wing; (80): 1st tergum, dorsal aspect; (81): side of 5th sternum, ventral aspect; (82): gonosquama, outer lateral aspect; (83): gonosquama, ventral aspect; (84): aedeagus ventral aspect. (75, 76, 77, 78, 79, 80: scale bar = 1 mm) (81, 82, 83, 84: scale bar = 0.5 mm)
(85, 86, 88: scale bar = 2 mm) (89: scale bar = 1 mm) (87: scale bar = 0.5 mm)
Figs. 90-99. *Tiphia toreuta* nova sp. ♀ - (90): head, dorsal aspect; (91): head frontal aspect; (92): mesosoma, dorsal aspect. ♂; (93): head and pronotum, dorsal aspect; (94): head frontal aspect; (95): pronotum, lateral aspect; (96): side of 5th sternum, ventral aspect; (97): gonosquama, ventral aspect; (98): gonosquama, outer lateral aspect; (99): aedeagus lateral aspect. (90, 91, 92, 93, 94, 95: scale bar = 2 mm) (96, 97, 98, 99: scale bar = 0.5 mm)
Figs. 100-110. *Tiphia tegulita* Allen 1975. ♂ - (100): head, dorsal aspect; (101): head frontal aspect; (102): propodeum, dorsal aspect; (103): apical fore wing; (104): hind tibia, inner aspect; (105): 1st sternum, ventral aspect; (106): 2nd sternum, ventral aspect; (107): side of 5th sternum, lateral aspect; (108): gonosquama, outer lateral aspect; (109): gonosquama, inner lateral aspect; (110): aedeagus lateral aspect. (100, 101, 102, 103, 105, 106: scale bar = 1 mm) (104, 107, 108, 109, 110: scale bar = 0.5 mm)
Figs. 110-125. *Tiphia platykalymma* nova sp. ♂ - (111): head, dorsal aspect; (112): head frontal aspect; (113): palpi; (114): pronotum, dorsal aspect; (115): tegula; (116): propodeum, dorsal aspect; (117): apical fore wing; (118): apical hind tibia, inner aspect; (119): 1st sternum, ventral aspect; (120): 2nd sternum, ventral aspect; (121): gonosquama, outer lateral aspect; (122): gonosquama, inner lateral aspect. ♀; (123): head, dorsal aspect; (124): head frontal aspect; (125): mesosoma, dorsal aspect. (111-112, 114-117, 119-120, 123-125: sc. bar = 1 mm) (113, 118, 121-122: sc. bar = 0.5 mm)
Figs. 126-138. *Tiphia macroplaka* nova sp. ♂ - (126): head, dorsal aspect; (127): head frontal aspect; (128): palpi; (129): pronotum, dorsal aspect; (130): tegula; (131): propodeum, dorsal aspect; (132): apical fore wing; (133): apical hind tibia, inner aspect; (134): 2nd sternum, ventral aspect; (135): side of 5th sternum, sub ventral aspect; (136): gonosquama, outer lateral aspect; (137): gonosquama inner lateral aspect; (138): aedeagus lateral aspect. (132: scale bar = 2 mm) (126, 127, 129, 130, 131, 134, 135: scale bar = 1 mm) (128, 133, 136, 137, 138: scale bar = 0.5 mm)
Figs. 139-144. *Tiphia macroplaka* nova sp. ♀ - (139): head, dorsal aspect; (140): head frontal aspect; (141): Pal; (142): labrum; (143): apical hind tibia, inner aspect; (144): 1st tergum, dorsal aspect. (139, 140, 144: scale bar = 1 mm) (141, 142, 143: scale bar = 0.5 mm)
Figs. 145-154. *Tipha platykerama* nova sp. ♂ - (145): head, dorsal aspect; (146): head frontal aspect; (147): pronotum, dorsal aspect; (148): propodeum, dorsal aspect; (149): apical fore wing; (150): apical hind tibia, inner aspect; (151): 1st sternum, ventral aspect; (152): side of 5th sternum, sub ventral aspect; (153): gonosquama, outer lateral aspect; (154): aedeagus lateral aspect. (145, 146, 147, 148, 149, 151: scale bar = 1 mm) (150, 152, 153, 154: scale bar = 0.5 mm)
Figs. 155-164. *Tiphia platysma* nova sp. ♂ - (155): head, dorsal aspect; (156): head frontal aspect; (157): mesosoma, dorsal aspect; (158): apical fore wing; (159): apical hind tibia, inner aspect; (160): 1st sternum, ventral aspect; (161): side of 5th sternum, lateral aspect; (162): side of 5th sternum, sub ventral aspect; (163): gonosquama, outer lateral aspect; (164): aedeagus lateral aspect. (155, 156, 157, 158, 160: scale bar = 1 mm) (159, 161, 162, 163, 164: scale bar = 0.5 mm)
Tiphia annandalei. ♀; (173): head, dorsal aspect; (174): head frontal aspect; (175): head, lateral aspect; (176): pronotum, dorsal aspect; (177): tegula; (178): hind tibia, inner aspect. (169, 170, 176,: scale bar = 4 mm) (165, 166, 167, 171, 172, 173, 174, 175, 177: scale bar = 2 mm) (168, 178: scale bar = 1 mm)

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