

Issidae (Hemiptera: Fulgoroidea) from the Mascarenes

by

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Six species of Issidae from the Mascarenes are described. Two of these are new, namely *Tylana nigromaculata* spec. nov. from Mauritius and Réunion, and *T. rodriguensis* spec. nov. from Rodrigues. *T. cristata* (F.), *T. carinata* (F.), *T. indecora* Stål and *T. mameti* Synave are redescribed. A lectotype is designated for *T. indecora*. *T. similis* Synave is sunk as a synonym of *T. carinata*, while *T. macabeana* Synave and *T. conspersa* Synave (*nec* Schmidt) are considered synonyms of *T. indecora*.

Issidae were first described from the Mascarenes by Fabricius in 1803. The types of the two species he described, both from Mauritius, are still extant in the Fabrician Collection at the Copenhagen Zoological Museum. Others who subsequently described or recorded species from the Mascarenes were Stål (1866) and Synave (1958, 1961). The present work concludes that previous descriptions of Mascarene Issidae relate to four species, namely *Tylana cristata* (F.), *T. carinata* (F.), *T. indecora* Stål and *T. mameti* Synave, which have been much confused and are here redescribed. Two new species are also described, *T. nigromaculata* spec. nov. from Mauritius and Réunion, and *T. rodriguensis* spec. nov. from Rodrigues.

Although the Issidae are one of the larger families of the Fulgoroidea, with 981 species catalogued by Metcalf (1958) and more since described, Issids are relatively little-known insects, and generic concepts in the group often lack adequate definition. The genus *Tylana* is a case in point. The species described in this paper, although all placed in *Tylana*, are probably not all congeneric, and *T. cristata*, the type species, has important characters possessed by none of the others. Accordingly, and because it seems inadvisable to erect new genera that would be of uncertain validity, the species other than *cristata* considered here are only provisionally assigned to the genus *Tylana*. With the expectation that these other species will be assigned to another genus, or to other genera, at a later date, most descriptions that follow are more exhaustive than is normally required to separate congeneric species.

Issidae in the Mascarenes are found only where indigenous vegetation persists. Their habitats are therefore restricted, particularly in Mauritius and above all in Rodrigues, where little of the natural vegetation remains. The adults occur on woody plants, and their pigmentation blends with the bark of the stems and twigs where they rest (feed?). Their pigmentation is thus sombre and often variegated and does not lend itself to easy description. The specimens listed in this paper were collected (mostly in Mauritius) with difficulty and usually by sweeping. No insight into the habits of the species, which might serve to enable them to be collected with greater ease, was obtained.

Family ISSIDAE Spinola

TYLANA Stål*Tylana* Stål, 1861: 208 (Logotype: *Issus cristatus* Fabricius)*Tylana cristata* (Fabricius), figs 1-5**Issus cristatus** Fabricius, 1803: 100.**Tylana cristata** (Fabricius), Stål, 1862: 67.

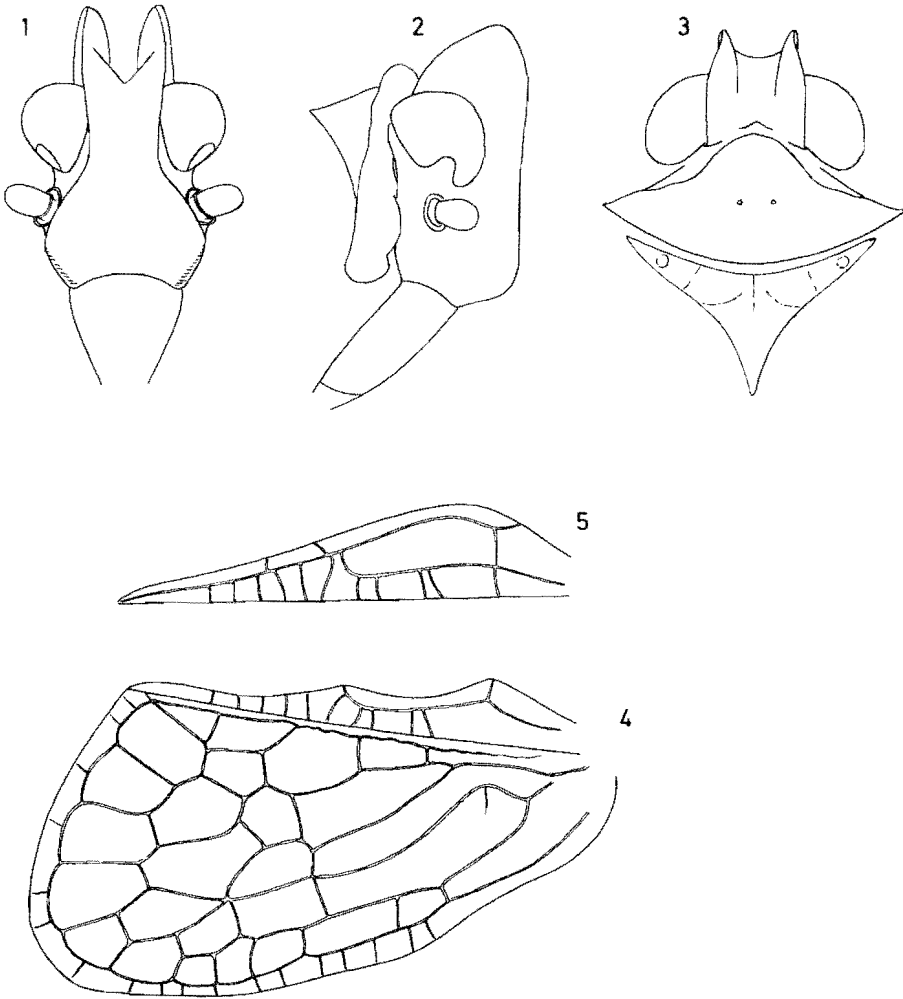
Overall length, ♀ 9,5 mm.

Vertex quadrate; lateral margins greatly elevated and foliaceous, forming two large crests, which in profile form a peak at the level of the anterior margin of the eye; posterior margin ecarinate except centrally. Frons with greatest width less than length in midline (0,8:1,0) and twice width at base; basal margin V-shaped in face view; lateral margins greatly and foliaceously raised, subparallel between eyes then abruptly diverging to attain their greatest width before narrowing, again abruptly, to the frontoclypeal suture; disc ecarinate and more or less flat except distally, where it recedes to the frontoclypeal suture; in profile vertically truncate except distally, where it recedes abruptly to the clypeus. Clypeus ecarinate. Rostrum slightly surpassing post-trochanters. Ocelli absent, ocellar scars not discernible. Pronotum longer than vertex in midline and same length as mesonotum; much raised behind the eyes; with a puncture on each side of midline. Mesonotum with a distinct though posteriorly abbreviated median carina and a pustulate callus in each lateral angle. Metatibiae with two lateral spines in distal half and eight apical spines. Basal metatarsal segment with two large outer spines at apex and seven smaller spines between them. Tegulae small. Tegmina subtriangular, length less than twice width, widening distad, costal margin weakly and sinuously convex, apical margin convex, apex bluntly rounded; clavus reaching apical margin, in profile with two distinct concavities (a 'double saddle'); corium hollowed between veins, with a large prominent bulge behind Sc + R fork, presenting a very rough, irregular surface; R and M with six branches at subapical line.

Mottled fuscous-ochraceous. Frons fuscous (♂) or ochraceous and fuscous only where receding to clypeus (♀). Clypeus mostly fuscous frontally, ochraceous laterally. Mesonotum dark fuscous in lateral angles with pustulate callus prominently ochraceous.

Ovipositor with 3rd valvulae densely and minutely denticulate over dorsal and lateral surfaces apically.

MATERIAL EXAMINED. MAURITIUS: Petrin 1 ♀ 20.vi.79, on *Tambourissa* sp. (Monomiaceae), coll. D. Lorence. Deposited in Zoologisk Museum, Copenhagen. Also the holotype, which is a male and located in the afore-mentioned museum. The holotype bears the label 'Isle de France. Daldorff. Mus. Sch. et J.L. Cristatus F.' (Île de France was a former name of Mauritius. Daldorff is presumably the name of the collector. Mus. Sch. et J. L. means the collection of O. R. Sehested and J. Lund, who were pupils of Fabricius and whose collection was eventually bought by the Zoological Museum of Copenhagen - see Tuxen 1967.) The holotype has its tegmina, except for the right clavus, missing and both antennae are broken, otherwise its condition is good despite its great age.



Figs 1-5. *Tylana cristata* (Fabricius). 1. Head, face view. 2. Head, profile. 3. Head and thorax, dorsal view. 4. Tegmen, with clavus in natural profile. 5. Clavus, in 'full face'.

The species is quite distinct from other known Mascarene Issids in the configuration of the vertex and frons, and it is aptly named after the high crests formed by the lateral margins of the former. The tegmina are also distinctive, the corium being rugged and having a large bulge basally that appears shoulder-like in dorsal view.

The species from Réunion figured by Fennah (1954) as *T. cristata* (F.) is *T. indecora* Stål, described below, and his remark that *cristata* and *carinata* may not be

distinct species should be disregarded. In fact, *T. cristata* is so different from the other known Mascarene Issids that it may not be valid to consider it congeneric with any of them.

The male genitalia have yet to be described. The dissection of the genitalia of the holotype, with the risk of damaging it beyond repair, was not considered advisable as the species is well characterized by its other features.

Tylana carinata (Fabricius), figs 6-11

Issus carinatus Fabricius, 1803: 100.

Tylana carinata (Fabricius), Stål, 1862: 67.

Tylana similis Synave, 1961: 13, **syn. nov.**

Overall length, ♀ c. 7.5 mm, ♂ c. 6.5 mm.

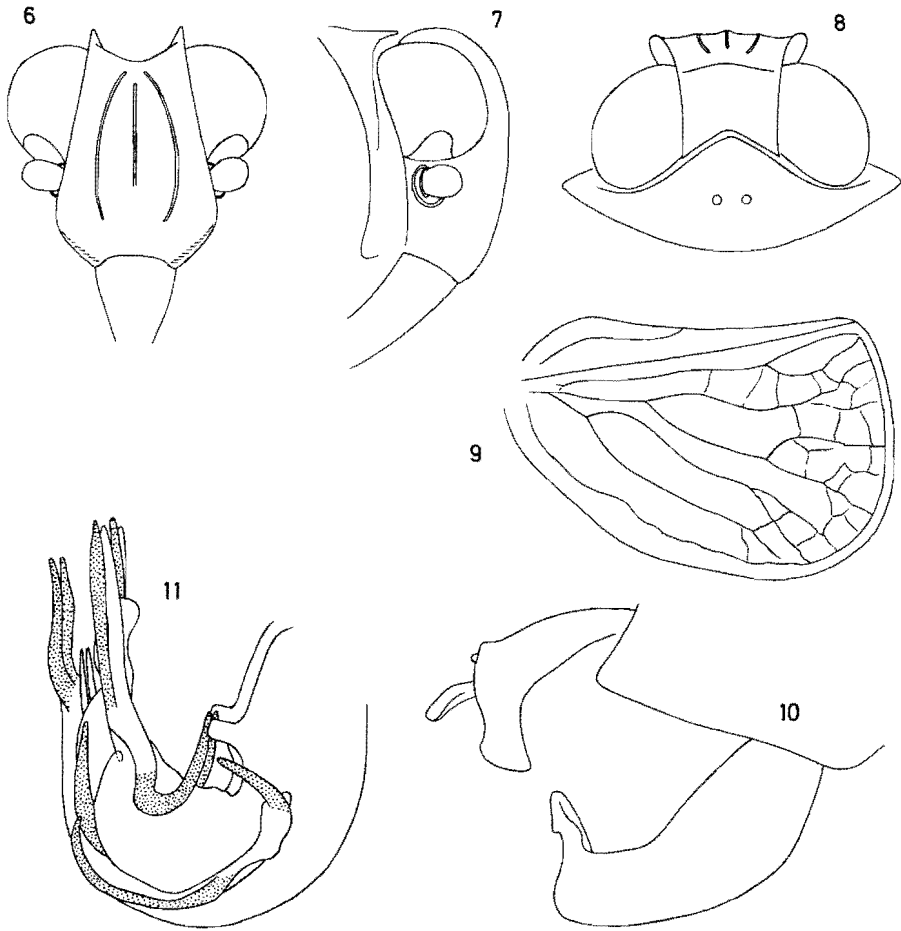
Vertex quadrate, usually a little wider at apex than at base; lateral margins elevated, more or less straight; anterior margin straight or slightly convex, carina becoming indistinct at lateral extremities; posterior margin entirely carinate, angulately excavate; disc shallowly trough-like, rising to lateral margins. Frons with greatest width distinctly less than length in midline (0.8:1.0) and nearly twice width at base; lateral margins not raised, straight or slightly concave and diverging before incurving to frontoclypeal suture; disc flat except shallowly depressed between lateral, sublateral and median carinae, sublateral and median carinae distinct and sharply defined, the sublateral carinae arcuate, median and sublateral carinae not extending the full length of the frons and their extremities not meeting proximally or distally; in profile gently convex, not receding markedly to clypeus. Clypeus ecarinate. Rostrum slightly surpassing post-trochanters. Ocelli absent, ocellar scars not discernible. Pronotum nearly twice as long as vertex in midline, as long as mesonotum, with a puncture on each side of midline. Mesonotum without a distinct pustulate callus in its lateral angles. Metatibiae with two lateral spines in distal half and 8-10 apical spines. Basal metatarsal segment with two large outer spines at apex and 7-9 smaller spines between them. Tegulae small. Tegmina with length less than twice width, costal and apical margins convex with apical angle broadly rounded; clavus reaching apical margin, in profile smoothly concave distad of basal elevation; corium not hollowed between veins; veins not prominently raised; R and M with about seven branches at subapical line.

More or less uniformly drab, pallid testaceous, often with a tenuous dark smudge across tegmina near middle.

Ovipositor with 3rd valvulae densely and minutely denticulate over dorsal and lateral surfaces apically.

Male genitalia as illustrated.

MATERIAL EXAMINED. MAURITIUS: Mt. Cocotte 12 ♂ 3 ♀ 15.i.72, 3 ♂ 1 ♀ 16.ii.74; Plaine Champagne 3 ♂ 22.xii.71, 5 ♂ 2.i.72, 1 ♂ 1 ♀ 8.i.72, 3 ♂ 2 ♀ 9.xii.72; Le Pouce 2 ♂ 15.xii.71, 2 ♂ 1 ♀ 2.xii.72, 4 ♂ 13.i.73; Macabé 1 ♂ 12.xii.71, 1 ♂ 11.xi.73, 1 ♂ 22.xi.73, 2 ♂ 1 ♀ 2.i.74, 2 ♂ 27.i.74, 4 ♂ 2 ♀ 23.xii.74; Le Petrin 1 ♂ 3.i.72; Mt. Camizard 1 ♂ 6.v.72; Bris Fer 1 ♂ 1 ♀ 5.i.76; Chamarel 1 ♀ 27.iv.72; Perrier 1 ♂ 1 ♀ 6.xii.71, 2 ♂ 1 ♀ 14.xii.71, 1 ♂ 14.x.72, 1 ♂ 24.x.73, all coll. J. R. Williams. 2 ♂ 2 ♀ deposited in the Zoologisk Museum, Copenhagen, and in the Naturhistorisches Museum, Vienna, respectively.



Figs 6-11. *Tylana carinata* (Fabricius). 6. Head, face view. 7. Head, profile. 8. Head and prothorax, dorsal view. 9. Tegmen. 10. Anal segment and genital style of male. 11. Aedeagus.

The holotype female, in the Fabrician Collection of the Zoologisk Museum, Copenhagen, was also examined. It bears the label 'Isle de France. Daldorff. Mus. Seh. et J.L. Carinatus F.', the significance of which has been explained above in connection with *T. cristata*. The specimen is in excellent condition despite its age. The specimen from Mauritius in the Signoret Collection at the Naturhistorisches Museum, Vienna, to which Stål (1866) and Melichar (1906) referred, is a male and, although in poor state, is quite recognizable. Stål (1866) also recorded the species from Réunion, but the specimens he saw from this island have not been seen by the author.

The carination and the configuration of the frons and the drab comparatively smooth and rounded tegmina are the more evident characteristics of this species. The aedeagus is also distinctive.

T. carinata appears to be a fairly common species in the wet montane forests of Mauritius. It has been seen to be parasitized by a strepsipteran.

***Tylana rodriguensis* spec. nov., figs 12-18**

Overall length, ♀ c. 7.5 mm, ♂ 5.5-6.0 mm.

Vertex transversely rectangulate, greatest width about 1.3 times overall length and 1.7-2.0 times length in midline; lateral margins elevated, slightly concave; anterior margin straight, carina distinct to very near lateral extremities; posterior margin entirely carinate, shallowly to moderately excavate in central part; disc trough-like, rising gradually to lateral margins. Frons with greatest width less than length in midline (0.9:1.0) and usually much less than twice width at base (1.7-1.9:1.0); lateral margins not raised, nearly straight and diverging before incurving to frontoclypeal suture; disc more or less flat, with sublateral and median carinae distinct but not sharply defined, the sublateral carinae arcuate, median and sublateral carinae not extending the full length of the frons and their extremities not meeting proximally or distally; in profile truncate rather than gently convex and not receding markedly to clypeus. Clypeus ecarinate. Rostrum slightly surpassing post-trochanters. Ocelli absent, ocellar scars not discernible. Pronotum about twice as long as vertex in midline, as long as mesonotum, with a puncture on each side of midline. Mesonotum with a small pustulate callus in each lateral angle. Metatibiae with two lateral spines in distal half and 7-9 apical spines. Basal metatarsal segment with two large outer spines at apex and eight small spines between them. Tegulae small. Tegmina with length less than twice width; costal and apical margins convex with apical angle broadly rounded; clavus reaching apical margin, in profile smoothly concave distad of basal elevation; corium not hollowed between veins; veins not prominently raised; R and M with about seven branches at subapical line.

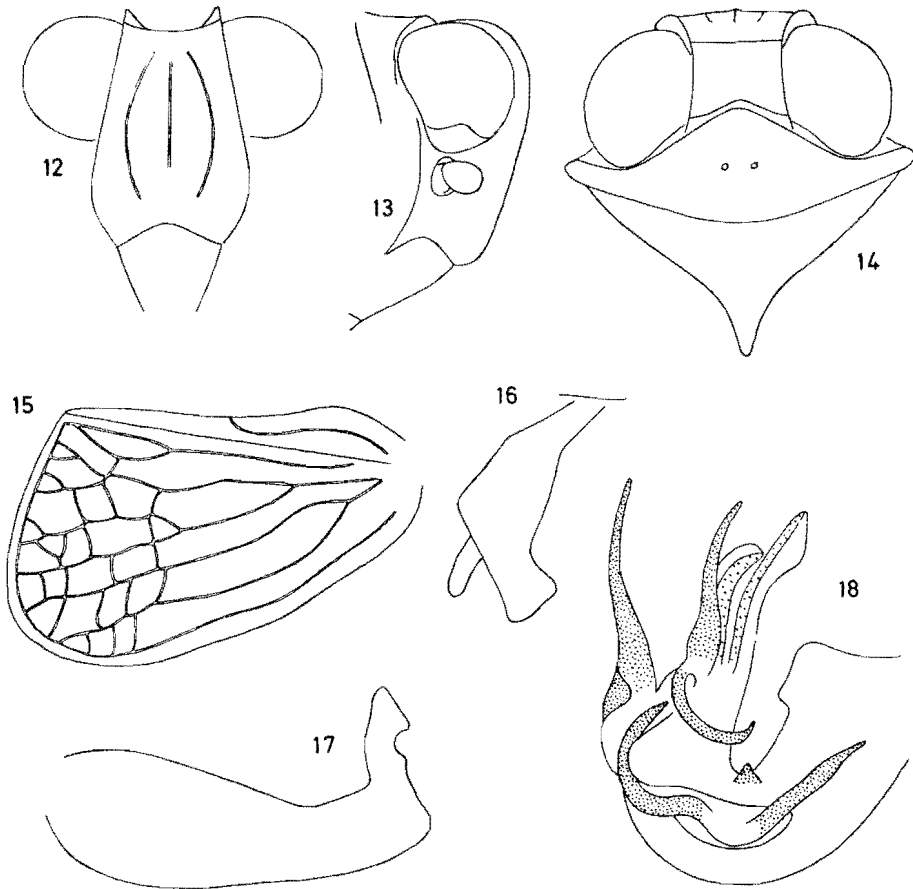
More or less uniformly and drably mottled fuscous-ochraceous. Males with a short, oblique, diffuse dark streak in middle of tegmina. Females with fuscous patches on head, legs and to a lesser extent on tegmina.

Ovipositor with 3rd valvulae densely and minutely denticulate over dorsal and lateral surfaces apically.

Male genitalia as illustrated.

MATERIAL EXAMINED. RODRIGUES: Holotype ♂ ii.80, coll. J. R. Williams & H. Dove. Paratypes, 2 ♂ 2 ♀, same data as holotype. Holotype and 1 ♂ 1 ♀ paratype deposited in British Museum (Nat. Hist.).

This species resembles *T. carinata* in the configuration of the vertex and frons. It differs in its smaller size, the rectangular shape of the vertex, the comparatively ill-defined carination of the frons, the form of the anal segment of the male, and above all by the armature of the aedeagus.



Figs 12-18. *Tylana rodriguensis* spec. nov. 12. Head, face view. 13. Head, profile. 14. Head and thorax, dorsal view. 15. Tegmen. 16. Anal segment of male. 17. Genital style of male. 18. Aedeagus, right side only.

Tylana indecora Stål, figs 19-24

Tylana cristata, Stål (*nec* Fabricius) (*partim*), 1866: 214.

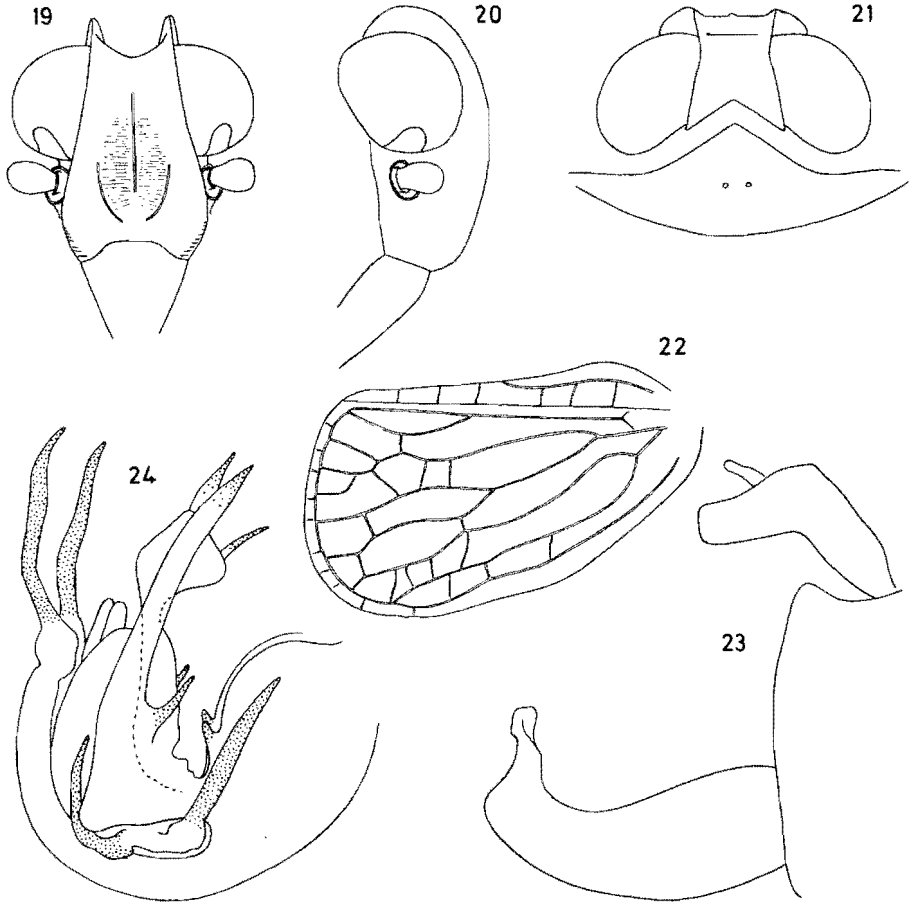
Tylana indecora Stål, 1869: 103. **Lectotype** here designated.

Tylana cristata, Melichar (*nec* Fabricius) (*partim*), 1906: 204.

Tylana cristata, Fennah (*nec* Fabricius), 1954: 470.

Tylana conspersa, Synave (*nec* Schmidt), 1958: 14.

Tylana macabeana Synave, 1961: 9, **syn. nov.**



Figs 19-24. *Tylana indecora* Stål. 19. Head, face view. 20. Head, profile. 21. Head, dorsal view. 22. Tegmen. 23. Anal segment and genital style of male. 24. Aedeagus.

Overall length, ♀ 8,0-8,5 mm, ♂ 6,5-7,0 mm.

Vertex quadrate, slightly wider at base than at apex, greatest width about equal to overall length; lateral margins raised, foliaceous, usually indented anteriorly then straight and either subparallel or diverging slightly towards base; anterior margin more or less straight, posterior margin angulately excavate, their carinae becoming indistinct towards lateral margins. Frons with greatest width distinctly less than length in midline (0,8:1,0) and nearly twice width at base; lateral margins abruptly but not greatly raised basally and progressively less raised distad to become flush with disc at incurvature near frontoclypeal suture, gently concave and diverging before incurvature;

disc more or less flat and discal carinae abbreviated, often faint, the median carina present only in the middle of the frons and the sublateral carinae only in its distal half, although traces of the latter may be discernible in the proximal half, and with transverse fine striations between median and lateral carinae; in profile convex and receding abruptly but not greatly to clypeus. Clypeus ecarinate. Rostrum attaining post-trochanters. Ocelli absent, ocellar scars not discernible. Pronotum nearly twice as long as vertex in midline, as long as mesonotum, raised behind the eyes, with a puncture on each side of midline. Mesonotum with a pustulate callus, sometimes feebly developed, in each lateral angle. Metatibiae with two lateral spines in distal half and 7-9 (usually 8) apical spines. Basal metatarsal segment with two large outer spines at apex and 7-8 small spines between them. Tegulae small. Tegmina with length less than twice width, widening distad, costal margin convex and sinuous, apical margin convex-truncate, apical angle broadly rounded; clavus reaching apical margin, in profile more or less straight distad of basal elevation; corium not, or not markedly, hollowed between veins; veins prominently raised; R and M with 5-7 branches at subapical line.

Mottled or variegated ochraceous-dark fuscous. Vertex, frons, clypeus and pectoral plates often almost entirely dark fuscous and sides of head ochraceous or stramineous and sometimes with four dark patches, three between eye and frons and one between antenna and frons. Tegmina sometimes with a light patch at middle of costal margin where corium is hyaline and veinlets are whitish.

Ovipositor with 3rd valvulae densely and minutely denticulate over dorsal and lateral surfaces apically.

Anal segment of male angulate ventrally in profile. Aedeagus produced dorsad at each side at base into a large rounded lobe with a stout short tooth-like spur; a short slender terminal median spinose process which is sometimes reduced or absent; lateral spinose processes, which are united basally, sometimes longer than illustrated.

MATERIAL EXAMINED. MAURITIUS: Trois Mamelles 6 ♂ 11.i.72, 1 ♂ 13.i.72, 1 ♀ 15.vi.72, 2 ♂ 19.x.72, 3 ♂ 18.xii.72, 1 ♀ 5.i.73, 1 ♂ 3.ii.73, 1 ♂ 1.iii.73, 1 ♂ 12.v.74; Macabé 2 ♀ 22.x.72, 1 ♂ 1 ♀ 9.xii.72, 1 ♂ 11.xi.73, 1 ♂ 2.i.74, 1 ♀ 27.i.74, 1 ♂ 2 ♀ 23.xii.74; Le Pouce 1 ♂ 2 ♀ 2.xii.72; Perrier 1 ♂ 23.xii.71; Bris Fer 3 ♂ 5.i.76; Plaine Champagne 1 ♂ 8.i.72; Petrin 1 ♂ 9.i.78; Tamarin Falls 1 ♂ 1 ♀ 14.xii.72; Mt. Cocotte 1 ♀ 16.ii.74; Vacoas 1 ♂ 13.iii.78, all coll. J. R. Williams. RÉUNION: Lectotype ♂ 'Insula Bourbon', '*cristata* (F.)', but no other data (Stål's specimen in the Naturhistoriska Riksmuseet, Stockholm); Mare Longue 2 ♂ 2 ♀ xii.73, coll. J. R. Williams & H. Dove. 2 ♂ 2 ♀ from Mauritius and 1 ♂ 1 ♀ from Réunion deposited in the Naturhistoriska Riksmuseet, Stockholm, and 2 ♂ 2 ♀ from Mauritius deposited in the Naturhistorisches Museum, Vienna.

This species has been the subject of a great deal of confusion. In 1866, Stål described specimens he mistakenly identified as *T. cristata* (F.). He acknowledged his error in 1869 and gave the name *T. indecora* to the specimens he had described, but he did not designate a type. As far as is known, Stål examined two specimens, concluding his 1866 text with 'Insula Bourbon (Mus. Holm.): Insula Mauriti (Coll. Signoret)'. The syntype from Réunion ('Insula Bourbon') is in the Naturhistoriska Riksmuseet, Stockholm ('Mus. Holm.') and that from Mauritius ('Insula Mauriti') in the Signoret

Collection at the Naturhistorisches Museum, Vienna, both still bearing the label 'cristata F.'. Both have been examined. The former is a male and the latter a female but they are not of the same species. As the structure of the aedeagus – not described by Stål – is the character that enables ready separation of the two species involved, the male is here designated as the lectotype of *T. indecora*. The female from Mauritius, which is *T. mameti* Synave (1961), described below, thus ceases to be a syntype of *T. indecora* and becomes of no taxonomic significance as a standard of reference.

Melichar (1906) repeated Stål's error of 1866 by describing the same specimens that Stål saw as *T. cristata* (F.).

Fennah (1954) figured a specimen from Réunion as *T. cristata* (F.), but his drawing of the aedeagus leaves no doubt that the specimen was of *T. indecora* as here described.

Synave (1958) recorded *T. conspersa* Schmidt (1910) from Mauritius from one male and one female specimen, and figured the aedeagus. Schmidt's *T. conspersa* was described from one male from Madagascar, which has been lost (see Synave 1958). Schmidt's description shows *T. conspersa* to be similar to *T. indecora* and *T. mameti* (described below) but he failed to describe the aedeagus. This omission combined with the loss of the holotype means that *T. conspersa* Schmidt can never be adequately characterized and is best considered a *species inquirenda*. Synave thus had inadequate grounds for identifying his Mauritian specimens as *T. conspersa* and from his figure of the aedeagus it is concluded that the specimens were *T. indecora*.

Synave (1961) subsequently described *T. macabeana* from Mauritius and commented upon its similarity to the insect he had previously recorded from Mauritius as *T. conspersa* Schmidt. His description was derived from one male and one female, and he separated *macabeana* from his *conspersa* mainly on the structure of the aedeagus. However, as described above, there is variability in the size of the aedeagal spinose processes, apart from the small terminal median spine being sometimes absent, and the aedeagus of *macabeana* as figured by Synave, like that of *conspersa* as figured by him, is in no way significantly different from that of *indecora* as described here.

Tylana mameti Synave, figs 25–32

Tylana cristata, Stål (*nec* Fabricius) (*partim*), 1866: 214.

Tylana indecora Stål (*partim*), 1869: 103.

Tylana cristata, Melichar (*nec* Fabricius) (*partim*), 1906: 204.

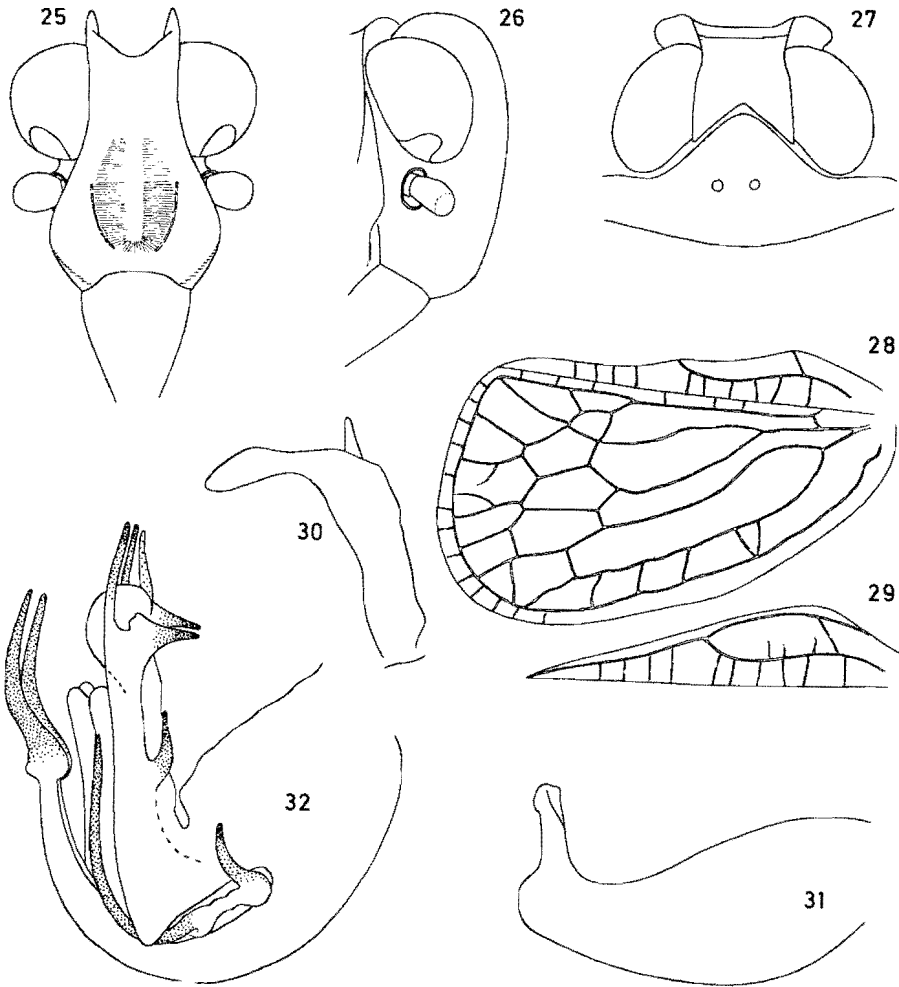
Tylana mameti Synave, 1961: 11.

Overall length, ♀ c. 9.0 mm, ♂ 7.5–8.0 mm.

Frons with lateral margins slightly to distinctly concave before incurving to frontoclypeal suture; median carina reduced to mere trace or absent, sublateral carinae present only in distal half and often very faint. Tegmina with clavus in profile usually with two distinct concavities (a 'double saddle') distad of basal elevation.

Tegmina sometimes with greenish-white markings that may take the form of a distinct band running along the commissural suture for about two-thirds of its length, then leaving it at an obtuse angle to run across the corium to the apical angle.

Anal segment of male narrow and not angulate ventrally in profile. Aedeagus without spurs on basal dorsal lobes; with a pair of large thorn-like spurs near apex directed cephalad.



Figs 25–32. *Tylana mameti* Synave. 25. Head, face view. 26. Head, profile. 27. Head, dorsal view. 28. Tegmen. 29. Clavus, in 'full face'. 30. Anal segment of male. 31. Genital style of male. 32. Aedeagus.

Other characters as for *T. indecora* Stål.

MATERIAL EXAMINED. MAURITIUS: Le Petrin 2 ♂ 4.xii.71, 1 ♂ 11.xi.72; Plaine Champagne 1 ♂ 2.i.72, 1 ♀ 8.i.72; Mt. Cocotte 1 ♂ 15.xii.73, 1 ♀ 6.x.73, 1 ♀ 15.xii.73, all coll. J. R. Williams; Le Pouce 1 ♂ 8.xii.65, coll. C. M. Courtois. 2 ♂ 1 ♀ deposited in the Naturhistoriska Riksmuseet, Stockholm.

As explained above (see *T. indecora*), Stål in 1866 described specimens from Réunion and Mauritius which he thought were *T. cristata* (F.) but recognized his error in 1869 when he gave them the name *indecora*. The name *indecora* has been retained with Stål's male specimen from Réunion as the lectotype, but his female specimen from Mauritius, which is in the Signoret Collection at the Naturhistorisches Museum, Vienna, is *T. mameti*.

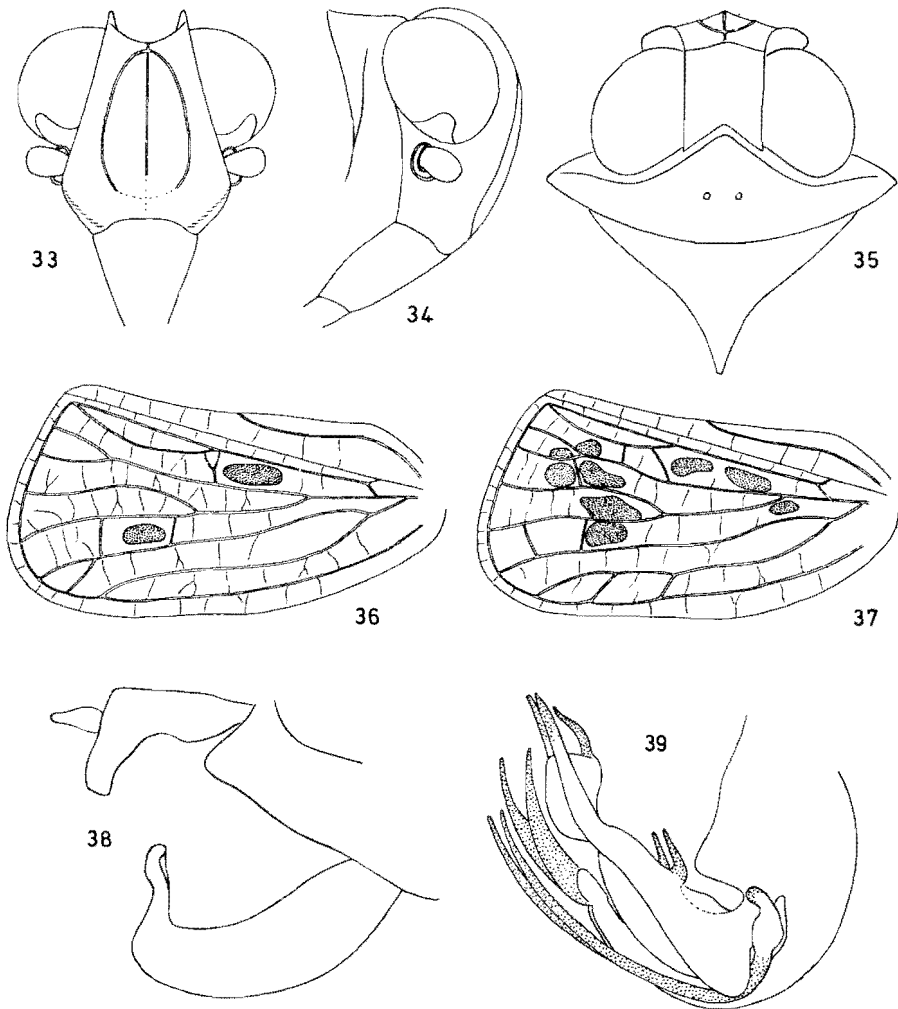
The two species, *indecora* and *mameti*, are very similar, but the males are easily separated by their genitalia, particularly by the aedeagus. The only other distinct character that can be used for separation of the species is the V-shaped band of bright pigment across the tegmina, the presence of which identifies *mameti*. However, some of the males of *mameti* examined do not show this band and it may be inferred that females lack it also on occasion. It should be noted that Stål's female from Mauritius has the band of pigment typical of *mameti* and it was the presence or absence of such a band that led him to distinguish varieties a and b in his 1866 description.

***Tylana nigromaculata* spec. nov., figs 33–39**

Overall length, ♀ 8,0–8,5 mm, ♂ 6,5–7,0 mm.

Vertex longitudinally rectangular, greatest width about 0,8 times overall length and about equal to length in midline; lateral margins elevated, more or less straight and subparallel; anterior margin straight or produced angulately or roundedly in middle, entirely carinate; posterior margin entirely carinate and angulately excavate; disc shallowly trough-like, rising to lateral margins. Frons with greatest width slightly less than length in midline and twice width at base; lateral margins not raised, straight or slightly concave and diverging before incurving to frontoclypeal suture; disc slightly prominent, rising to median carina proximally and bulbous distally, strongly tricarinate, median carina ending at level of antennae or continuing faintly to frontoclypeal suture, sublateral carinae arising from median carina near its base and either ending distally short of median line or faintly attaining it; in profile convex and merging smoothly with clypeus. Clypeus ecarinate. Rostrum attaining post-trochanters. Ocelli absent, ocellar scars not discernible. Pronotum longer than vertex in midline, as long as mesonotum, with a puncture on each side of midline. Mesonotum with a small indistinct pustulate callus in each lateral angle. Metatibiae with two lateral spines in distal half and 9 or 10 (usually 10) apical spines. Basal metatarsal segment with two large outer spines and 7 or 8 (usually 8) small spines between them. Tegulae small. Tegmina with length less than twice width, widening distad, costal margin sinuously convex, apical margin convex-truncate, apical angle broadly rounded; clavus reaching apical margin, in profile gently concave distad of basal elevation; corium smooth, not hollowed between the veins; all longitudinal veins and subapical line of veins prominent, few prominent cross veins; R and M with 5–8 branches at subapical line.

Head, including eyes, pronotum and mesonotum mottled ochraceous-fuscous with mottling finer on the frons than elsewhere. Tegmina with uniformly dark fuscous velvety patches of variable size and number that are best developed in males, typically a large patch between M and Cu₁ near middle of tegmen and a smaller patch distad of it between R and M; otherwise uniformly mottled ochraceous-fuscous or largely fuscous with veins ochraceous.



Figs 33-39. *Tylana nigromaculata* spec. nov. 33. Head, face view. 34. Head, profile. 35. Head and thorax, dorsal view. 36-37. Tegmen. 38. Anal segment and genital style of male. 39. Aedeagus.

Ovipositor with 3rd valvulae densely and minutely denticulate over dorsal and lateral surfaces apically.

Aedeagus with anterior arm of lateral biramous processes reduced to a small, inconspicuous stump; a short median process at apex.

MATERIAL EXAMINED. MAURITIUS: ♂ Holotype, Bris Fer 5.i.76, coll. J. R. Williams. Paratypes, 3 ♂ 1 ♀ same data as holotype; Trois Mamelles 2 ♂ 13.i.72; Case Noyale 1 ♂ 28.x.72, 1 ♂ 1 ♀ 6.ix.76, 1 ♂ 1 ♀ 9.x.76; Nicoliere 1 ♂ 1 ♀ 29.xii.74; Soresse 2 ♂ 23.xi.72, all coll. J. R. Williams. RÉUNION: Mare Longue 3 ♂ xii.73, coll. J. R. Williams & H. Dove. Holotype ♂ and 3 ♂ 2 ♀ paratypes deposited in the British Museum (Nat. Hist.).

The distinctive characters of this species are the carination of the frons and the prominence of its disc, the pigmentation, particularly the dark, well-demarcated patches on the tegmina, and the structure of the aedeagus.

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