

A RECHARACTERISATION OF THE OMMATIDIOTINI
(HEM.-HOM., FULGOROIDEA, ISSIDAE, CALISCELINAE)
WITH THE DESCRIPTION OF TWO NEW GENERA

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ABSTRACT

The issid subfamily Caliscelinae and its tribes Caliscelini and Ommatidiotini are re-defined. The group Augilinae is transferred from the Lophopidae and restored to the Caliscelinae with the new status of a subtribe of the Ommatidiotini. *Tubilustrium* is referred to the nominate subtribe of the Ommatidiotini, and two new members of the Augilina, *Symplanella breviceps* gen. et sp. n. and *Symplanodes conjunctor* gen. et sp. n., are described and differentiated in a generic key.

Of the five subfamilies of Issidae recognised by Metcalf (Metcalf, 1958), three (Hemisphaeriinae, Tonginae and Trienopinae) each comprise a morphologically compact group of genera, while the remainder (Issinae and Caliscelinae) respectively contain three and two tribes that differ consistently in only a few character-states, but include genera with exotic variation in habitus. The present study is concerned with the last of these subfamilies, and its members are distinguishable from other Issidae as follows.

Subfamily Caliscelinae

Issidae with not more than 3 teeth on the basal metatarsal segment. Tegmen brachypterous, coeliopterous or macropterous; when fully developed, relatively narrow, parallel-sided, with vein Sc+R not forking before middle of tegmen, and transverse veins r-m and m-cu forming a single line.

The tribes of this subfamily are recharacterised as follows.

Key to tribes of Caliscelinae

1. Dorsal surface of abdomen strongly decurving in posterior half. Tegmen brachypterous, or if not, membrane with not more than 4 cells. Basal metatarsal segment with not less than 1 tooth Caliscelini
- Dorsal surface of abdomen not strongly decurved in posterior half. Tegmen coeliopterous or macropterous; membrane with more than 4 cells. Basal metatarsal segment with 2 teeth or none Ommatidiotini

As defined above, the Caliscelini include 28 genera, and the Ommatidiotini, 8, of which 7 have not previously been attributed to this tribe:

Afronaso, Ahomocnemiella, Alloscelis, Aphelonema, Asarcopus, Bergrothora, Bruchomorpha, Bruchoscelis, Caliscelis, Concepcionella, Conocaliscelis, Fitchiella, Griphissus, Gwurra, Homaloplasis, Homocnemia, Issopulex, Itatiayana, Ohausiella, Papagona, Paranaso, Peripola, Plagiopsis, Plagiopsola, Populonia, Rhinogaster, Semiperipola, Ugandana.

† Dr Fennah died on August 19th, 1987; an obituary will appear shortly.

In Muir's classification of the Fulgoroidea (1930: 478), the dentition of the second metatarsal segment was proposed as the paramount indicator of taxonomic affinity at family level. While this still holds good in general, it has since become clear that there are a few exceptions. The most important of these concerns the genus *Augila* Stål. This was placed in the Caliscelinae by Melichar (1906: 6), but was transferred to the Lophopidae by Muir (1930: 478) on account of the toothless condition of the second metatarsal segment (a disposition followed by the writer (Fennah, 1963: 375)). It has since become evident that the number of teeth on this segment in Caliscelinae, while normally two, varies from three (*Asarcopus*, *Ahomocnemiella*) to one (*Gwurra*, *Conocaliscelis*), while in *Augila* and its allies, including a new genus described below, it is two or nil. According to the character-states used for super-generic classification below considered together with the genitalic features exhibited by members of the *Augila* group, it is evident that this group must be restored to the Caliscelinae, where, on the basis of tegminal and genitalic similarity, it appears to belong to the Ommatidiotini, though differing abruptly in pronotal structure and slenderness of legs, and thus meriting recognition at sub-tribal level.

Key to sub-tribes and genera of Ommatidiotini

1. Pronotum laterally completely overlapped by eye, and more than twice as wide at anterior margin as long in middle line. (Ommatidiotina) 2
- Pronotum more or less extensively exposed behind eye; disc shorter between carinae at anterior margin than long in middle line. (*Augilina* stat. n.) 3
2. Vertex angulate apically. Frons transversely convex, tricarinate, facing antero-ventrad *Ommatidiotus*
- Vertex transverse apically. Frons not transversely convex, bicarinate, facing anteriorly *Tubilustrium*
3. Frons with two or three carinae. Apical segment of rostrum distinctly longer than broad 4
- Frons without carinae. Apical segment of rostrum as broad as long or broader than long 6
4. Frons bicarinate. Basal metatarsal segment with two teeth *Symplanodes* gen. n.
- Frons tricarinate. Basal metatarsal segment without teeth 5
5. Vertex produced anteriorly; frons not visible from above. Pronotum with a large triangular depression behind eye *Symplana*
- Vertex not produced anteriorly; frons visible from above. Pronotum without a large depression behind eye *Symplanella* gen. n.
6. Head in profile ascending distally. Tegminal membrane without supernumerary veinlets. Profemur not foliaceous *Augilina*
- Head in profile not ascending distally. Tegminal membrane with reticulate supernumerary venation. Profemur foliaceous 7
7. Apex of head in profile not acute. Frons bombinate, with a dorsal flagellum distally *Augilodes*
- Apex of head in profile acute, with vertex declivous. Frons narrow throughout, depressed between lateral margins, and without a flagellum *Augila*

Symplanella gen. n.

Vertex longer than broad, anteriorly angulate, but not produced in a cephalic process, posterior margin angulately excavate. Frons tricarinate, with inter-carinal area widest at

level of lower margin of eyes. Pronotum wider than head; anterior margin of median disc much shorter than median length of pronotum, carinae strongly diverging laterad; no carina-like horizontal ridge at level of lower margin of eye. Mesonotum almost twice as broad as long. Tegmen about 4.5 times as long as broad; Sc+R and M united in basal fifth, Sc+R forking close to nodal transverse line; three subapical cells and six or seven apical cells; M with three branches. Basal and second metatarsal segments toothless and ventrally pilose. Male with aedeagus short and broad; genital style narrow, long and biramous. Female with first valvifers fully exposed ventrally; a small pregenital plate basad of them in middle line.

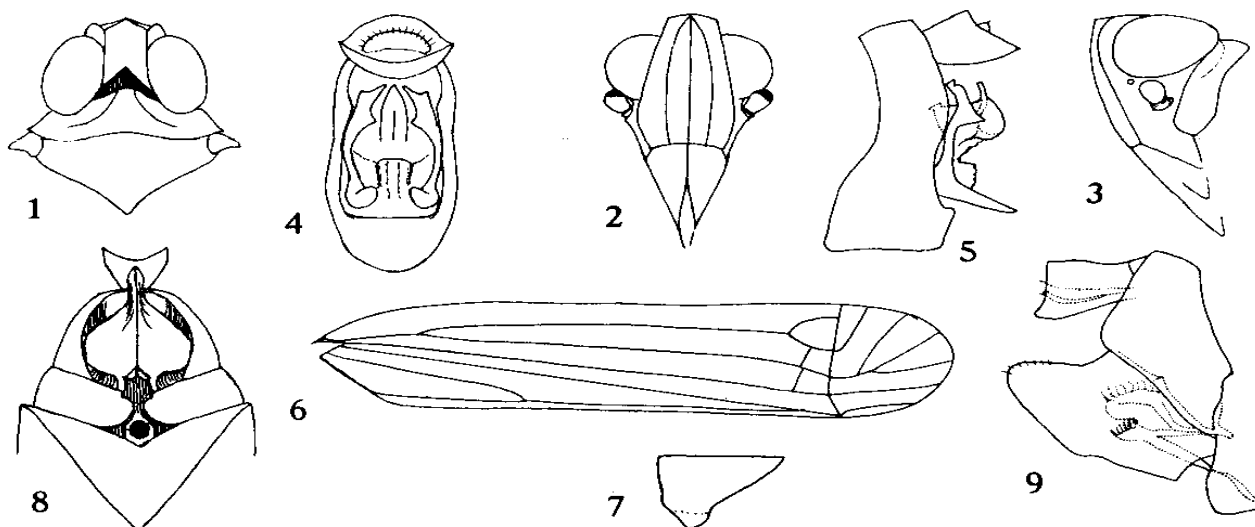
Type species, *Symplanella breviceps* sp. n.

The shape of the genital styles in this genus is very unlike that found in other genera of the Caliscelinae.

***Symplanella breviceps* sp. n.**
(Figs 1–9)

Vertex longer in middle line than broad at base of this line (1.4 : 1), posterior margin subrectangulately excavate, lateral margins parallel, anterior margin angulate, disc hollowed, ecarinate. Frons longer in middle line than broad (1.7 : 1), narrower at base than at apex (nearly 0.7 : 1), lateral margins diverging to below level of antennae, then incurved to frontoclypeal suture. Clypeus medially carinate, with carina developing into a broad median ridge distally. Tegmen with venation as figured, but with forking of veins just before transverse line variable, but always short, and often absent in part.

Anal segment of male about as long as broad at apex, lateral margins diverging distad. Pygofer rather short, laterally compressed; diaphragm weakly developed. Aedeagus very short, comprising a broad, laterally compressed chamber traversed by a narrow sinuate tube that projects dorsad apically. Genital style widely bifurcate from base, with a long sinuate vertical limb twisted mesad near apex in a shallow bicuspidate lobe, and a rather shorter horizontal limb evenly tapering caudad. Female genitalia as figured.



Figs. 1–9. — *Symplanella breviceps* gen. et sp. n.: 1, head and thorax, dorsal view; 2, frons and clypeus; 3, head and pronotum, left side; 4, male genitalia, posterior view; 5, the same, left side; 6, tegmen; 7, laterosternite of third abdominal segment; 8, female genitalia, ventral view; 9, the same, right side.

Stramineous (possibly green in life); clypeus, a spot on second antennal segment, procoxae, mesocoxae, metapleura, abdominal sternites laterally and pregenital sternite of female, fuscous. Tegmina hyaline, with venation concolorous to sordid yellow. Vertex apically and thorax at base of tegmen sometimes suffused with red.

Male: length, 4.0 mm; tegmen, 4.3 mm. Female: length, 4.3 mm; tegmen, 4.3 mm.

Holotype ♂, LOWER BURMA: base of Dawna Hills, 2.iii.1908 (*N. Annandale*), Distant Coll., BM 1911-383, in British Museum (Nat. Hist.).

Other material: 4 ♂, 3 ♀ and 3 mutilated specimens, same data as holotype.

Symplanodes gen. n.

Head with eyes narrower than pronotum. Vertex longer than broad, narrow, strongly depressed between lateral carinae, distally produced in a cephalic process. Frons long, bicarinate. Clypeus ecarinate, in profile basally convex. Rostrum in anterior view with apical segment longer than broad, and about half as long as subapical segment. Ocelli absent. Pronotum relatively long behind eyes, disc shorter between lateral carinae at anterior margin than long in middle line. Tegmen about 3.5 times as long as broad, scarcely surpassing abdomen, and transversely curved to invest it closely; costal margin sinuate, Sc+R and M forming a short common stalk, the former simple to apex, the latter with about 5 branches in membrane, Cu_{1a} and Cu_{1b} united in membrane before apex; claval veins uniting near middle of clavus; clavus half as long as tegmen. Wings present, slightly shorter than tegmina. Post-tibia with one spine laterally, six apically; basal metatarsal segment with two teeth apically and with a pad of microsetae on the sole; second metatarsal segment with two teeth. Anal segment of female short, distally truncate. Pregenital sternite of female subtriangular, slightly more than twice as broad as long. Base of ovipositor exposed.

Type species, *Symplanodes conjunctor* sp. n.

Apart from differences cited in the key, *Symplanodes* differs from all other members of the Ommatidiotina in having a tegmen with a sinuate costal margin, no Sc+R fork or subapical cells in the corium, and a clavus that extends for only half the length of the tegmen.

***Symplanodes conjunctor* sp. n.**

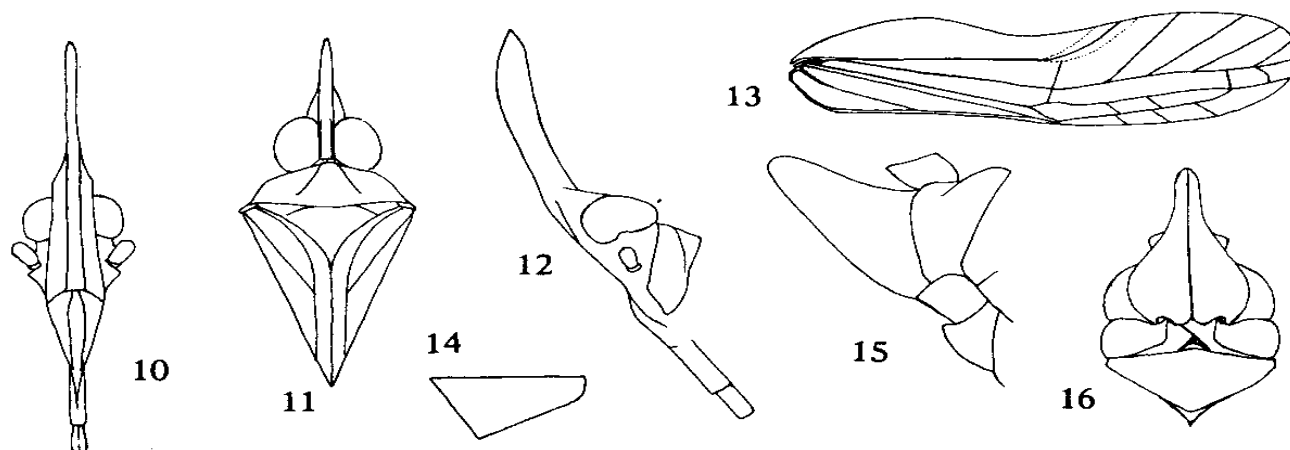
(Figs 10-16)

Vertex scarcely half as wide as an eye, produced distally in a long, upcurved, laterally compressed cephalic process that tapers in its distal third. Frons with lateral margins becoming obscure before eyes, gradually diverging distad; disc flat, with a pair of longitudinal carinae that are closer to each other than to lateral margins; frontoclypeal suture arcuate; clypeus convex, ecarinate, but with a broad percurrent median ridge, narrow at its base. Antenna with second segment a little longer than broad, widening distad, rounded apically. Pronotum without a ridge or eminence behind eyes. Tegmen with Sc+R apparently simple to apex, thickened distally; M with five branches reaching margin; a few oblique supernumerary veinlets in cells Cu_{1a} and Cu_{1b}. Pregenital sternite of female with posterior margin shallowly convex. Pregenital plate small.

Dark reddish brown, almost piceous; sides of cephalic process, except at margins, a narrow band across pronotum behind eyes, ante-clypeus medially, labrum and rostrum, sordid white to light brown; abdomen dorsally and third valvulae of ovipositor, reddish brown; tibiae and tarsi, light brown. Tegmen dark reddish brown, rather polished; Sc near node, creamy yellow; posterior border of tegmen, from base of clavus to M at apex, dilute

reddish brown. Veins concolorous, but marginal veins between apex of clavus and apex of Cu_1 , pale ochraceous. Wings reddish brown.
 Female: length, 7.0 mm; tegmen, 4.8 mm.

Holotype ♀, SOUTH INDIA: Mysore State, Nandi Hill (T.V. Campbell), Distant Coll., in British Museum (Nat. Hist.).



Figs. 10–16. — *Symplanodes conjuctor* gen. et sp. n.: 10, frons and clypeus; 11, head, pronotum, mesonotum and clavus of tegmina, dorsal view; 12, head and pronotum, left side; 13, tegmen; 14, laterosternite of third abdominal segment; 15, female genitalia, right side; 16, the same, ventral view.

ACKNOWLEDGEMENTS

The writer's warmest thanks are tendered to Dr L.A. Mound, Keeper of the Department of Entomology, British Museum (Natural History) and to Dr W.J. Knight and Mr D. Hollis, of the Hemiptera Section, for the privilege of studying the Fulgoroidea in their charge.

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July 23rd, 1986.

Metrioptera brachyptera (L.) (Orth., Tettigoniidae) in Staffordshire. — Further to the comments and records made by J. Paul (1986, *Entomologist's mon. Mag.*, 122: 42); during the course of the National Trust's Biological Survey of the Shugborough Estate in Staffordshire, a male *M. brachyptera* was found amongst marshy grassland vegetation near the Sher Brook, in the northern section of the Cannock Chase SSSI (SJ 985202), 29th July, 1985. Taken with Paul's records, this would suggest that *M. brachyptera* is fairly widespread in the Cannock Chase area. *Chorthippus parallelus* (Zett.), not recorded by Paul (1986), was also noted on drier grassland nearby. — D.K. CLEMENTS, National Trust Biological Survey, Spitalgate Lane, Cirencester GL7 2DE: April 11th, 1986.

Carpelimus lindrothi Palm (Col., Staphylinidae) in Leicestershire. — On 12th August 1984 I captured two specimens of *Carpelimus lindrothi* at Saddington Reservoir in Leicestershire. This is a feeder reservoir for the nearby Grand Union Canal and often in summer the water level is lowered to reveal a large expanse of bare mud. Both specimens were found on such mud by the outlet of an incoming stream.

C. lindrothi was introduced to the British list by J.A. Owen (1979, *Entomologist's mon. Mag.*, 114(1978): 102) who discovered it at Roudham Heath in West Norfolk in 1976. British specimens in the collections at the British Museum (Nat. Hist.) come from the original locality, Thetford and Tuddenham in West Suffolk. It appears that the Leicestershire record represents an extension of its known range.

I should like to thank Mr P.M. Hammond for confirming the identification and for allowing access to the collections in his care. — D.A. LOTT, Leicestershire Museums Service, 96 New Walk, Leicester: *March 28th*, 1986.

REVIEW

'A HISTORY OF THE HOPE ENTOMOLOGICAL COLLECTIONS IN THE UNIVERSITY MUSEUM, OXFORD' BY AUDREY Z. SMITH. 24 x 16 cm, 160 pp, 17 plates (4 coloured). Oxford (Clarendon Press). 1986. Price £15.

The Hope Entomological Collections are of international importance and for some groups (e.g. African butterflies) the holdings are second only to the National Collection at the British Museum (Natural History). Many of the famous collections donated by individuals such as the Dale collection of British Insects, the Collin/Verrall collection of European Diptera or the winter-moth/oak survey collection formed by Varley and Gradwell are of course unique and will always remain centres of reference for taxonomic study. This book, by the Hope Librarian and Administrator, is the first comprehensive account of the collections and archives.

The first half of the book provides a fascinating and often entertaining account of the history of the library and collections and their expansion to the present day. The second half includes the "meat" of the book in the form of two substantial appendices which give in detail the holdings (listed alphabetically under donor) in the library archives and insect collections.

Among the donors are the names of many famous entomologists including Bates, Belt, Chevrolat, Collin, the Dales (J.C. & C.W.), Darwin, Denny, Godman & Salvin, Haworth, Latreille, Morice, Pascoe Rothney, Verrall, Walker and Wallace. Information is also given on other invertebrate collections the most important being the Pickard-Cambridge Arachnida.

The library contains unique items such as "*Jones' Icones*" (1783-5) comprising seven volumes of original paintings of Lepidoptera with short Latin descriptions, some of which were described by Fabricius and constitute Iconotypes as the original specimens are lost. Important annotated association copies include J.W. Meigen's (1804) *Klassifizazion und Beschreibung der Europäischen Zweiflügligen Insekten* presented by Meigen to Fabricius passing via Latreille and Dejean to Hope and containing manuscript notes by Haworth and Stephens. Many of the manuscript holdings provide essential support to the scientific value of the insect collections.

The names of the four Hope Professors succeeding J.O. Westwood (1861-92) are equally well known: Sir Edward Bagnall Poulton (1893-1933), G.D. Hale-Carpenter (1933-48), George Copley Varley (1948-78) and David Spencer Smith who has held the chair since 1980. Under these men the research emphasis has progressed from the mainly descriptive, through evolution and mimicry, to ecology and physiology. Throughout the history of the department there has also been a steady stream of valuable taxonomic work.

The book is well written in a lively informative style displaying an obvious affection for the department, its contents, and the staff, past and present. Much valuable information is given on many of the important scientists who have worked upon, and added to, these important collections. The book is well produced, beautifully illustrated, and fills an obvious gap in the literature on the history of entomology which it is hoped some other museums will emulate. — K.G.V. SMITH