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(With Two Plates)

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By R. G. FENNAH

The identification of the larger neotropical Dictyopharidae is at present difficult for workers who do not have access to holotype material. The main difficulty arises from the fact that early descriptions failed to give an adequate account of the specific characters.

The notes that follow are principally concerned with holotype material of neotropical Dictyopharidae in the collection of the British Museum of Natural History. It is hoped that they will facilitate identification and enable the reader to recognize and correct errors in existing literature. The writer regrets that it has not proved possible to give a series of figures of genitalia; the holotypes are of different sexes and such a study must await the assembly of material of each species belonging to the same sex. He is nevertheless confident that the characters described below provide reliable criteria for the separation of species.

Family DICTYOPHARIDAE

Tribe DICHOPTERINI

Genus DIACIRA Walker

Diacira Walker, 1858, Insecta Saundersiana, p. 34. (Haplotype, D. varia Walker, ibid.)

The type of D. varia agrees fairly well with the description and figures given by Spinola (Ann. Soc. Ent. France, vol. 8, p. 318, pl. 13, figs. 1a-b) of Cladodiptera macrophthalma Spinola, the genotype of Cladodiptera. The profemora and protibiae of Walker's type, however, are prominently leaflike, while Spinola does not show or describe any such structure in C. macrophthalma. If Diacira is to be retained as separate from Cladodiptera, this may have to be taken as the generic difference. The species of Diacira as so defined show variation in the width of the flanges on the forelegs, and it must be considered possible that further work will bring to light a complete series of intergradations.
Tribe DICTYOPHARINI

Genus HYDRIENA Melichar

(Orthotype, H. distanti Melichar, ibid.)

HYDRIENA FERRUGINEA (Walker), new combination

Plate 2, figures 24-26


Post-tibiae with 5 spines. Tegmina with M forked once in corium; stigma 4-celled; 3 rows of areoles in membrane, 18 areoles along apical margin.

The figures are of Walker’s holotype.

Genus MEGADICTYA Melichar

(Orthotype, M. multispinosa Melichar, ibid.)

MEGADICTYA OBTUSIFRONS (Walker), new combination

Plate 2, figures 21-23


Vertex conical in outline, longer than broad (1:1). Post-tibiae with 5 spines. Tegmina about 13 mm. long, corium occupying less than half of total area; M 3+4 forked before nodal line, stigma 6- or 7-celled; 10 rows of transverse veins distad of nodal line, 22 areoles along apical margin. Pygofer with a straight slender spine at dorsal ends of posterior margin, directed posteriorly and downward.

The figures and data are based on Walker’s holotype.

The discovery of the true generic position of D. obtusifrons was most unexpected, as the species figured under this name in the Biologia Centrali-Americana is a characteristic Hylodictyon. Careful comparison of Walker’s description with the holotype leaves no doubt of their perfect agreement. Among other characters Walker mentions a “short luteous stripe” along the lateral margin of the prothorax; the type has an opaque yellowish stripe in this position, which, through
decay of the body contents, has practically disappeared along the anterior half of its length.

The species figured under this name in the Biologia Centrali-Americana is dealt with below under Hyalodictyon.

Genus LAPPIDA Amyot and Serville


**LAPPIDA FEROCULA** (Distant)

*Dictyophara ferocula* Distant, 1887, Biol. Centr.-Amer., Rhynch. Hom., vol. 1, p. 40, pl. 6, fig. 2.

To judge from the type this would appear to be the largest species in the genus. The type of *Dictyophara chlorochroma* Walker (List Hom., vol. 2, p. 311, 1851) is similar but smaller, while that of *D. compressifrons* Walker (List Hom. Suppl., p. 62, 1858) is smaller than *chlorochroma* and probably distinct. The writer cannot endorse the existing synonymy of these species with any confidence.

**LAPPIDA TUMIDIFRONS** (Walker), new combination


This species stands well apart from others in its short cephalic process. Tegmina narrow, M forked at level of apex of clavus, stigma 1- or 2-celled, 3 rows of transverse veins, infuscate, 17 apical areoles, apical veins and a cloud in membrane near stigma infuscate.

Genus DICTYOPHAROIDES Fowler

*Dictyopharoides* Fowler, 1900, Biol. Centr.-Amer., Rhynch. Hom., vol. 1, p. 44. (Haplotype, *D. tenuirostris* Fowler, ibid.)

Melichar and his followers have suppressed *Dictyophara telifera* Walker under *Toropa ferrifera* (Walker); *Dictyophara filifera* Walker and *D. rufistigma* Walker are currently retained in their original genus. These species, however, all belong to quite different genera, separated by characters given in the following key, which may be related to the writer's key to the New World Dictyopharini (Proc. Biol. Soc. Washington, vol. 57, p. 80, 1944) by substituting it for the name *Dictyopharoides* in that key.
(1) (2) Clypeus about as large as frons, tegmina with 3 rows of regularly arranged areoles in membrane; eye viewed from above 1.5 times width of vertex, tegmina with M arising from R at base.........................Neomiasa, new genus

(2) (1) Clypeus not nearly as large as frons, tegmina with veins of membrane more or less irregular.........................(3)

(3) (4) Tegmina semicircularly rounded apically, cells of membrane not or scarcely longer than broad..............Dictyopharoides Fowler

(4) (3) Tegmina more deeply rounded than above, M forming a common stalk with R for some distance, all cells of membrane much longer than broad, if not, then apical margin abruptly indented in M. Eye in dorsal view equal to width of vertex ................................Paramisia Melichar

Genus PARAMISIA Melichar

(Orthotype, P. suturata Melichar, ibid.)

Width of eye viewed from above equal to width of vertex. Tegmina with stigma 2- or 4-celled, M markedly stalked with R for some distance, apex of tegmen deeply rounded, sometimes abruptly emarginate in M.

PARAMISIA RUFISTIGMA (Walker), new combination


A male specimen of D. sulcirostris Berg (labeled Colon, Montevideo 15. v. 96 O. Thomas coll. 1909-337) was found to agree with the female type of D. rufistigma Walker, differing only in having an extra cell in the stigma.

PARAMISIA FILIFERA (Walker), new combination

Plate 2, figures 32-35

Dictyophara filifera Walker, 1858, List Hom. Suppl., p. 64.

Pronotal disc tricarinate, distinctly raised and acute anteriorly. Tegmina with stigma 3-celled, apical margin sharply indented in cell M 3.

Frons with a piceous spot on each side of base of cephalic process. Tegmina with stigma green, membrane evenly brown, with a V-shaped hyaline area extending inward across cell M 3.

The description and figures are of the type. The shape of the tegmina is generally similar to that of the African Raphiophora, but the two are not congeneric.
**NEOMIASA, new genus**

Vertex in profile strongly convex, longer than broad (2.6:1), cephalic process about 2.2 times as long as eye. Eye viewed from above 1.5 times width of vertex. Frons longer than broad (1.7:1), lateral margins straight, diverging distally, abruptly incurved just before apex. Width across frontoclypeal suture about three times width across base; clypeus almost as large as frons, lateral margins converging distally; cephalic process in same plane as frons. Pronotum anteriorly convex, posteriorly broadly emarginate, disc devoid of carinae, in form of a rounded-tumid elevation; mesonotum obsolesely carinate or ecarinate. Protibiae slender and elongate, posttibiae 4-spined.

Tegmina semicircularly rounded apically, M forked once in corium, stigma 1- to 2-celled, 2 or 3 rows of transverse veins, about 19 areoles along apical margin.

Egg ellipsoidal, a short filiform process at one pole.

*Genotype.—Dictyophara telifera* Walker.

This genus differs from *Paramisia* Melichar in M arising from R at base, vertex in profile more strongly convex, pronotum and mesonotum relatively much broader.

**NEOMIASA TELIFERA** (Walker)

*Plate 2, figures 27-31*


The figures are of Walker's type. It will be seen that it differs abundantly from *Toropa ferrifera* (Walker) with which it has been synonymized by Melichar.

**Genus HYALODICTYON** Fennah

(Orthotype, *Dictyophara nodivena* Walker, 1858, Insecta Saundersiana, p. 37.)

The identification of the species ascribed to this genus cannot be undertaken with any confidence from existing literature. The species differ in the shape of the cephalic process and to some extent in size. It is probable that when adequate dissections have been made a classification will also be possible on genital characters.

The main source of confusion has been the assumption by older workers, with the notable exception of Walker, that the species of *Hyalodictyon* (considered as belonging to *Dictyophara* Germar) were
more plastic than they are. As a result, a single name has been used to cover a mixture of species, and unjustifiable synonymies have been created. The confusion has been increased by the publication of wrongly labeled figures, and in this respect the Biologia Centrali-Americana is not free from blemish.

To facilitate identification of species of *Hyalodictyon* the writer offers camera-lucida drawings made by him from the respective holotypes in the British Museum. It has been found necessary to propose two new species, the types of which have been selected from material listed in the Biologia.

**HYALODICTYON NODIVENA** (Walker)

*Plate 1, figures 1-4*


This is the largest known species in the genus. The proportions of the frons are distinctive and characteristic. The apical areoles in the tegmina are very short, some of them not longer than broad. The swellings on the veins of the membrane in M do not constitute a specific character, although they are perhaps more evident in this species than in any other.

**HYALODICTYON TEAPANUM**, new species

*Plate 1, figures 5, ii*

*Dictyophara nodivena* Distant, 1887, *Biol. Centr.-Amer., Rhynch. Hom.*, vol. 1, p. 40, pl. 6, fig. 3.

This species, represented by a fair series, is quite distinct from the preceding. The laterodorsal angles of the frons are less obtuse than in *nodivena* Walker, the sides of the frons are distinctly more concave, while the intermediate carinae of the frons are relatively more widely separated at the base. The frons of *nodivena* Walker is actually broader than that of *teapanum* as well as being broader in relation to the median length (*H. nodivena*, 2.4 to 1; *H. teapanum*, 2.5 to 1). The type of *teapanum* is the specimen from Bugaba figured in the Biologia as *D. nodivena* Walker. Among other specimens in the series are some from Teapa.

**HYALODICTYON TRUNCATUM** (Walker)

*Plate 1, figures 6-10*


This species is slightly smaller than *nodivena* (Walker), from
which it differs strongly in the distinctly narrower frons and more elongated vertex as well as in the relatively longer apical areoles in the tegmen. *H. truncatum* is superficially very similar to *H. teapanum* but differs in having the lateral lobes of the pronotum wider than deep, while in *teapanum* they are deeper than wide. In *truncatum* cell M 1+2 in the corium is much shorter than its stalk, while cell Cu₁ is about as long as its stalk; in *H. teapanum* both these cells are longer than their respective stalks. The stigma of *H. truncatum* is 5-celled.

The most significant difference among the specimens available was found in the shape of the third valvulae of the ovipositor, these of *H. truncatum* being much more slender than in *teapanum* (see figures from holotypes).

**HYALODICTYON PLATYRHINA** (Walker)

*Plate 1, figure 12*


This species is almost as large as *nodivena* (Walker) from which it differs markedly in the longer vertex and relatively broader and transverse apex. It is nearest in appearance to *H. teapanum*, but the lateroapical angles of the head are more prominent and the anterior margin of the vertex is truncate, not rounded as in the latter species. *H. platyrhina* is the most readily recognizable species in the genus.

**HYALODICTYON FUSIFORME** (Walker)

*Plate 1, figure 18*


This species is distinguished from all the preceding by the relatively narrower vertex, the obtusely rounded lateroapical angles, and the rounded apical margin. The type is not quite so large as the preceding species.

**HYALODICTYON FALLAX** Fennah


This species, as noted in the original description and shown in plate 11, figures 239-242, differs from *H. truncatum* (Walker), which it generally resembles, in the straight sides of the vertex and frons. This distinction has been found to hold good in specimens more recently taken by the writer (2 ♀♀, Maracas pool, Trinidad, Sept. 28, 1945).
HYALODICTYON BUGABAE, new species

Plate 1, figures 15, 16


The shape of the vertex of this species recalls that of H. nodivena (Walker), but its apex is more rounded and the lateroapical angles are less prominent. The frons is relatively narrower and the curve of the intermediate carinae at the base is different. The species is definitely smaller than H. nodivena. The type selected is a male taken by Champion (Volcán de Chiriquí, 800-1,500 ft.).

HYALODICTYON BRACHYRHINA (Walker)

Plate 1, figure 17


This species is superficially not unlike Mitrops dioxyx (Walker) (=Nersia curtviceps Stål), but naturally these species differ in generic characters. The type of M. dioxyx (Walker) has narrow elongated third valvulae; H. brachyrhina (Walker) has broadly ovate third valvulae three times as broad as in the former. In dorsal view the vertex somewhat resembles that of Mitrops noctivibus (L.) but in profile it is quite flat, not upturned apically. The margins and carinae in the type of brachyrhina are red.

HYALODICTYON CENTRALI-AMERICANUM, new species

Plate 1, figures 13, 14

Dictyophara brachyrhina Distant, 1887, Biol. Centr.-Amer., Rhynch. Hom., vol. 1, p. 40, pl. 6, fig. 5.

Male.—Length, 8.0 mm.; tegmen, 10.0 mm.

Vertex longer than broad (1.8: 1) tapering distally, lateral angles not prominent, apex broadly rounded. Frons longer than broad (3.4: 1) of subequal width throughout, lateral margins slightly sinuate.

The type male was taken by G. C. Champion at Zapote, Guatemala.

Genus TAOSA Distant

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TAOSA INEXACTA (Walker)

Dictyophara inexacta Walker, 1858, Insecta Saundersiana, p. 38.

Walker's holotype agrees perfectly with a specimen of Taosa paraherida Muir in the British Museum bearing Muir's paratype label. In view of the fact that the holotype of Muir's species is untraceable, this specimen becomes the residual type. T. inexacta (Walker) is not synonymous with T. herbida (Walker) as given by Distant, and it is noteworthy that the characteristic difference in the coloration of the frons between these species is clearly stated in Walker's original descriptions.

TAOSA SCRIPTIVENTRIS (Walker)

Plate 2, figures 43, 44

Cladodiptera scriptiventris Walker, 1858, List Hom. Suppl., p. 76.

The type of T. pseudoscriptiventris Muir is not distinguishable from the holotype of scriptiventris (Walker) except by a darker suffusion overlying the sutural line, and in its slightly larger size (Muir's type: tegmen, 10 mm.; Walker's type: tegmen, 9 mm.). The two types are female and the genitalia are externally indistinguishable. Specimens in the Biologia Centrali-Americana series of scriptiventris (Walker) are larger than either of the preceding but are closely similar, though with rather more extensive brown suffusion on the membrane. These are considered to be geographical representatives of the South American type.

TAOSA VITRATA (Fabricius)

Plate 1, figures 19, 20

Plata vitrata Fabricius, 1803, Syst. Rhyng., p. 48.

Dr. S. L. Tuxen, of the Universitetets Zoologiske Museum, Copenhagen, has kindly prepared drawings from the Fabrician type (reproduced herewith) and has compared with it drawings of the type of Cladodiptera viridifrons Walker. The two species are evidently distinct, and the synonymy created by Distant (Biol. Centr.-Amer., Rhynch. Hom., vol. 1, p. 41), followed by Melichar (1912) and Fennah (1945), is erroneous.
TAOSA VIRIDIFRONS (Walker)

Plate 2, figures 41, 42

*Cladodiptera viridifrons* Walker, 1858, Insecta Saundersiana, p. 41.


TAOSA MULIEBRIS (Walker)

Plate 2, figures 37, 38

*Cladodiptera muliebris* Walker, 1858, List Hom. Suppl., p. 76.

This species appears to be quite distinct, and the suppression of it as a synonym of *suturalis* Germar (Muir, 1931) cannot be upheld. The figures are of the holotype.

TAOSA TERMINALIS (Germar)

Plate 2, figures 39, 40

*Cladodiptera virilis* Walker, 1858, List Hom. Suppl., p. 75.

Walker’s holotype of *virilis* is figured.

TAOSA SORORCULA (Berg)

Plate 2, figure 36


The figure is based on a specimen in the British Museum.

Genus TARACTICUS Berg

*(Orthotype, C. granicollis* Melichar, ibid., p. 158.)*

TARACTICUS CHILENSIS (Spinola)

*Cixius chilensis* Spinola, 1852, loc. cit.
*Chondrodera chilensis* Melichar, 1912, loc. cit., p. 159.

The writer, on the basis of Chilean material examined by him, con-
siders it necessary to establish the above generic and specific synonymies.

Family TROPIDUCHIDAE

Tribe TAMBINIINI

Genus ROTUNOSA Distant


ROTUNOSA GRANDIS (Fennah), new combination

Material of R. grandis Fennah, when compared with Walker’s holotype, proved to be definitely congeneric. The species are quite readily separated by the proportions of the vertex.

Tribe PARICANINI

Genus NEOMMATISSUS Muir


As this genus has been included in a recent catalogue of Dictyopharidae (General Catalogue of Hemiptera, fasc. IV, pt. 8, p. 71), it is advisable to record that the genotype is a paricanine tropiduchid, as are those of the synonymous genera Stacotoides Distant and Trobolophya Melichar. The species are quite conveniently separated by the venation of the tegmina.

NEOMMATISSUS CONGRUUS (Walker), new combination

Plate 2, figure 45


Material of N. spurcus Muir bearing Muir’s determination label cannot be distinguished from the holotype of Brixia congrua Walker. The mesonotal carinae are strongly elevated. The figure is from Walker’s mutilated holotype.
Family CIXIIDAE

Tribe PINTALIINI

Genus PINTALIA Stål


PINTALIA CONSTELLARIS (Walker), new combination


An examination of Walker's holotype leaves no doubt concerning the synonymy given above.

Tribe CIXIINI

Genus OLIARUS Stål


OLIARUS VILIS (Walker), new combination


Although the head of the female holotype is missing, its description, the size, quinquecarinate mesonotum, tegminal venation, and the characteristic genitalia indicate that this species belongs in Oliarus.

EXPLANATION OF PLATES

PLATE I

Figs. 1-4. Hyalodictyon nodivena (Walker). 1, vertex and pronotum; 2, frons; 3, vertex in profile; 4, apex of tegmen.
5. Hyalodictyon teapanum Fennah. Frons.
6-10. Hyalodictyon truncatum (Walker). 6, vertex and pronotum; 7, vertex in profile; 8, apex of tegmen; 9, frons; 10, third valvula of ovipositor.
13, 14. Hyalodictyon centrali-americum Fennah. 13, vertex and pronotum; 14, frons and clypeus.
15, 16. Hyalodictyon bugabae Fennah. 15, frons and clypeus; 16, vertex and pronotum.

**Plate 2**


37, 38. *Taosa muliebris* (Walker). 37, vertex and pronotum; 38, frons and clypeus.

39, 40. *Taosa terminalis* (Germar). 39, vertex and pronotum; 40, frons and clypeus.

41, 42. *Taosa viridifrons* (Walker). 41, vertex and pronotum; 42, frons and clypeus.


45. *Neommatissus congruus* (Walker). Right half of mesonotum and tegmen.
(For explanation, see p. 12.)
(For explanation, see p. 13.)