

New or Little-known Tipulidæ (Diptera).—XC. Oriental-Australasian Species. By CHARLES P. ALEXANDER, Ph.D., F.R.E.S., University of Massachusetts, Amherst, Massachusetts, U.S.A.

VIRTUALLY all of the species considered herewith are from the Nilgiri Hills, South India, where they were taken by Mr. P. Susai Nathan, to whom I express my deep appreciation for these specimens. It is becoming increasingly evident that our knowledge of the Tipulidæ of extreme southern India is still very incomplete. The types of the novelties are preserved in my personal collection.

Tipula (Tipulodina) xanthippe, sp. n.

Belongs to the *venusta* group; antenna (male) moderately long, extending to just beyond the base of abdomen; no vertical tubercle; wings with microtrichia virtually restricted to the apical darkened area; male hypopygium with the outer arm of the inner dististyle powerfully developed, split at apex into two subparallel blackened spines.

Male.—Length about 21 mm.; wing 20 mm.; antenna about 7.5 mm.

Frontal prolongation of head white above, including nasus, the lower half brown; palpi dark brown, most of the outer segment paling to yellow. Antennæ (male) moderately long, if bent backward extending to just beyond the base of abdomen; scape whitened, pedicel dark brown, flagellum black; flagellar segments rather

conspicuously incised, longer than the verticils. Head with front and anterior vertex white; vertex light grey, with three brown areas, including a narrow central stripe and broad lateral ones extending from the eyes to the occiput; vertex low and flat, without tubercle.

Pronotum dark brown medially, the sides broadly pale yellow. Mesonotal præscutum with the lateral borders whitish yellow, the disk chiefly covered by brownish grey stripes, the median one paler on posterior half, split for most of its length by a capillary darker brown vitta; lateral stripes margined along their internal and posterior margins by darker brown; scutum whitish yellow, each lobe with a major brown area; scutellum pale, the median area and parascutella all with brown centres; mediotergite pale brown, darker on cephalic half, the surface pruinose; pleurotergite whitened, with a brown spot on posterior border, this slightly invading the sides of the mediotergite. Pleura whitened, including the dorsopleural membrane, the dorsal edge of the anepisternum with a small brown spot. Halteres elongate, brownish black, the base of stem restrictedly pale. Legs with all coxæ whitened; trochanters whitish yellow; fore femora blackened, with a broad white ring shortly before apex; tibiæ with a broader white ring, more removed from the tip; basitarsus with about the proximal half black, the remainder white, the extreme tip and broader base of the second tarsal segment black, remainder of tarsi white; middle femora with the subapical ring very obscure and vaguely indicated, remainder of leg like the fore pair; posterior femora without pale ring, tibia with two broad white rings, the outer one more extensive than the intervening black annulus; posterior tarsi chiefly white, only the proximal end of the basitarsi narrowly blackened. Wings whitish hyaline, restrictedly patterned with brown, including cell *Sc*, stigma and the extensive apex, the latter involving the outer ends of cells R_2 , R_3 , R_5 and M_1 , the first and the last more restricted; a tiny dark area in base of cell R_3 ; veins black. Microtrichia of cells virtually restricted to the outer darkened area, entirely lacking in the cells before cord. Venation: *Rs* about three-fourths R_{2+3} ; vein R_3 straight, not at all deurved; petiole of cell M_1 a trifle longer than *m*; cell 2nd *A* relatively narrow.

Abdomen brownish yellow, the basal rings paler; posterior borders of tergites with brown triangles; hypopygium chiefly pale. Male hypopygium with the posterior border of tergite broadly emarginate, the lateral lobes with strong black setæ; on ventral face of each lobe with an even longer and more conspicuous secondary lobe, clothed with black setæ. Outer dististyle with the basal half dilated, the short outer portion obtuse at apex. Inner dististyle with the beak short and obtuse, blackened, the crest very high, obtusely rounded, its basal lobe produced into a blackened beak; outer arm of style a powerful structure that splits at apex into two subparallel blackened spines; surface of arm with the sensory area at its base and with a row of abundant long yellow setæ over most of the length.

Hab. South India.

Holotype, ♂, Mango Range, Nilgiri Hills, altitude 3800 feet, May 1950 (*P. Susai Nathan*).

The most similar species are *Tipula* (*Tipulodina*) *sidapurensis* Edwards and *T. (T.) simillima* Brunetti, which differ in coloration, and, in the case of the latter species, in the structure of the male hypopygium, particularly the inner dististyle. The male sex of *sidapurensis* is still unknown.

Tipula (*Tipulodina*) *dyak*, sp. n.

Antenna (male) very short; a small erect tubercle on anterior vertex; femora narrowly blackened at tips, without whitened subterminal rings; an unusually small darkened spot in cell *M* of wings; uniformly distributed microtrichia in all cells beyond arculus; outer arm of inner dististyle of male hypopygium narrowed to a simple blackened spine.

Male.—Length about 23 mm.; wing 17.5 mm.; antenna about 3.4 mm.

Frontal prolongation of head chiefly whitened, on sides with a narrow darkened line; basal two segments of palpi dark, the outer ones whitened. Antennæ (male) short, as shown by the measurements, if bent backward ending far before the wing root; antennæ chiefly brown; flagellar segments unusually simple, the basal swellings poorly indicated; verticils much exceeding the segments. Head in front whitened, darker behind, the vertex with a

capillary darkened median vitta; anterior vertex with a small erect tubercle.

Pronotum weakly darkened medially, paling to yellow on the sides. Mesonotal præscutum yellow, with a broad central brown stripe that is more intensely darkened medially; lateral stripes much paler or lacking; scutum chiefly yellow; scutellum and mediotergite pale, darkened medially; pleurotergite pale, the elevated katapleurotergite restrictedly darkened. Pleura uniformly pale yellow. Halteres with the stem brown, knob darker brown. Legs with the coxæ and trochanters yellow; legs detached but all three pairs represented; all femora narrowly but conspicuously blackened at tip, without a distinct whitened subterminal ring; pale ring of fore and middle tibiae broad, approximately one-half the blackened tip; basal white ring of posterior tibia nearly basal in position; basitarsi of all legs extensively blackened on proximal portion. Wings faintly tinged with yellow, restrictedly patterned with brown, the most intense areas including cell *Sc* and seams over the cord and outer end of cell 1st *M*₂; most outer veins beyond cord narrowly seamed with brown; wing tip extensively pale brown, involving the outer ends of cell *R*₂ to *R*₅ inclusive, the first more intense; an unusually small and inconspicuous brown spot in cell *M*; veins brown. Uniformly distributed microtrichia in all cells beyond arculus. Venation: *Rs* virtually straight, a little shorter than *R*₂₊₃; *R*₁₊₂ about two-thirds *R*₂₊₃; *m-cu* at near four-fifths the length of *M*₃₊₄; cell 2nd *A* moderately wide.

Abdominal tergites brown, restrictedly patterned, darkest subterminally, the extreme borders narrowly yellow; sternites yellow. Male hypopygium with the tergite narrowed posteriorly, the caudal border very gently emarginate, the ventral lateral lobe with strong black setæ that become more numerous toward outer end. Outer dististyle broadly triangular in outline, the apex truncated. Inner dististyle with the main body pale, the apex obtuse, the beak very blunt; outer arm shorter than remainder of style, narrowed to a simple black spine, the surface conspicuously fringed with long yellow setæ. Eighth sternite moderately sheathing, at apex produced into a flattened lobe; outer end broadly obtuse, provided with abundant long yellow setæ.

Hab. South Borneo.

Holotype, ♂, Goenoeng Pandjang, Tanggarang, July 2, 1936 (*M. E. Walsh*).

The present fly is most similar to species such as *Tipula* (*Tipulodina*) *lumpurensis* Edwards, of Selangor, differing especially in the structure of the male hypopygium, particularly the outer arm of the dististyle. There are likewise important differences in coloration and venation.

Nephrotoma dodabettæ, sp. n.

Mesonotal præscutum yellow with three polished black stripes, the lateral pair straight; occipital brand unusually small, pale; pleural markings reddish; halteres dark brown; wings greyish, stigma dark brown; abdomen almost uniformly orange; male hypopygium large; tergite broad, the caudal border emarginate, its central portion produced, on either side with a single slender blackened rod.

Male.—Length about 11–12 mm.; wing 12–13 mm.; antenna about 3·8–4 mm.

Frontal prolongation of head yellow, with more than the distal half of the upper surface dark brown; nasus distinct; palpi black. Antennæ (male) moderately long, as shown by the measurements; scape light yellow, pedicel yellowish brown, flagellum black; flagellar segments only moderately incised, the basal swellings small; longest verticils a trifle shorter than the segments. Head yellow, more orange across the anterior vertex behind the entire vertical tubercle; occipital brand unusually small, entirely pale and scarcely differentiated from the ground.

Pronotum orange yellow. Mesonotal præscutum yellow with three polished black stripes that are very narrowly bordered by more velvety black; lateral stripes straight, without differentiated markings opposite the anterior end; each scutal lobe with two polished black areas, the lateral end of the suture velvety black, this colour continued back along the edge of the scutal lobe to the wing root; scutellum pale brown, parascutella yellow; postnotum reddish yellow, the katapleurotergite clearer yellow. Pleura pale yellow, variegated with vague reddish areas, most distinct on the ventral sternopleurite and meral region. Halteres dark brown, the base of stem restrictedly pale. Legs with the coxæ orange; trochanters obscure

yellow; remainder of legs black, the femoral bases rather restrictedly obscure yellow; claws (male) strongly toothed. Wings with a weak greyish tinge; stigma dark brown, conspicuous, with about six trichia in proximal end; a pale brown cloud over the anterior cord; veins dark brown, paler in the prearcular field. Venation: *Rs* short, oblique; cell *M*₁ broadly sessile; *m-cu* on *M*₄ just beyond origin.

Abdomen almost uniformly orange or yellowish orange, including the large hypopygium; tergites very vaguely infuscated medially above, the stripe interrupted at the posterior borders of the segments; in cases this darkening barely indicated; basal sternites clearer yellow. Male hypopygium with the tergite broad, the central portion of the posterior border emarginate but further produced into a low lobe that is provided on its lateral shoulders with a few microscopic black spicules and scattered setæ; on either side of the emargination with a single slender blackened spine. Inner dististyle with the outer basal lobe produced into conspicuous blackened blades; rostrum slender; dorsal crest high. Gonapophysis appearing as a slender reddish rod, the tip narrowed into a curved black spine. Ninth sternite extensive, profoundly emarginate, the notch with an elevated darkened flange on either side, this becoming higher behind. Eighth sternite only moderately sheathing, the caudal border very slightly emarginate, the posterior margin with long delicate setæ that are longer and more conspicuous at and near the midline.

Hab. South India.

Holotype, ♂, Dodabetta Peak, Ootacamund, Nilgiri Hills, altitude 8000 feet, May 5, 1950 (*P. Susai Nathan*).
Paratopotype, 1 ♂.

The somewhat peculiar male hypopygium will readily distinguish this fly from other somewhat similar species. By Brunetti's key to the Indian species of *Nephrotoma* (1912) it runs to *N. javensis* (Doleschall) or *N. dorsopunctata* (Brunetti) which are entirely distinct flies.

Nephrotoma quadrilata, sp. n.

Antennal flagellum of male black, the segments rather strongly incised; occipital brand small, nacreous;

Holotype, ♂, Goenoeng Pandjang, Tanggarang, July 2, 1936 (*M. E. Walsh*).

The present fly is most similar to species such as *Tipula* (*Tipulodina*) *lumpurensis* Edwards, of Selangor, differing especially in the structure of the male hypopygium, particularly the outer arm of the dististyle. There are likewise important differences in coloration and venation.

Nephrotoma dodabettæ, sp. n.

Mesonotal præscutum yellow with three polished black stripes, the lateral pair straight; occipital brand unusually small, pale; pleural markings reddish; halteres dark brown; wings greyish, stigma dark brown; abdomen almost uniformly orange; male hypopygium large; tergite broad, the caudal border emarginate, its central portion produced, on either side with a single slender blackened rod.

Male.—Length about 11–12 mm.; wing 12–13 mm.; antenna about 3.8–4 mm.

Frontal prolongation of head yellow, with more than the distal half of the upper surface dark brown; nasus distinct; palpi black. Antennæ (male) moderately long, as shown by the measurements; scape light yellow, pedicel yellowish brown, flagellum black; flagellar segments only moderately incised, the basal swellings small; longest verticils a trifle shorter than the segments. Head yellow, more orange across the anterior vertex behind the entire vertical tubercle; occipital brand unusually small, entirely pale and scarcely differentiated from the ground.

Pronotum orange yellow. Mesonotal præscutum yellow with three polished black stripes that are very narrowly bordered by more velvety black; lateral stripes straight, without differentiated markings opposite the anterior end; each scutal lobe with two polished black areas, the lateral end of the suture velvety black, this colour continued back along the edge of the scutal lobe to the wing root; scutellum pale brown, parascutella yellow; postnotum reddish yellow, the katapleurotergite clearer yellow. Pleura pale yellow, variegated with vague reddish areas, most distinct on the ventral sternopleurite and meral region. Halteres dark brown, the base of stem restrictedly pale. Legs with the coxæ orange; trochanters obscure

yellow; remainder of legs black, the femoral bases rather restrictedly obscure yellow; claws (male) strongly toothed. Wings with a weak greyish tinge; stigma dark brown, conspicuous, with about six trichia in proximal end; a pale brown cloud over the anterior cord; veins dark brown, paler in the preareolar field. Venation: *Rs* short, oblique; cell M_1 broadly sessile; *m-cu* on M_4 just beyond origin.

Abdomen almost uniformly orange or yellowish orange, including the large hypopygium; tergites very vaguely infuscated medially above, the stripe interrupted at the posterior borders of the segments; in cases this darkening barely indicated; basal sternites clearer yellow. Male hypopygium with the tergite broad, the central portion of the posterior border emarginate but further produced into a low lobe that is provided on its lateral shoulders with a few microscopic black spicules and scattered setæ; on either side of the emargination with a single slender blackened spine. Inner dististyle with the outer basal lobe produced into conspicuous blackened blades; rostrum slender; dorsal crest high. Gonapophysis appearing as a slender reddish rod, the tip narrowed into a curved black spine. Ninth sternite extensive, profoundly emarginate, the notch with an elevated darkened flange on either side, this becoming higher behind. Eighth sternite only moderately sheathing, the caudal border very slightly emarginate, the posterior margin with long delicate setæ that are longer and more conspicuous at and near the midline.

Hab. South India.

Holotype, ♂, Dodabetta Peak, Ootacamund, Nilgiri Hills, altitude 8000 feet, May 5, 1950 (*P. Susai Nathan*).
Paratopotype, 1 ♂.

The somewhat peculiar male hypopygium will readily distinguish this fly from other somewhat similar species. By Brunetti's key to the Indian species of *Nephrotoma* (1912) it runs to *N. javensis* (Doleschall) or *N. dorsopunctata* (Brunetti) which are entirely distinct flies.

Nephrotoma quadrilata, sp. n.

Antennal flagellum of male black, the segments rather strongly incised; occipital brand small, nacreous;

præscutal stripes polished black, the lateral pair straight; thoracic pleura variegated with black; femora brownish yellow, the tips narrowly blackened, the fore pair with a broad black ring at near midlength; abdomen of male chiefly orange yellow, with a narrow black subterminal ring; male hypopygium with the tergite transverse, the caudal border with four unusually short and stout lobes that are provided with black peglike spines; gonapophyses appearing as broad obtuse blades.

Male.—Length about 11–12 mm.; wing 11.5–12 mm.; antenna about 4.5 mm.

Female.—Length about 15–17 mm.; wing 13–14 mm.

Frontal prolongation of head yellow, restrictedly darkened above, including the nasus; palpi brownish black. Antennæ (male) with the scape and pedicel light yellow, flagellum uniformly black; flagellar segments moderately to more strongly incised, in cases the basal enlargements more developed than in others. Head orange, yellow on front and orbits; a brownish cloud on orbits at narrowest point of vertex; vertical tubercle moderately developed, entire; occipital brand small, nacreous, not well-delimited, sending a delicate line cephalad.

Pronotum broadly yellow medially, blackened on sides. Mesonotal præscutum yellow with three polished black stripes, the lateral pair straight, with a weak discoloration opposite their outer end but not outcurved; scutum yellow, the lobes extensively blackened, the colour involving most of the suture and continued cephalad along the lateral præscutal border to about opposite the anterior end of the lateral stripe; scutellum black, parascutella yellow; mediotergite yellow, the posterior third black, pleurotergite chiefly black, the katapleurotergite very pale yellow. Pleura yellow, with conspicuous blackened areas on the ventral anepisternum, posterior border of the mesopleura and as a spot on the dorsal part of the pteropleurite before the wing root; ventral sternopleurite and meron more reddened. Halteres brownish black, base of stem reddened, knob light yellow. Legs with the coxæ and trochanters yellow or reddish yellow; femora brownish yellow, the tips narrowly blackened; fore femora with a broad blackened ring at near midlength, isolating a narrower subterminal pale ring; tibiæ brown; tarsi passing into black; claws (male) hairy, conspicuously

toothed. Wings subhyaline, cell *Sc* and the stigma dark brown; veins dark brown. Stigma without trichia. Venation: *Rs* short and straight.

Abdomen chiefly orange yellow, segment seven and the posterior end of tergite six black to form a narrow but conspicuous subterminal ring; basal tergites less distinctly patterned, in male appearing as darkenings on tergites one and two; female with lateral tergal darkenings near posterior border of each segment. Male hypopygium with the tergite transverse, the caudal margin with four unusually short and stout lobes that are tipped with short blackened spinous pegs, the more basal ones of the intermediate lobes more setoid. Outer dististyle relatively short and broad, the width about one-half the total length. Inner dististyle unusually small and simple, the dorsal crest long and low, entirely glabrous, extending from the rostrum back to the posterior outer part of the style. Gonapophyses appearing as unusually broad obtuse blades that subtend the short stout ædeagus. Ninth sternite deeply emarginate medially, at cephalic end of the notch with protuberant pale membrane to form a more or less distinct lobe. Eighth sternite with the caudal margin notched, the surface with sparse setæ.

Hab. South India.

Holotype, ♂, Naduvatom, Nilgiri Hills, altitude 6000 feet, May 20, 1950 (*P. Susai Nathan*). *Allotopotype*, ♀, *Paratopotypes*, 5 ♂♀, May 5–12, 1950.

The most similar described species is *Nephrotoma pleurinotata* (Brunetti), of Ceylon and South India, which differs in the details of coloration of the body and legs.

Nephrotoma toda, sp. n.

General coloration yellow, the præscutum with three polished black stripes, the lateral pair appearing outcurved virtually to the lateral margin; pleura yellow; wings weakly infuscated before cord, the outer cells more whitened; abdomen yellow with a subterminal dark ring; male hypopygium large and complex; caudal margin of ninth tergite with a deep rectangular notch, subtended on either side by conspicuous flattened blades; outer dististyle very long and narrow, the length exceeding ten times the width; both the seventh and eighth sternites produced medially at apex into a small lobe.

Male.—Length about 12 mm.; wing 10.5 mm.; antenna about 5.2 mm.

Frontal prolongation of head very pale yellow, the dorsal surface more reddened; nasus dark brown with long black setæ; palpi dark brown. Antennæ (male) moderately long, as shown by the measurements; scape light yellow, pedicel light brown, flagellum black; flagellar segments only slightly incised, longer than any verticils. Head light yellow; a large brown area on either side of vertex behind the tubercle, each area approximately three times as wide as the yellow central line separating them; occipital brand pale brown, subcircular in outline, sending cephalad a small paler point.

Pronotum pale yellow, the sides brown. Mesonotal præscutum yellow with three polished black stripes that are very narrowly and insensibly bordered by more velvety black; a large velvety black spot opposite the anterior end of the lateral stripe so the latter appears to curve outward virtually to the lateral border; scutal lobes almost entirely polished black, lateral ends of suture velvety black; scutellum and postnotum yellow, the posterior ends of each more reddened; parascutella and dorsal pleurotergite weakly infuscated. Pleura and remainder of pleurotergite pale yellow, vaguely patterned with reddish on the mesopleura. Halteres infuscated, knob extensively obscure yellow. Legs with the coxæ pale yellow, the base of the fore pair weakly darkened; trochanters yellow; femora yellowish brown, the tips blackened, with approximately the basal third remaining pale; tibiæ brown; tarsi black; claws (male) toothed. Wings with the cells basad of cord extensively but weakly infuscated, cell *C*; cephalic part of *R* and the cells beyond the cord more whitened; cell *Sc* brown; stigma darker brown, without trichia; a vague darkened cloud over the anterior cord; veins brown. Venation: Cell 1st M_2 very small; cell M_1 sessile; vein M_{1+2+3} unusually long, exceeding the basal section of M_4 .

Abdomen yellow, with a subterminal dark ring involving the posterior borders of tergites six and seven, most of tergite eight, and a broad subterminal band on sternite seven; hypopygium brownish yellow. Male hypopygium with the caudal margin of the ninth tergite with a deep rectangular notch, the subtending lobes appearing as

flattened blades that project caudad beyond any other part of the tergite, armed with spiculate points, including a concentration on the outer margin before the narrowed apex; laterad of these blades with a shorter slender rod that is likewise provided with spiculate points; ventral surface of tergite with a lateral blackened arm and a more mesal flattened plate. Outer dististyle excessively long and narrow, the length exceeding ten times the greatest width. Inner dististyle small and compact, beak slender; dorsal crest very low to barely indicated; posterior end of style blackened. Phallosome consisting of elongate bladelike gonapophyses and a gently curved structure of slightly greater length, this presumed to represent the ædeagus. Ninth sternite at apex with a brush of long setæ and a small flattened lobe or appendage, at base of the latter with a small slender horn; median area of sternite filled with dark-coloured pigmented membrane, outlining a more or less cordate area. Eighth sternite with the posterior border emarginate, with a median lobe, the apex of which is microscopically setuliferous; lateral lobes low and obtuse with unusually long setæ. Seventh sternite with a pale membranous border, the median part of which is farther produced into a small setuliferous lobule.

Hab. South India.

Holotype, ♂, Wood Estate, Nilgiri Hills, altitude 4200 feet, May 24, 1950 (*P. Susai Nathan*).

By Brunetti's key (1912), the present fly runs to *Nephrotoma consimilis* (Brunetti), an entirely distinct fly of which I possess paratypes and homotypes (Edwards). The remarkable male hypopygium readily suffices to distinguish the fly from all other regional species. The modification of the seventh sternite, additional to the eighth and ninth, represents virtually the extreme that has been recorded in the genus *Nephrotoma*. The specific name, *toda*, is that of an aboriginal people of the Nilgiri Hills.

Nephrotoma magascapha, sp. n.

General coloration yellow, the præscutum with three polished stripes, the straight lateral stripes pale; humeral region with a triangular blackened area; wings subhyaline, stigma brown; abdomen orange, including the unusually

large hypopygium; ninth tergite deeply emarginate, the outer lateral angles produced into strong arms; outer dististyle long and narrow; gonapophyses appearing as very large bilobed plates; eighth sternite very large, co olike, split at apex into two unusually large flattened plates, these provided with dense microscopic setulæ.

Male.—Length about 9–9.5 mm.; wing 10.5–11 mm.; antenna about 4.5 mm.

Female.—Length about 10.5–11 mm.; wing 11.5–12 mm.

Frontal prolongation of head pale yellow, slightly reddened on dorsal surface; nasus brown, tufted with dark setæ; palpi brown. Antennæ (male) relatively long, as shown by the measurements; basal two segments yellow, first flagellar segment brownish yellow, succeeding segments brown, passing into brownish black outwardly; flagellar segments rather conspicuously incised, longer than the verticils. Front and genæ pale yellow; vertical tubercle deep orange, nearly entire; posterior part of vertex paler orange; occipital band not clearly indicated.

Pronotum yellow. Ground-colour of the mesonotal præscutum yellow, with three polished stripes, the straight lateral pair and cephalic third of the central stripe pale brown, the remainder of the latter much darker; a conspicuous triangular black humeral area; scutum with median area broadly yellow, the lobes reddish brown, the lateral part adjoining the suture black; scutellum and postnotum yellow, in cases appearing translucent, with patches of the yellow colour persisting. Pleura and pleurotergite yellow with poorly indicated reddish areas on the anepisternum, sternopleurite, pteropleurite, meron and pleurotergite. Halteres with stem light brown, its base narrowly reddened, knob dark brown. Legs with the coxæ and trochanters yellow; femora brownish yellow, the fore pair darker; tibiæ brown, tarsi passing into black; claws (male) toothed. Wings subhyaline, cell *Sc* weakly yellowed; stigma oval, relatively dark brown, with a few trichia; a weak brown cloud over the anterior cord; veins brown, paler in the prearcular and costal fields. Venation: *Rs* short and straight, about one-third longer than the basal section of R_{4+5} ; cell M_1 barely to slightly sessile; cell 2nd *A* of moderate width.

Abdomen of male chiefly orange, including the unusually large hypopygium; tergites with a weak brown spot on segments two to four and more extensively so on

tergites six to eight; an oval brown lateral area near base of second tergite. In female, abdominal tergites chiefly dark brown, the narrow bases and broad lateral margins yellow; sternites chiefly orange yellow; ovipositor with the cerci elongate, compressed-flattened; hypovalvæ very short, compressed, extended at apex into a small acute point. Male hypopygium with the tergite deeply emarginate, the outer lateral angles produced into strong arms that bear several blackened spines at apex and along the inner face; on either side of ventral surface of tergite with a strong sclerotized plate that bears further blackened spines, including a linear retrorse series. Outer dististyle unusually long and narrow, obtuse at tip, the greatest width about one-sixth the length. Inner dististyle with the beak slender; a high glabrous crest at summit of style behind the beak; dorsal crest with unusually long setæ forming a more or less distinct comb. Phallosome consisting of the relatively small ædeagus and unusually large and flattened bilobed apophyses. Ninth sternite with a broad oval membranous area, from the posterior ends of which extend strong irregularly bifid structures that subtend the phallosome; from the base of the cephalic region of the sternite in the notch of the eighth sternite a strong median arm arises, projecting backward, this enlarged at apex into a two-pointed head. Eighth sternite very large, projecting caudad about to the level of the remainder of the hypopygium, its caudal margin deeply split to form two unusually large flattened plates to form a scoop, the plates densely covered by microscopic setulæ.

Hab. South India.

Holotype, ♂, Naduvatam, Nilgiri Hills, altitude 6000 feet, May 20, 1950 (*P. Susai Nathan*). *Allotopotype*, ♀, with the type. *Paratopotypes*, 1 ♂, 3 ♀♀, May 3–20, 1950.

While similar in its general appearance to *Nephrotoma toda*, sp. n., and some others, the present fly is readily told by the body coloration, including the conspicuous black humeral triangles, and especially by the unusually large and conspicuous male hypopygium, as described.

Nephrotoma semicineta, sp. n.

Mesonotal præscutum yellow with three reddish nacreous stripes, their outer margins with black borders, widest

opposite the lateral stripes; head yellow, with a pair of dark brown orbital spots behind the vertical tubercle; propleura and dorsal anepisternum spotted with black; knobs of halteres yellow; wings greyish subhyaline, stigma pale brown, preceded by a more yellowed spot; abdominal tergites yellow, the broad lateral borders and posterior triangles brown.

Male.—Length about 10–11 mm.; wing 10–11 mm.; antenna about 4.1–4.2 mm.

Female.—Length about 11–13 mm.; wing 10.5–12 mm.

Frontal prolongation of head yellow, slightly more orange above, including the conspicuous nasus which is tipped with long black setæ; palpi obscure yellow. Antennæ of male relatively long, of the female shorter; basal three segments yellow, the remainder of the flagellum passing into dark brown. Head yellow, the orbits behind the high vertical tubercle with a conspicuous dark brown spot; tubercle notched at summit; head closely appressed to pronotum so the occipital brand is not clearly visible, apparently very small and almost concolorous with the remainder of head.

Pronotum broadly yellow medially, blackened on sides. Mesonotal præscutum with the narrow lateral borders and broad humeral triangles pale yellow, the disk virtually covered by three reddish or brownish nacreous stripes, the outer borders being margined with black, this widest opposite the lateral stripes, crossing the suture behind onto the scutal lobes, almost reaching the lateral præscutal border at the cephalic end of the lateral stripe, passing around the cephalic end of the median stripe as a narrower line; posterior interspaces restrictedly obscure yellow; scutal lobes reddish or brownish nacreous, the posterior and anterior borders extensively margined with black, the central scutal region yellow; scutellum yellow, more polished behind; mediotergite yellow, its posterior end darkened. Pleura and pleurotergite yellow, variegated with black on the propleura and dorsal anepisternum and with more reddish areas on the ventral anepisternum, sternopleurite, meron and pleurotergite, in cases these latter markings much darker. Halteres with stem infuscated, its base reddened, the knob extensively pale yellow. Legs with the coxæ and trochanters yellow; remainder of legs obscure yellow, the fore pair, especially the femora, darker, the outer tarsal segments dark.

Wings greyish subhyaline; stigma oval, pale brown, preceded by a more yellowed spot; veins brown. Venation: *Rs* straight, about one-third longer than the basal section of R_{4+5} ; cell M_1 barely to broadly sessile, affecting the shape of the small cell 1st M_2 ; *m-cu* on vein M_4 , the basal section of the latter perpendicular.

Abdominal tergites yellow, heavily patterned with dark brown, including the lateral margins and broad apical triangles, the latter larger and more conspicuous on the anterior segments; sternites yellow. Ovipositor with the valves elongate, especially the flattened cerci. Male hypopygium with the caudal margin of the ninth tergite with a very deep and narrow median notch that is subtended by flattened blades that are provided with numerous blackened spicules; on ventral face of tergal plate on either side of the notch with a long slender blade that is directed caudad, its surface with further spicules. Outer dististyle relatively long, narrow basally, at near one-third the length conspicuously dilated on the inner margin, thence narrowed to the obtuse tip. Inner dististyle unusually long and narrow, without a dorsal crest; both the beak and lower beak more blackened, the latter obtusely rounded. Gonapophyses complex, on either side appearing as an irregularly bilobed blade, the outermost arm slender, the inner one subtending the small ædeagus. Ninth sternite with a prow-shaped median lobe that is directed ventrad, placed at the base of a deep central notch. Eighth sternite conspicuously emarginate, the low obtuse lateral lobes with long setæ.

Hab. South India.

Holotype, ♀, Naduvatam, Nilgiri Hills, altitude 6000 feet, May 5, 1950 (*P. Susai Nathan*). *Allotype*, ♂, Glen Morgan, Nilgiri Hills, altitude 6500 feet, May 22, 1948 (*P. Susai Nathan*). *Paratopotypes*, 2 ♀♀, with the type, May 4, 1950; *paratypes*, several ♂♂, with the allotype, May 22, 1948.

The most similar species is *Nephrotoma circumcincta* Alexander, of the Khasi Hills, Assam, which has somewhat similar nacreous areas on the mesonotum but with the pattern entirely different.

Limonia dravidiana, sp. n.

Size small (wing under 6 mm.); mesonotal præscutum light reddish brown, the posterior sclerites a trifle darker;

pleura yellow with a brown longitudinal stripe; wings with a strong dusky tinge, the oval stigma darker; male hypopygium with the large tergite roughly semi-circular in outline; ventral dististyle small, with an unusually long and slender rostral prolongation, the latter with two spines near the base; mesal-apical lobe of gonapophysis broad, darkened.

Male.—Length about 5 mm.; wing 5.8 mm.; antenna about 1.3 mm.

Female.—Length about 5.3 mm.; wing 5.3 mm.

Rostrum and palpi black. Antennæ black; flagellar segments oval, the outer ones longer, with distinct apical necks; verticils shorter than the segments; terminal segment only a trifle longer than the penultimate. Head dark grey, the front and very narrow orbits lighter grey; anterior vertex very narrow, about equal to two rows of ommatidia.

Pronotum brown. Mesonotal præscutum light reddish brown, not or scarcely darker medially; posterior sclerites of notum slightly darker brown, the central part of the scutum more yellowed. Pleura yellow with a brown longitudinal line, passing beneath the root of the halteres, on the propleura more expanded, including the narrow bases of the fore coxæ. Halteres brownish black, the base of stem narrowly yellow. Legs with the coxæ yellow, excepting the fore pair, as described; trochanters yellow; remainder of legs yellowish brown, the femoral bases restrictedly yellow. Wings with a strong dusky tinge, the oval stigma darker brown; veins and macrotrichia dark brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fifths *Rs*, *Sc*₂ near its tip; *Rs* long, about three times the basal section of *R*₄₊₅; free tip of *Sc*₂ and *R*₂ in transverse alignment; cell 1st *M*₂ rectangular, about as long as vein *M*₃; *m-cu* at or shortly beyond the fork of *M*, the more extreme case being the holotype; anal veins gently convergent basally.

Abdominal tergites and hypopygium dark brown; basal sternites yellow, in the female weakly patterned with brown. Ovipositor with the cerci small and slender, only gently curved. Male hypopygium with the tergite large, roughly semicircular in outline, the caudal border convexly rounded, with a very small median notch. Basistyle with the ventromesal lobe very stout, occupying

the whole inner face of the style. Dorsal dististyle a curved blackened rod, narrowed to the acute tip. Ventral dististyle small, oval, its area excluding the prolongation only about as great as the ventromesal lobe of the basistyle, conspicuously hairy; rostral prolongation unusually long and slender, fully as long as the style itself and approximately two-thirds the dorsal dististyle; rostral spines two, relatively long, pale, placed close together near the base of the prolongation. Gonapophyses with the mesal apical lobe appearing as a broad darkened blade, the apex obliquely truncated. Ædeagus broad, the tip conspicuously bilobed.

Hab. South India.

Holotype, ♂, Naduvatom, Nilgiri Hills, altitude 6000 feet, May 21, 1950 (*P. Susai Nathan*). *Allotopotype*, ♀, pinned with the type.

Among the regional small species of the genus that have the male hypopygium of the so-called *Dicranomyia* type, the present fly is most like *Limonia erichtho* Alexander, of Assam, which is entirely distinct in details of venation and structure of the male hypopygium.

Limonia (Libnotes) perplexa, sp. n.

Female.—Length about 13 mm.; wing 16 mm.

Closest to *punctatinervis* (Edwards), of which the type was from the Malay Peninsula, paratypes from Assam, Bhutan and the eastern Himalayas. Lateral præscutal stripes narrow, dark brown, deeper in colour than the posterior ends of the intermediate pair; scutellum yellow medially, the sides broadly dark brown, only a little narrower than the pale central portion; mediotergite uniformly brownish black, pruinose, without a pale central line. Pleura yellow, both brown stripes narrow and subequal in width. Coxæ yellow, only the fore pair with a delicate dark line; femoral dark ring broad; tip of tibiæ and outer three tarsal segments black. Knobs of halteres dark brown. Wings with the dark markings along the veins relatively large, tending to become confluent, on veins *R*₄₊₅ and *M*₁₊₂ much more extensive than the pale interspaces; a single darkened area at end of vein *R*₁. Venation: *R*₂ subequal to vein *Sc*₂ + *R*₁₊₂ beyond it, the free tip of *Sc*₂ bent into costa at a right angle; cell 2nd *M*₂ arising at near midlength of cell

1st M_2 . Abdomen with the posterior end of the first tergite dark brown; a series of darkened spots along the dorsal edge of the sternites, continued through the seventh segment.

Hab. South India.

Holotype, ♀, Cinchona, Anamalai Hills, altitude 4000-5000 feet, September 24, 1946. (*P. Susai Nathan*).

Thaumastoptera (Thaumastoptera) nilgiriensis, sp. n.

General coloration pale yellow; legs yellow throughout; wings pale yellow, restrictedly patterned with brown, best indicated by a deepening in coloration of the veins; Sc relatively long, Sc_1 ending about opposite two-fifths to one-half the length of Rs , Sc_2 a short distance before the origin of the latter.

Female.—Length about 3.5 mm.; wing 4 mm.

Rostrum testaceous; palpi brown. Antennæ with the scape and pedicel dark brown to brownish black, flagellar segments much paler, obscure brownish yellow; flagellar segments subglobular to short-oval, well separated by short apical necks; verticils abundant, the longest approximately one-half longer than the segment. Head broken, apparently testaceous brown.

Thorax uniformly pale yellow. Vestiture of mesonotal præscutum in part erect and conspicuous. Halteres yellow, the knobs weakly darkened. Legs yellow throughout. Wings pale yellow, the veins more brownish yellow; a restricted brown pattern, best indicated by a deepening in colour of the veins, including areas at origin of Rs , R_2 , cord, fork of M_{1+2} , $m-cu$ and as very small marginal clouds at ends of veins M_1 to 2nd A . Numerous macrotrichia on veins of outer half of wing, including those beyond cord; trichia on distal two-thirds of Rs and the outer end of vein M . Venation: Sc relatively long, Sc_1 ending nearly opposite two-fifths to one-half the length of Rs , Sc_2 a short distance before the origin of the latter, Sc_1 thus very long, exceeding two-thirds Rs ; R_{1+2} very short, R_2 correspondingly long; $m-cu$ far before the fork of M , at near one-third the length of Rs .

Abdomen yellow, the tergites with the posterior borders weakly infuscated, probably more heavily so in fully coloured specimens.

Hab. South India.

Holotype, ♀, Naduvatam, Nilgiri Hills, altitude 6000 feet, May 21, 1950 (*P. Susai Nathan*).

The present fly is readily distinguished from the only other described species having patterned wings, *Thaumastoptera (Thaumastoptera) insignis* Lackschewitz, of Spain, by the uniformly yellow legs, and *T. (T.) maculivena* Alexander, of Mindanao, Philippine Islands, by the entirely different wing pattern and details of venation. The genus *Thaumastoptera* is new to the Indian fauna.

Pseudolimnophila productivena, sp. n.

Mesonotum brownish yellow, clearer yellow on sides; pronotum unusually small; legs dark brown; wings long and narrow, weakly darkened; veins beyond cord unusually long, M_1 subequal to or longer than Rs ; male hypopygium with both dististyles slender.

Male.—Length about 7 mm.; wing 8.2 mm.; antenna about 1.6 mm.

Rostrum yellow; palpi brown. Antennæ with the scape yellow basally, with about the outer two-thirds medium brown; pedicel medium brown, flagellum black; flagellar segments long-cylindrical, with very long verticils, the longest nearly twice the segments. Front and anterior vertex yellow, remainder of head brownish grey; genæ and ventral surface of head obscure yellow, sparsely pruinose; anterior vertex relatively narrow, nearly twice the diameter of the scape.

Pronotum unusually small for a member of the genus, obscure yellow. Mesonotal præscutum brownish yellow, becoming clearer yellow on sides, the central line narrowly more darkened; mesonotum unusually glabrous, the præscutum with sparse erect short setæ; scutal lobes brownish yellow, narrowly ringed with darker; posterior sclerites of notum brownish yellow, the sides of the mediotergite, the entire pleurotergite and the pleura uniformly light yellow. Halteres infuscated, relatively short. Legs with the coxæ and trochanters pale yellow; remainder of legs dark brown, long and without conspicuous vestiture; femoral bases very narrowly yellow; tibial spurs stout, setiferous; claws small, broad basally, the outer end abruptly slender. Wings relatively long and narrow, the prearcular field short; membrane weakly darkened, the prearcular field more yellowed; stigma

small, pale brown, inconspicuous; veins dark brown, more brownish yellow in the prearcular region. Veins of outer two-thirds of wing with abundant trichia; costal fringe short. Venation: Sc_1 ending about opposite the fork of R_s , Sc_2 near its tip; R_s long, R_{2+3+4} gently arcuated, about two and one-half times the basal section of R_5 ; veins beyond cord unusually long, M_1 and M_2 subequal to or longer than R_s ; petiole of cell M_1 about one-fifth the cell; cell 1st M_2 small, arcuated and weakly angulated at base; $m-cu$ about one-third its length beyond the fork of M ; cell 2nd A narrow; anterior arculus preserved.

Abdominal tergites dark brown, sternites yellow; hypopygium chiefly darkened, the proximal ends of the basistyles paler. Male hypopygium with both dististyles slender, the subglabrous outer one a trifle longer, its tip a curved spine; inner style conspicuously setiferous, its tip narrowed. Gonapophyses bispinous.

Hab. South India.

Holotype, ♂, Naduvatam, Nilgiri Hills, altitude 6000 feet, May 21, 1950 (*P. Susai Nathan*).

The present fly is quite distinct from other regional members of the genus, including *Pseudolimnophila glabra* (Brunetti), *P. fusca* (Brunetti), and *P. pallidicoxa* (Brunetti) by the venation, especially of the outer half of the wing.

Hexatoma (Eriocera) arcuata, sp. n.

Size large (wing 17 mm. or more); head and thorax brownish grey, the præscutum with three more blackish stripes; antennæ with the proximal two flagellar segments yellow, the outer ones dark brown; head with two vertical tubercles, the posterior one smaller; femora reddish brown, the tips narrowly black; wings uniformly fulvous brown; inner end of cell 1st M_2 arcuated; abdomen elongate, segments two to six light yellow, the lateral tergal border conspicuously blackened; outer segments, including hypopygium, black.

Male.—Length about 27 mm.; wing 17.5 mm.; antenna about 3.7 mm.

Female.—Length about 26 mm.; wing 17 mm.

Rostrum brown, grey pruinose; palpi black. Antennæ short in both sexes; scape and pedicel dark brownish grey, basal two flagellar segments obscure yellow, the

outer ones passing into dark brown; antennæ (male) 8-segmented. Head dark brownish grey; anterior vertex with two tubercles, placed one behind the other, the posterior one smaller.

Pronotum grey. Mesonotum grey pruinose, the præscutum with three more blackish stripes that are more thinly dusted with grey; scutal lobes with darker grey centres; scutellum lighter grey. Pleura and pleurotergite grey pruinose, the dorsopleural membrane extensively darkened. Halteres small, stem reddish brown, knob dark brown. Legs with the coxæ black, pruinose; trochanters black; femora reddish brown, the tips rather narrowly blackened; outer tarsal segments black. Wings with a strong fulvous brown tinge, the bases of the anal cells a trifle brightened; veins deeper brown. Sparse macrotrichia on veins beyond cord. Venation: Sc long, Sc_1 ending shortly before level of R_2 , Sc_2 just before the fork of R_{2+3+4} ; R_{2+3} about three-fourths R_{2+3+4} , the latter approximately two-thirds the basal section of R_5 ; inner end of cell 1st M_2 strongly arcuated; $r-m$ and $m-cu$ in approximate transverse alignment, the latter at near mid-length of cell 1st M_2 ; cell M_1 lacking.

Abdomen elongate in both sexes; first segment black, pruinose; segments two to six, inclusive, light yellow, the lateral border of the tergites narrowly but conspicuously blackened; outer segments, including the hypopygium, blackened, more or less pruinose; genital shield of female grey pruinose; valves of ovipositor, especially the cerci, elongate.

Hab. South India.

Holotype, ♂, Cherangode, Nilgiri Hills, altitude 3500 feet, May 17, 1950 (*P. Susai Nathan*). *Allotopotype*, ♀, pinned with the type.

The most similar regional species is *Hexatoma (Eriocera) testacea* (Brunetti), which differs in the details of coloration.

Hexatoma (Eriocera) tacita, sp. n.

General coloration of body polished black; antennæ (male) very short, 6-segmented; legs black, the femoral bases broadly yellow; wings uniformly brown, unpatterned; Sc unusually short, Sc_1 ending before the

level of the fork of R_s ; vein R_2 about three times R_{2+3+4} ; R_{1+2} longer than R_{2+3+4} and fully four times vein R_2 .

Male.—Length about 8–9 mm.; wing 8.5–9 mm.; antenna about 1.1–1.2 mm.

Rostrum and palpi black, the latter relatively long. Antennæ (male) 6-segmented, black throughout; first flagellar segment nearly as long as the succeeding two taken together; terminal segment about one-half longer than the penultimate; flagellar segments with long coarse verticils, these subequal in length to the intermediate segments. Head above dull black.

Pronotum dull black. Mesonotum uniformly polished black, the præscutum with few scattered setæ. Pleura polished black, the posterior portion more pruinose. Halteres black. Legs with the coxæ dull black; trochanters black; femora broadly obscure yellow basally, the tips broadly black, involving slightly more than the outer half; remainder of legs black, the proximal ends of the posterior tibiæ vaguely paler; a single male of the series has the legs uniformly blackened or virtually so. Wings uniformly brown, unpatterned, central prearcular field a little paler; a pale streak behind the basal half of vein 1st A ; veins brown. Veins of outer half of wing with abundant macrotrichia. Venation: Sc unusually short, Sc_1 ending some distance before the fork of R_s , Sc_2 not far from its tip; R_{1+2} longer than R_{2+3+4} ; veins R_2 and R_{2+3} subequal; R_3 about three times R_{2+3+4} ; cell 1st M_2 shorter than any of the veins beyond it; cell M_1 lacking; $m-cu$ at near one-half to two-thirds the length of cell 1st M_2 .

Abdomen polished black, including the hypopygium.

Hab. South India.

Holotype, ♂, Naduvatam, Nilgiri Hills, altitude 6000 feet, May 10, 1950 (*P. Susai Nathan*). *Paratopotypes*, 8 ♂♂, May 3–10, 1950.

Most similar to *Hexatoma (Eriocera) aterrima* (Brunetti), likewise from South India, differing in the polished black coloration and the almost glabrous body. Other distinguishing characters include the yellow femoral bases, short vein Sc , and different proportions of the various outer radial elements of the wing. Brunetti's description of his species (1912) is very brief but has been supplemented in certain critical points by Edwards (1924).

Elephantomyia (Elephantomyodes) nana, sp. n.

Size very small (wing, male, 6.5 mm. or less); mesonotal præscutum almost uniformly brownish black; anterior thoracic pleurites dark brown, the metapleura paler; legs brownish black, the intermediate tarsal segments snowy white; wings with a weak brownish tinge, the cord narrowly seamed with darker brown; barely indicated darkened seams at origin of R_s and over the anterior cord; abdominal tergites and hypopygium dark brown, basal sternites more bicoloured.

Male.—Length, excluding rostrum, about 5–5.5 mm.; wing 5.2–6.5 mm.; rostrum alone about 4–4.5 mm.

Rostrum only a little shorter than the body, black throughout. Antennæ black; flagellar segments elongate; verticils (male) unusually long and outspreading. Head dark greyish brown; anterior vertex moderately broad.

Pronotum brownish black; pretergites obscure yellow. Mesonotal præscutum almost uniformly brownish black, the median region a trifle more blackened; scutal lobes dark brown, the median region and outer posterior angles of the scutal lobes obscure yellow; posterior sclerites of notum chiefly dark brown; posterior border of scutellum, parascutella and pleurotergite extensively obscure yellow. Propleura and mesopleura dark brown, including the dorsopleural membrane; metapleura and meron paler, more yellowed. Halteres elongate, brownish black, the extreme base of stem yellow. Legs with the coxæ more or less darkened, the posterior pair less evidently so; trochanters testaceous; remainder of legs brownish black, the tarsi extensively snowy white, involving segments two and three and the narrow apex of the basitarsus; outer two segments black. Wings with a weak brownish tinge, the narrow costal border and stigmal region darker brown; barely indicated darkened seams at origin of R_s and over the anterior cord; veins brown. Venation: R_s strongly arcuated at origin, R_{2+3+4} virtually perpendicular at base; cell 1st M_2 rectangular, nearly equal in length to vein M_4 ; $m-cu$ at near one-third the length of cell 1st M_2 ; cell 2nd A narrow.

Abdomen chiefly dark brown, including the tergites and hypopygium; first sternite yellow, succeeding ones

weakly bicoloured, the basal rings yellow, the broad tips black; outer sternites uniformly blackened.

Hab. South India.

Holotype, ♂, Cherangode, Nilgiri Hills, altitude 3500 feet, May 24, 1950 (*P. Susai Nathan*). *Paratopotypes*, 2 ♂♂.

The most similar regional species is *Elephantomyia* (*Elephantomyodes*) *affluens* Alexander, likewise from the mountains of South India, which is distinguished chiefly by the large size and details of coloration of the body and wings. The present fly is among the smallest known members of the subgenus whereas *affluens* is one of the largest.

Gymnastes (*Paragymnastes*) *imitator*, sp. n.

Coloration differing in the two sexes; male with the præscutum reddish yellow with a black central stripe; pleurotergite and pleura yellow; abdominal segments conspicuously dimidiate, the base brown, the narrower apex yellow; in female, head and thorax almost uniformly blackened; femora yellow, the tip broadly blackened, preceded by a clearer yellow ring; wings of male yellow, with three brown crossbands, the last subterminal; female with the wings subhyaline, with three broad brown bands, the last terminal; cell R_3 small, cell M_2 open by atrophy of the basal section of M_3 ; male hypopygium with the single dististyle simple, subterminal.

Male.—Length about 5.8–6.3 mm.; wing 5–5.5 mm.

Female.—Length about 6–6.2 mm.; wing 5 mm.

Male.—Rostrum obscure yellow; palpi black. Antennæ with the scape obscure yellow, pedicel dark brown, restrictedly paler basally; flagellum black; basal flagellar segments oval, passing into elongate-oval; verticils long and conspicuous. Head above polished obscure yellow, the central part of vertex extensively infuscated.

Pronotal scutum obscure brownish yellow, vaguely darkened on sides; scutellum more testaceous. Mesonotal præscutum reddish yellow, polished, the anterior half with a conspicuous black central stripe that is narrowed behind; scutum reddish yellow, each lobe with two barely separated large black areas; scutellum reddish yellow; medio-tergite black, pleurotergite testaceous yellow. Pleura polished yellow, the dorsopleural region more infuscated. Halteres infuscated, the base of stem narrowly yellow.

Legs with the coxæ and trochanters yellow, the fore coxæ a trifle darker; femora yellow, the tips broadly and conspicuously blackened, the broad bases more or less darkened by abundant dusky scales that are easily detached; tibiæ and basitarsi yellow, the tips more narrowly blackened, remainder of tarsi black. Wings with the ground-colour yellow, with three narrow brown crossbands, the first at the level of origin of R_s , extending from vein R to the end of vein $2nd\ A$, virtually entire; second band completely crossing the wing at the cord, entire but very narrow at the fork of M ; outer band subterminal, extending from the outer end of cell R_2 to cell M_3 , narrower than the pale apex beyond it; a small isolated brown spot at fork of M_{1+2} ; veins pale brown, darker in the patterned areas. Venation: Sc_1 ending shortly before the fork of R_s , Sc_2 far from its tip; R_{1+2} and R_{2+3+4} subequal, approximately twice R_2 ; cell R_3 small, vein R_3 oblique, the cell subequal to its petiole; cell M_2 open by the atrophy of the basal section of M_3 ; $m-cu$ about one-half its length beyond the fork of M .

Abdominal segments conspicuously dimidiate, about the proximal two-thirds of the segments brown, the apex yellow; hypopygium small, brownish yellow. Male hypopygium small and simple in construction. A single dististyle placed at near two-thirds the length of the basistyle, expanded at proximal end, thence narrowed, the apex a subtriangular head that narrows to a beaklike point, the lower margin of this with two or three further microscopic denticles. *Ædeagus* long and slender, with scattered setæ.

Female.—Very different in colour from the male. Head brownish grey, the centre of vertex infuscated. Thorax and abdomen almost uniformly brownish black. Femoral bases more evidently darkened, isolating a narrow subterminal yellow ring. Wings subhyaline, with three broad brown crossbands that are much wider than the interspaces, the outermost apical in position.

Hab. South India.

Holotype, ♂, Cherangode, Nilgiri Hills, altitude 3500 feet, May 22, 1950 (*P. Susai Nathan*). *Allotopotype*, ♀, May 17, 1950. *Paratopotypes*, 35 ♂♂, 1 ♀.

The present fly differs from all regional species in the open cell M_2 of the wings. In this respect it is more like

various Australasian species, including *Gymnastes* (*Paragymnastes*) *cycanoiceps* Alexander, *G. (P.) dasycera* Alexander, *G. (P.) niveipes* Alexander, and *G. (P.) riedeli* Alexander, all of which differ conspicuously in coloration and structure of the male hypopygium. Superficially, the fly suggests *G. (P.) bistriatipennis* Brunetti, which has cell 1st M_2 closed. Despite the striking difference in coloration of the sexes I feel sure that a single species is represented. Certain Australian forms show this sexual dichroism but to a somewhat lesser extent.

Erioptera (Empeda) accomoda, sp. n.

Size medium (wing, male, 3.8 mm.); mesonotal præscutum and scutum almost uniformly dark brown, the scutellum more reddish brown; pleura extensively yellow, the mesopleura darker; knob of halteres infuscated; wings greyish subhyaline; *Sc* relatively short, Sc_1 ending about opposite one-fifth the length of *Rs*; cells R_3 and M_3 deep; veins R_3 and R_4 subparallel, cells R_2 and R_3 at margin subequal in extent; male hypopygium with the inner dististyle blackened, profoundly bifid, the inner arm weakly bidentate at apex.

Male.—Length about 3.3 mm.; wing 3.8 mm.

Rostrum brown; palpi dark brown. Antennæ black; basal flagellar segments short-oval, the outer ones passing into oval; verticils much exceeding the segments. Head clear light grey.

Pronotum pale yellow, restrictedly more pruinose medially. Mesonotal præscutum and scutum almost uniformly dark brown, sparsely pruinose, the pretergites pale yellow; pseudosutural foveæ black; scutellum dark reddish brown; mediotergite grey pruinose, the anterolateral portions orange, the posterior margin more infuscated; pleurotergite chiefly yellow. Mesopleura extensively infuscated, the propleura and metapleura more yellowed, the meron and metapleura weakly darkened; dorsopleural region pale yellow. Halteres pale yellow, knob infuscated. Legs with the fore coxæ dark brown, the remaining coxæ and all trochanters yellow; remainder of legs brown, the outer tarsal segments darker brown; segments with abundant scales, additional to the usual setæ. Wings greyish subhyaline, the prearcular and costal regions a trifle more yellowed; stigma very weakly darkened; veins brown, yellowed at the

wing base. Venation: *Sc* short, Sc_1 ending a short distance beyond the origin of *Rs*; R_2 a trifle less than R_{2+3+4} ; cells R_3 and M_3 deeper than in *brevior*, veins R_3 and R_4 lying more nearly parallel to one another, cells R_2 and R_3 at margin subequal in extent. In *brevior*, veins R_3 and R_4 more divergent, cell R_3 at margin being approximately twice as extensive as cell R_2 .

Abdomen with tergites dark brown, sternites more yellowed; hypopygium brownish yellow. Male hypopygium with the outer dististyle entirely blackened, profoundly bifid, the outer arm a simple blackened rod, its tip subacute; inner arm shorter and stouter, at apex unequally bidentate, the innermost point a little longer.

Hab. South India.

Holotype, ♂, Cherangode, Nilgiri Hills, altitude 3500 feet, May 1950 (*P. Susai Nathan*).

The present fly is quite distinct from *Erioptera (Empeda) brevior* Brunetti, of the Eastern Himalayas, differing especially in the venation and structure of the male hypopygium. Brunetti described this fly under three separate names, placing all three in different genera (*Erioptera brevior*, *Empeda inconspicua*, *Gonomyia antica*). Edwards (1924) believed that *brevior* was identical with the still earlier *E. (E.) gracilis* (de Meijere) but this seems entirely improbable to me and should be carefully checked before being accepted.

Erioptera (Empeda) simplicior, sp. n.

Size very small (wing, male, not exceeding 3 mm.); mesonotum brown, the pleura chiefly yellow, including the clearer yellow dorsopleural membrane; male hypopygium with the outer dististyle heavily blackened, unusually simple, unforked but bearing two strong teeth on the inner margin at near midlength.

Male.—Length about 2.4–2.5 mm.; wing, 2.8–3 mm.

Rostrum and palpi dark brown. Antennæ dark brown to brownish black throughout; basal flagellar segment short-oval, the outer ones more elongate, with very long conspicuous verticils. Head clear light grey; anterior vertex broad.

Pronotum yellow. Mesonotum medium brown, the humeral region of the præscutum a trifle brightened; pretergites clear yellow; scutellum testaceous yellow.

Pleura yellow, the mesopleura a little darker; dorso-pleural membrane clear light yellow. Halteres weakly infuscated, the base of stem restrictedly yellow. Legs with the coxæ and trochanters yellow; remainder of legs obscure yellow, the outer tarsal segments blackened; legs with abundant elongate scales, additional to the setæ. Wings yellowish grey, the prearcular field clearly yellow; veins light brown, trichia darker. Venation: R_{2+3+4} subequal to R_2 ; fork of cell R_3 relatively deep, the cell subequal to or longer than its petiole.

Abdomen dark brown, sternites a trifle paler; hypopygium yellow. Male hypopygium with the outer dististyle heavily blackened, unusually simple, appearing as a straight rod that narrows to an apical blade; at near midlength on inner margin with two strong teeth, the more basal one a little longer and more slender. Inner dististyle long and narrow, yellow.

Hab. South India.

Holotype, ♂, Singara, Nilgiri Hills, altitude 3400 feet, May 12, 1948 (*P. Susai Nathan*). *Paratopotypes*, 3 ♂♂.

The present fly is most similar to the larger *Erioptera* (*Empeda*) *accomoda*, sp. n., differing conspicuously in the structure of the male hypopygium, particularly the unusually simple inner dististyle.