

NEW OR LITTLE-KNOWN TIPULIDAE (DIPTERA).
CIII. ORIENTAL—AUSTRALASIAN SPECIES.

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At this time I am discussing a series of Eriopterine crane-flies, all belonging to the great genus *Gonomyia* Meigen, taken in 1953 and 1954 by Dr. Fernand Schmid in Pakistan and Kashmir. This series of Tipulidae in its entirety is one of the largest and most valuable ever taken and I am very deeply indebted to Dr. Schmid for the privilege of securing these materials. All types and representatives of the species are preserved in my personal collection of these flies. The materials discussed herewith were taken in Pakistan and Kashmir, in the western Himalayas. As indicated by Dr. Schmid, the boundaries between these lands remain unsettled at the present time and the location of individual places and stations may perhaps be shifted in later years. As given they are in accordance with the cease-fire line established by the United Nations Organization and in operation at the present date. During the winter of 1953-1954, Dr. Schmid and his colleagues spent the period in Ceylon, where equally rich and varied collections of insects were made.

Gonomyia (Protogonomyia) pakistanica, sp. n.

General coloration of body dull black, the thoracic pleura with a longitudinal obscure yellow stripe; legs dark brown; wings weakly darkened, *Sc* long, *Sc*₁ ending almost opposite the fork of *Rs* or at near two-thirds the length of the wing; male hypopygium with the intermediate dististyle nearly straight, its tip obtuse; inner style an elongate-flattened blade, narrowed to the obtuse tip, with long coarse setae on the apical fourth.

Male.—Length about 6.5 mm.; wing 7.5 mm.

Female.—Length about 6 mm.; wing 7 mm.

Rostrum brown; palpi brownish black. Antennae black, relatively long, if bent backward extending to beyond the wing root; outer flagellar segments long-subcylindrical. Head brownish black.

Pronotum yellowish brown, pretergites obscure yellow. Mesonotum dull black, the humeral region of the praescutum restrictedly yellowed; pseudosutural foveae black, scutellum dark. Pleura brownish black, with an obscure yellow longitudinal stripe extending from behind the fore coxae to the metapleura, wider and more obscured behind. Halteres with stem obscure yellow, knob weakly infuscated. Legs with the coxae brown, sparsely pruinose; trochanters testaceous yellow; remainder of legs dark brown, the femoral bases slightly paler. Wings weakly darkened, stigma feebly differentiated, very narrow; veins brown.

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Venation : Sc long, Sc_1 ending almost opposite the fork of R_s or at near two-thirds the length of the wing ; Sc_2 far retracted, Sc_1 alone about one-third longer than R_{2+3+4} ; anterior branch of R_s about two-thirds as long as vein R_1 or more than twice R_{2+3+4} ; cell 2nd M_2 deep, from three to four times its petiole ; $m-cu$ close to the fork of M .

Abdomen dark brown ; ovipositor with valves short and fleshy, as in the subgenus. Male hypopygium with the dististyles differing conspicuously from those of *nigripes* ; outer style conspicuously hairy, forked at near two-thirds its length, one arm obtuse, the other pointed at apex ; intermediate style a nearly straight slender rod from a more dilated horizontal base, the tip obtuse, unarmed ; inner style an elongate-flattened blade, narrowed to the obtuse tip, with long coarse setæ on apical fourth.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Kawai, altitude 4,800 feet, 24 June, 1953 (*Fernand Schmid*).

Allotopotype, ♀, pinned with type.

The widespread *Gonomyia* (*Protogonomyia*) *nigripes* Brunetti differs especially in the details of structure of the male hypopygium, particularly the dististyles. It is possible that *G. (P.) nigra* (Brunetti), from the western Himalayas, is distinct from *nigripes*, with which it has been synonymized ; both Brunetti's description and figure indicate a fly with an unusually short Sc , ending at near midlength of the wing.

Gonomyia (Ellipteroides) schmidi, sp. n.

General coloration black, the thoracic pleura variegated by yellow, including the dorsopleural membrane and a narrow ventral stripe ; knobs of halteres conspicuously light yellow ; wings with a strong blackish tinge ; male hypopygium with the long apical lobe of the basistyle terminating in a small spine ; inner dististyle a broadly expanded blade, with several very long setæ ; aedeagus relatively slender, with abundant setulae, the tip an erect spine.

Male.—Length about 5.5 mm. ; wing 5.5 mm.

Rostrum and palpi black. Antennæ black throughout ; flagellar segments long-oval, with long conspicuous verticils. Head dark grey.

Pronotal scutum dark reddish brown, scutellum light yellow, narrowly interrupted medially by a darkened spot ; pretergites very narrowly yellow. Mesonotum uniformly blackened, the surface sparsely pruinose. Pleura black, with a narrow longitudinal yellow stripe extending from behind the fore coxæ to the metapleura, passing above the bases of the coxæ ; dorsopleural membrane abruptly pale yellow. Halteres with stem brownish black, knob light yellow. Legs uniformly black, provided with long coarse setæ ; claws slender, almost straight. Wings with a strong blackish suffusion, stigma barely darker ; veins dark brown. Venation : Sc_1 ending nearly opposite two-thirds the length of R_s , Sc_2 at about one-fourth this length ; R_{2+3+4} a little shorter than R_3 ; cell 2nd M_2 slightly longer than its petiole ; $m-cu$ at or shortly before fork of M .

Abdomen, including hypopygium, black. Male hypopygium with the basistyle produced far beyond the point of origin of the dististyles, provided with very long curved setæ, terminating in a small black point. Three dististyles, the outer unequally bifid, its longer outer arm a blackened spine, the inner arm a broad blade, its tip obtuse; intermediate style a slender gently curved rod, the tip narrowly obtuse; inner style a broadly expanded blade, with several setæ, the outer ones very long and curved. Aedeagus relatively slender, with abundant setulæ and scattered longer setæ, the tip narrowed into an erect spine.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Kaghan, altitude 6,688 feet, 27 June, 1953 (*Fernand Schmid*).

I take great pleasure in dedicating this attractive fly to the collector of this important series of Tipulidæ, Dr. Fernand Schmid. The fly is quite distinct from the various Eurasian members of the subgenus so far made known, differing especially in the structure of the male hypopygium and in details of coloration of the body, legs and wings. For a consideration of the subgenera *Progonomyia* Alexander, *Protogonomyia* Alexander, and *Ellipterooides* Becker, a paper by the writer may be consulted.*

Gonomyia (Ptilostenodes) pakistanensis, sp. n.

Size small (wing of female 4 mm.) general coloration dull greyish black, variegated with yellow on head, scutellum, and more extensively so on the pleura; wings with *Sc* short, *Sc*₁ about one-third as long as *Rs*; abdomen dark brownish grey, dorsopleural membrane pale yellow.

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

Rostrum and palpi black. Antennæ black throughout; flagellar segments oval, verticils short. Head dull black; sides of posterior vertex adjoining the eye and a restricted area behind the antennal fossæ obscure yellow.

Pronotum dull brownish black lateral ends of pronotal scutellum restrictedly yellow. Mesonotum dull greyish black, the posterior border of the scutellum narrowly yellow. Pleura dull grey, the posterior sclerites and dorsal sternopleurite conspicuously pale yellow; dorsopleural membrane yellow. Halteres dark brown. Legs with coxæ dark grey trochanters brown; remainder of legs black. Wings subhyaline or very faintly suffused; veins brown. Venation *Sc* short, *Sc*₁ ending before origin of *Rs* a distance about equal to *r-m*; *Sc*₁ relatively short, as compared with related species, about one-third the length of *Rs* cell 2nd *M*₂ about twice its petiole *m-cu* nearly its own length before the fork of *M* anterior arculus preserved.

Abdomen dark brownish grey, pleural membrane pale yellow. Ovipositor with cerci long and slender, dark reddish brown.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♀, Balakot, altitude 3,226 feet, 12 October, 1953 (*Fernand Schmid*).

* Alexander, C. P. Philippine Journ. Sci., 62 : 177-178; 1937.

The most similar described species is *Gonomyia (Ptilostenodes) amricula* Alexander, of western China, distinguished by the almost uniform dull black colour of the body and in evident details of venation.

Gonomyia (Idiocera) accincta, sp. n.

Size large (wing of male 6.5 mm.) ; general coloration grey, the præscutum with two broad brown intermediate stripes ; pleura brownish grey, striped longitudinally with obscure yellow ; femora yellow ; wings grey, patterned with brown, the dark areas narrowly bordered by white ; veins R_{1+2} and R_3 connected at margin, closing cell R_2 ; vein R_4 bent strongly cephalad at outer end ; male hypopygium with three dististyles, the outer one profoundly bifid ; intermediate style recurved at tip into a powerful black spine, with a smaller more slender spine on margin near base ; aedeagus slender, the simple tip recurved.

Male.—Length about 6 mm. ; wing 6.5 mm.

Rostrum dark brown, sparsely pruinose ; palpi black. Antennæ with the scape dark brown, pedicel paler ; basal flagellar segments light brown, the outer ones darker. Head dark brown, grey pruinose.

Pronotal scutum brown, obscure yellow behind, scutellum and pretergites whitened. Mesonotal præscutum grey, with two broad, brown intermediate stripes, approximately three times as wide as the central ground line ; no evident lateral stripes, humeral region restrictedly yellow, pseudo-sutural foveæ brown ; scutal lobes grey, the inner half brown, being a continuation backward of the præscutal stripe ; scutellum and postnotum chiefly greyish brown. Pleura brownish grey, with an obscure yellow ventral stripe, dorsopleural region pale. Halteres with stem yellow, knob dark brown. Legs with the fore and hind coxæ chiefly dark brown, middle pair and all trochanters testaceous yellow ; femora obscure yellow ; remainder of legs broken. Wings with the ground greyish, patterned with brown, the latter in turn narrowly bordered by white ; dark areas at areculus, origin of R_s , stigma, cord, fork of M_{1+2} and in outer radial field, chiefly in cells R_3 and R_4 ; no darkenings at ends of veins Cu , 1st A or 2nd A ; veins light brown, darker in the patterned area, paler on proximal third of wing. Venation : Veins R_{1+2} and R_3 narrowly connected at margin, closing the cell ; vein R_4 bent very strongly cephalad at outer two-thirds, cells R_3 and R_4 at margin subequal in extent ; outer fork of M virtually rectangular ; $m-cu$ nearly twice its length before the fork of M .

Abdomen, including hypopygium, dark brown. Male hypopygium with the three dististyles complex ; outer style profoundly bifid, its outer arm very long and slender, acute at tip, inner arm a flattened dark-coloured blade that is produced on margin into a powerful spine ; intermediate style a strong blade, its outer third blackened and recurved into a very powerful black spine, margin of style near base with a strong slender spine ; inner style a simple blackened rod with strong setæ, the tip a slender gently curved black spine. Aedeagus slender, with sparse setæ, the narrow simple tip recurved.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Kaghan, altitude 6,688 feet, 27 June, 1953 (*Fernand Schmid*). *Paratopotype*, ♂.

The pattern of the wings of the present fly somewhat suggests the otherwise very distinct *Gonomyia (Idiocera) similior* Alexander, but the details of wing coloration and, especially, the structure of the male hypopygium, are quite different.

Gonomyia (Idiocera) bipilata, sp. n.

Size relatively large (wing of male over 5.5 mm.); mesonotal præscutum pale, with four poorly differentiated reddish stripes; head whitened; pleura and pleurotergite almost uniformly yellow; wings subhyaline, very insensibly and vaguely patterned with darker; vein R_4 strongly upcurved at tip, narrowing cell R_3 ; male hypopygium with three dististyles, the intermediate and inner ones simple, entirely pale; aedeagus slender on outer third, subtended by two long spines.

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

Rostrum and palpi brown. Antennæ with basal segments yellow, the flagellum passing into brown; flagellar segments oval to long-oval. Head above chiefly whitened.

Pronotum and pretergites white. Mesonotal præscutum with four reddish stripes that are scarcely differentiated from the ground; scutal lobes reddened, median area and the scutellum yellow; postnotum faintly reddened, yellow laterally. Pleura and pleurotergite almost uniformly yellow. Halteres with stem pale, knob slightly darker. Legs with all coxæ and trochanters yellow; remainder of legs pale brown, outer tarsal segments darker. Wings subhyaline, the prearcular and costal regions more yellowed; stigma pale brown; very narrow to scarcely evident brown seams at origin of R_s , cord, outer fork of M , and tips of outer veins; veins brownish yellow, darker in the patterned areas. Venation: Sc relatively short, Sc_1 ending about opposite one-fourth the length of R_s ; vein R_3 erect, separated from R_{1+2} on margin by a distance about equal to one-third its length; vein R_4 strongly upcurved at tip so cell R_3 at margin is less extensive than cell R_4 ; outer section of vein M_{1+2} in longitudinal alignment with second section; $m-cu$ a little more than its own length before fork of M .

Abdomen brown, more or less patterned with yellow, in the female the segments with narrow posterior rings; hypopygium brownish yellow. Male hypopygium with the apical lobe of basistyle strongly narrowed outwardly, terminating in a small blackened point. Three dististyles, the outer unequally bifid, at near two-thirds the length forking into a longer outer blade and a pointed inner one; intermediate style entirely pale, simple, appearing as a long gently sinuous blade that narrows into a long terminal spine; inner style entirely pale, simple, with long coarse setæ, the tip unblackened. Aedeagus broadest at near midlength, the outer end very slender, simple; two long spines subtend the aedeagus, narrowed to the acute blackened tips, the spines extending nearly to the

tip of the aedeagus. What appear to represent outer apophyses are small oval hairy plates.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Balakot, altitude 3,226 feet, 12 October, 1953 (*Fernand Schmid*).

The structure of the male hypopygium is entirely different from that of any known member of the subgenus in the long conspicuous inner spines or apophyses, as described.

Gonomyia (Idiocera) displosa, sp. n.

Size small (wing of male under 5 mm.); mesonotal præscutum light brown with four darker brown stripes; head with a polished black area on vertex; rostrum dark brown; scutellum brown; pleura and pleurotergite light yellow, the dorsal sclerites weakly darkened; legs yellowish brown; wings very weakly suffused, stigma small, pale brown; *Sc* short, *Sc*₁ ending shortly beyond origin of *Rs*; *m-cu* more than its own length before the fork of *M*; male hypopygium with the outer blade of the outer dististyle produced into a pale arm; aedeagus pale throughout, slightly dilated just before the small decurved tip.

Male.—Length about 3 mm.; wing 4.7 mm.

Rostrum and palpi dark brown. Antennæ with the scape and pedicel light brown, flagellum slightly darker; flagellar segments long-oval, becoming still longer outwardly. Head brownish grey, the vertex with a large polished black depressed area, broadest behind, narrowed to a point on the anterior vertex.

Cervical region blackened. Pronotal scutum light brown, scutellum and pretergites yellowed. Mesonotal præscutum light brown with four darker brown stripes, the intermediate pair narrower in front, especially opposite the pseudosutural foveæ, widened at the suture, lateral stripes much less distinct; scutal lobes brownish grey, the central area buffy with a capillary darker vitta; scutellum brown, parascutella paler; mediotergite infuscated. Pleura and pleurotergite light yellow, the dorsal pleurites and membrane weakly more darkened to form a diffuse stripe. Halteres infuscated. Legs with coxæ and trochanters light yellow; remainder of legs yellowish brown, the terminal tarsal segments black. Wings very weakly suffused, the prearcular and costal regions more yellowed; stigma small, pale brown; veins light brown, more yellowed in the brightened fields. Venation: *Sc* short, *Sc*₁ ending shortly beyond origin of *Rs*; cell *R*₃ relatively small, vein *R*₁ about one-third longer than *R*₂₊₃₊₄; cell 2nd *M*₂ subequal in length to its petiole; *m-cu* more than its own length before fork of *M*.

Abdominal tergites light brown, sternites and hypopygium paler. Male hypopygium with the apical lobe of basistyle relatively short and stout, the apex obtuse. Outer dististyle unequally bifid, the outer arm larger, its apex produced into a slender pale blade, inner arm blackened; intermediate style a simple slender rod that narrows very gradually to the acute blackened tip; inner style a simple rod, the very short tip acute.

Aedeagus pale throughout, slightly dilated just before the small decurved tip; gonapophyses broad and pale, inconspicuous.

Hab. Kashmir (Gilgit).

Holotype, ♂, Gilgit, altitude 4,770 feet, 9 June, 1954 (*Fernand Schmid*).

Allied to species such as *Gonomyia (Idiocera) proxima* Brunetti, differing evidently in the coloration of the head and in the quite distinct male hypopygium.

Gonomyia (Idiocera) myriacantha, sp. n.

General coloration of mesonotum buffy, præscutum with two scarcely differentiated darker stripes; rostrum and palpi black; basal antennal segments yellowed, the outer ones brown; pleura uniformly buffy; legs brownish yellow; wings strongly tinged with brownish yellow, unpatterned; *Sc* long, *Sc*₁ ending beyond midlength of *Rs*; veins *R*₁₊₂ and *R*₃ confluent at margin, closing cell *R*₂; male hypopygium unusually complicated by spinous points on all three dististyles, the outer style with an acute spine at fork, intermediate style with three, the inner style with two acute blackened spines; aedeagus recurved at tip.

Male.—Length about 5.5 mm.; wing 6 mm.

Rostrum and palpi black. Antennæ with basal four or five segments yellowed, the outer ones passing into brown; flagellar segments long-oval. Head buffy.

Pronotum weakly infuscated above, the sides and pretergites light yellow. Mesonotal præscutum with the ground buffy, with two intermediate scarcely differentiated light brown stripes; pseudosutural foveæ reddish; scutum obscure yellow medially, with a vague darker central vitta, lobes brown; scutellum chiefly light brown, the outer margin yellow; mediotergite brownish grey, with an oblique yellow stripe at the anterolateral angle. Pleura and pleurotergite almost uniformly buffy, without stripes or other pattern. Halteres yellow, knob very weakly darkened. Legs with the coxæ brownish yellow; trochanters yellow; remainder of legs brownish yellow, the outer tarsal segments vaguely darker. Wings strongly tinged with brownish yellow, unpatterned, even the stigmal area not or scarcely evident; prearcular and costal fields a trifle more yellowed; veins brownish yellow, inconspicuous against the ground. Venation: *Sc* relatively long, *Sc*₁ ending shortly beyond midlength of *Rs*; veins *R*₁₊₂ and *R*₃ confluent at margin, closing the cell; vein *R*₄ about one-fifth longer than *R*₂₊₃₊₄; cells 2nd *M*₂ nearly twice its petiole; *m-cu* about its own length before the fork of *M*.

Abdominal tergites brown, sternites and hypopygium more yellowed. Male hypopygium very unusually complicated by spinous points on all three dististyles. Basistyle with apical lobe relatively long, obtuse and unarmed at tip. Outer dististyle with its outer arm longest, near the axil produced into a slender acute pale spine; intermediate style with three acute blackened spines, inner style with two somewhat similar spines. Aedeagus relatively stout, nearly parallel-sided, the tip recurved, unblackened; gonapophyses appearing as small oval plates.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Kawai, altitude 4,800 feet, 24 June, 1953 (*Fernand Schmid*).

Readily told from all other species with unpatterned wings by the unusual array of spinous points on the dististyles of the male hypopygium, this condition here reaching its maximum in the subgenus, as known to this date.

Gonomyia (Idiocera) pergracilis, sp. n.

Size small (wing of male less than 5 mm.) ; rostrum and antennæ black ; mesonotal præscutum with disk virtually uniform brownish grey, the lateral borders yellow ; pleura darkened above, light yellow on ventral part ; wings weakly tinged with brown, stigma very pale brown ; vein Sc_2 apparently lacking, cell 2nd M_2 deep, nearly twice its petiole ; male hypopygium with the outer apical lobe of basistyle short ; outer arm of outer dististyle a long flattened blade ; intermediate style a very slender spine, inner style dilated on basal half, the outer part narrowed and blackened, terminating in a spinous point ; aedeagus entirely pale, slightly dilated just before the slender straight tip.

Male.—Length about 4.5 mm.; wing 4.8 mm.

Rostrum and palpi brownish black. Antennæ black ; flagellar segments oval. Head with central part of vertex dark brownish grey, the broad orbits more buffy.

Pronotal scutum dark brown, scutellum obscure yellow, narrowly darkened medially ; pretergites light yellow. Mesonotal præscutum with the disk virtually uniform dark brownish grey, the lateral borders and humeral region obscure yellow ; scutal lobes dark brownish grey, narrowly yellowed behind ; central region of scutum and scutellum brownish yellow, parascutella brighter ; mediotergite brownish grey, the sides buffy. Pleura darkened above, light yellow on ventral part, more or less variegated by more reddened areas. Halteres with stem obscure yellow, knob weakly darkened. Legs with coxæ reddish yellow, the fore pair a trifle darker ; trochanters yellow ; remainder of legs broken. Wings weakly tinged with brown, the prearcular and costal regions a trifle more yellowed ; stigma very pale brown ; veins light brown, paler in the brightened fields. Venation : Sc_2 apparently lacking ; veins R_{1+2} and R_3 separated at margin by a distance about one-half the length of the latter ; R_{2+3+4} and R_4 subequal, the latter more arcuated ; cell 2nd M_2 deep, nearly twice its petiole ; *m-cu* more than its own length before the fork of M .

Abdominal tergites dark brown, sternites somewhat paler. Male hypopygium with the outer apical lobe of basistyle short, more or less conical in form, inner lobe long and slender. Outer dististyle profoundly bifid into two very unequal arms, the longest element a flat darkened blade that narrows very gradually to the subacute tip, inner arm shorter, bifid at near two-thirds the length, both arms darkened, the inner very obtuse at tip ; intermediate style a very slender spine, narrowed very gradually into a point ; inner style dilated on basal half, outer part

narrowed and blackened, terminating in a spinous point. Aedeagus entirely pale, moderately slender, slightly dilated just before the short straight tip.

Hab. Kashmir.

Holotype, ♂, Muzaffarabad, altitude 3,250 feet, 16 June, 1953 (*Fernand Schmid*).

The present fly is most similar in its general appearance to *Gonomyia* (*Idiocera*) *displosa*, sp. n., differing in the coloration of the head and thorax and, especially, the structure of the male hypopygium, particularly the dististyles.

Gonomyia (*Idiocera*) *phæosoma*, sp. n.

General coloration of body and appendages dark brown; wings subhyaline, the stigma a little darker; *Sc* short, *Sc*₁ long, subequal to *R*₂₊₃₊₄; vein *R*₃ nearly perpendicular, at margin separated from *R*₁₊₂ by a distance slightly less than its own length; *m-cu* about one and one-half times its length before the fork of *M*.

Female.—Length about 5.5 mm.; wing 5.8 mm.

Rostrum brownish black, palpi black. Antennæ with the scape and pedicel black; flagellum broken. Head dark brown, sparsely pruinose.

Pronotum dark brown, sides of scutellum obscure testaceous. Mesonotum dark brown, with three almost confluent brownish black stripes; pseudosutural foveæ large and conspicuous, black; scutal lobes dark brown, the central area obscure yellow; scutellum and postnotum dark brown. Pleura brownish black, the ventral pteropleurite and meron obscure yellow. Halteres with stem brown, knob dark brown. Legs with the fore coxæ brownish black, remaining coxæ and all trochanters paler brown; remainder of legs brown, tarsi brownish black. Wings subhyaline, unpatterned except for the slightly darker stigma; prearcular region more yellowed; veins brown, those at base more yellowed. Veins of outer half of wing, with the exception of *R*₃, with strong macrotrichia; costal fringe long. Venation: *Sc*₁ ending just beyond origin of *Rs*, *Sc*₂ some distance from its tip, *Sc*₁ alone subequal to *R*₂₊₃₊₄; vein *R*₃ nearly perpendicular, the distance on costa between it and *R*₁₊₂, a little less than its own length; vein *R*₄ longer than *R*₂₊₃₊₄, slightly upcurved at margin; cell 2nd *M*₂ about twice its petiole; *m-cu* about one and one-half times its length before the fork of *M*:

Abdomen dark brownish grey throughout. Ovipositor with cerci long and slender, gently upcurved.

Hab. Kashmir.

Holotype, ♀, Muzaffarabad, altitude 3,250 feet, 3 October, 1953 (*Fernand Schmid*).

In its venation and wing pattern, the present fly is most similar to species such as *Gonomyia* (*Idiocera*) *thaicola* Alexander, of Thailand, differing from this and other generally similar forms by the almost uniformly darkened body and unpatterned wings, with the venational details distinct.

Gonomyia (Idiocera) phallostena, sp. n.

General coloration of præscutum light brown with two conspicuous brown intermediate stripes, the lateral pair narrow; pleura with a yellow longitudinal stripe; legs brownish yellow, darker outwardly; wings unpatterned; Sc_1 ending opposite two-fifths the length of R_s , veins R_{1+2} and R_3 separated at margin; male hypopygium with the outer lobe of basistyle obtuse; three dististyles, the intermediate one strongly sinuous, inner style terminating in a blackened spine; aedeagus unusually slender, entirely pale, tip acute.

Male.—Length about 5 mm.; wing 5.5 mm.

Rostrum light brown, palpi darker. Antennæ with the scape brown, more yellowed at apex, succeeding segments dark brown, the base of the first flagellar segment narrowly paler; flagellar segments oval. Head above chiefly pale, with a major dark brown area on vertex, orbits narrowly darkened.

Pronotal scutum dark brown above, the sides pale; scutellum and pretergites whitened. Mesonotal præscutum light brown, with two conspicuous brown intermediate stripes that are approximated to virtually confluent in front, more divergent behind and here separated by a slightly wider ground line; lateral stripes narrow and less distinct, præscutal border yellow; pseudosutural foveæ reddish brown, conspicuous; scutum with lobes brownish grey, yellowed behind, median region paler grey; scutellum yellowish testaceous, faintly darker medially and at base; mediotergite brownish on central part, more reddened on sides, the surface grey pruinose, anterolateral angles yellow. Pleura and pleurotergite with the ground dark reddish brown, more or less pruinose; a conspicuous yellow longitudinal stripe beginning behind the fore coxæ, widened behind, reaching the base of abdomen, the stripe very narrowly bordered both above and beneath by darker; dorsopleural membrane obscure yellow. Halteres yellow, knob infuscated. Legs with coxæ yellowish testaceous, the fore pair darker; trochanters obscure yellow; femora brownish yellow; tarsal segments passing into black. Wings subhyaline, the prearcular and costal regions slightly more yellowed; stigma oval, pale brown; veins brown, a little paler in the brightened fields. Venation: Sc relatively short, Sc_1 ending about opposite two-fifths the length of R_s , Sc_2 just before origin of the latter; cell R_3 relatively large, distance on margin between veins R_{1+2} and R_3 from about one-third to one-half the length of the latter; cell 2nd M_2 about one-third longer than its petiole; $m-cu$ slightly more than its own length before the fork of M .

Abdominal tergites dark brown, sternites paler; hypopygium more brownish yellow. Male hypopygium with the outer lobe of basistyle very obtuse at tip, unarmed. Outer dististyle bifid, the outer blade longer and narrower, its tip obtuse, inner blade more darkened, truncate at apex; intermediate style simple, very strongly curved or sinuous, a trifle dilated on outer third, the tip acute; inner style small, pale, at apex suddenly narrowed into a blackened spine. Aedeagus unusually slender, entirely pale, tip straight.

Hab. Kashmir (Gilgit).

Holotype, ♂, Gilgit, altitude 4,770 feet, 9 July, 1954 (*Fernand Schmid*).

Readily told from other regional members of the subgenus having unpatterned wings and distinct thoracic markings by the structure of the male hypopygium, especially the dististyles and aedeagus.

Gonomyia (Gonomyia) elimata, sp. n.

Belongs to the *abbreviata* group; mesonotum almost uniformly brown, pleura slightly patterned with brown; wings faintly infuscated; *Sc* short, distance on costa between *Sc*₁ and origin of *Rs* exceeding twice the length of the latter vein; male hypopygium with three terminal dististyles, the outer a simple flattened blade; intermediate style a very slender filament; phallosome unusually narrow, with a small subterminal spine.

Male.—Length about 3.5 mm.; wing 4.3 mm.

Female.—Length about 4 mm.; wing 5 mm.

Rostrum yellow; palpi brownish black. Antennæ black throughout; flagellar segments elongate, the verticils relatively short. Head grey.

Pronotum yellow above, darker on sides; pretergites whitened. Mesonotal præscutum almost uniformly brown, without distinct pattern, the sides concolorous; pseudosutural foveæ reddish, barely evident against the ground; posterior sclerites of notum dark brown, sparsely pruinose, more heavily so behind, posterior border of scutellum and parascutella obscure yellow. Pleura of male reddish, patterned with darker on the propleura, ventral anepisternum, ventral stenopleurite and meron, in the female this pattern less evident; region around the wing root more yellowed; dorsopleural membrane pale yellow. Halteres with stem obscure yellow, knob dark brown. Legs with coxæ light brown or testaceous, fore and hind pairs slightly more darkened; trochanters yellow; remainder of legs obscure yellow to brownish yellow, the outer tarsal segments darker. Wings faintly infuscated, the prearcular and costal fields more yellowed; stigma vaguely darker, poorly defined; veins light brown, pale in the brightened fields. Venation: *Sc* short, *Sc*₂ at tip of *Sc*₁; distance on costa between tip of *Sc*₁ and origin of *Rs* exceeding twice the length of the latter which is about twice the basal section of *R*₅, angularly bent at origin; *R*₂₊₃₊₄ straight, a trifle longer than *R*₄; vein *R*₃ oblique, distance on costa between *R*₁₊₂ and *R*₃ greater than the length of the latter; cell 1st *M*₂ closed, shorter than *M*₄; *m-cu* at fork of *M*.

Abdomen and hypopygium brown. Male hypopygium with the tergal region large, the posterior margin very convexly rounded, with relatively few scattered setæ. Basistyle short, with three terminal dististyles, the outer a simple flattened dark-coloured blade; intermediate style virtually as long, appearing as a very slender simple filament that narrows gradually into a long acute point, a single strong seta at near one-third the length; inner style fleshy, narrowed at tip which bears a single strong seta. Phallosome unusually simple for a member of the group, pale, unusually narrow, parallel-sided, the obtuse tip membranous; before apex with a small slightly recurved spine that

presumably represents the tip of the aedeagus, much smaller than the paired spines of *abbreviata*.

Hab. Kashmir (Gilgit).

Holotype, ♂, Gilgit, altitude 4,770 feet, 15 July, 1953 (*Fernand Schmid*).

Allotopotype, ♀, in copula with type.

The venation is almost exactly as in the other known members of the group, including *Gonomyia* (*Gonomyia*) *abbreviata* Loew, *G. (G.) divergens* Bangerter, and *G. (G.) reducta* Bangerter, of Europe, and *G. (G.) gracilistylus* Alexander, of Japan, but the structure of the male hypopygium is quite distinct from all known species.

Gonomyia (*Gonomyia*) *deccantha*, sp. n.

Belongs to the *tenella* group; size large (wing over 6 mm.); mesonotal præscutum with three confluent brown stripes, pleura yellow, with two indistinct reddish stripes; wings with *Sc* long, *Sc*₁ ending nearly opposite midlength of *Rs*; male hypopygium with the outer dististyle long-stemmed, beyond midlength forking into two unequal branches; inner dististyle with three spines; phallosome with two long unequal spines, the irregular apex without points.

Male.—Length about 5.5 mm.; wing 6.2–6.3 mm.

Female.—Length about 5.7–6 mm.; wing 6–6.5 mm.

Rostrum yellow, palpi black. Antennæ black throughout; flagellar segments becoming long and slender outwardly, with long verticils. Front and anterior vertex light yellow, the posterior vertex and occiput brownish grey.

Pronotum clear light yellow. Mesonotal præscutum with the disk chiefly covered by three confluent brown stripes, the humeral and lateral parts broadly yellow; pseudosutural foveæ reddish brown; scutal lobes dark brown, the posterior borders and broad central area yellow; scutellum yellow, restrictedly more darkened at base; mediotergite chiefly brown, the anterolateral parts yellow. Pleura and pleurotergite light yellow with two indistinct reddish stripes, on the ventral anepisternum and ventral sternopleurite, the former continued back onto the pteropleurite. Halteres with stem light brown, knob darker, base of stem clear yellow. Legs with the coxæ and trochanters yellow; femora light brown, more yellowed basally; tibiae and tarsi brown. Wings subhyaline, prearcular and costal fields more yellowed; stigma oval, very pale brown; veins light brown. Venation; *Sc* long, *Sc*₁ ending nearly opposite midlength of *Rs*, *Sc*₂ removed from tip, *Sc*₁ alone about two-thirds *r-m*; vein *R*₄ long, nearly twice *R*₂₊₃₊₄; basal section of *R*₅ lacking, *Rs* thus in virtual longitudinal alignment with the distal section; *m-cu* about one-third its length beyond the fork of *M*.

Abdominal tergites dark brown, incisures narrowly pale, sternites yellow, hypopygium brownish yellow. Male hypopygium distinctive. Basistyle with outer lobe long-oval, with abundant yellow setæ. Outer dististyle with a long basal stem, beyond midlength forked into two slightly unequal branches that are margined above by black; inner

style broad, bearing three strong black spines, the shortest one on the base of body of style, the others more basal, longer and more conspicuous, especially the inner spine. Phallosome large and conspicuous, bearing two long slender spines, the more basal one smaller; apex of aedeagus flattened, without spines, with a smaller subterminal blade on margin before apex.

Hab. Kashmir and Pakistan (North-West Frontier Province).

Holotyp), ♂, Nagar, Kashmir, altitude 8,000 feet, 18 June, 1954 (*Fernand Schmid*). *Paratypes*, 1 ♂, Chhantir Gah, Kashmir, altitude 10,400 feet, 9 August, 1953; ♂, Salf-ul-maluk Sar, Pakistan, altitude 11,000 feet, 2 July, 1953; ♂ ♀, Besal, Pakistan, altitude 10,760 feet, 10 July, 1953; ♂, Lilam, Pakistan, altitude 9,000 feet, 23 August, 1953 (*Fernand Schmid*).

The structure of the male hypopygium of the present fly, particularly the dististyles and phallosome, readily distinguishes it from all other known regional allies. The shape of the outer dististyle is somewhat as in the otherwise quite different *Gonomyia* (*Gonomyia*) *principalis* Alexander.

Gonomyia (*Gonomyia*) *impatcata*, sp. n.

Belongs to the *tenella* group; size small (wing of male 5 mm.); rostrum dark brown; disk of præscutum greyish brown, pleura vaguely patterned with darker; halteres long and slender, knob darkened; legs elongate, light brown; wings with a weak brownish tinge, stigma lacking; Sc_1 ending a short distance beyond origin of Rs , Sc_2 at its tip; R_{2+3+4} strongly arcuated, vein R_4 long, slightly exceeding Rs ; male hypopygium with the outer dististyle terminating in a short point; inner style bispinous, the more basal spine long and slender, with a setigerous puncture at near midlength, outer spine strongly curved; phallosome with a single entirely blackened appressed spine.

Male.—Length about 4 mm.; wing 5 mm.

Rostrum dark brown, palpi black. Antennæ brownish black throughout; basal flagellar segments short-oval, the outer ones much longer and more slender, with elongate verticils. Head black, grey pruinose.

Pronotum chiefly yellow, pretergites light yellow. Mesonotal præscutum with the disk virtually covered by confluent dark greyish brown stripes, the humeral and lateral parts narrowly pale yellow; pseudosutural foveæ black, conspicuous; scutal lobes dark brown, the central region very indistinctly paler; scutellum obscure yellow, darker basally; mediotergite brownish grey, the sides broadly obscure yellow. Pleura and pleurotergite yellow, patterned with darker, especially on the ventral sternopleurite, the dorsal sclerites evidently with some dark colour. Halteres long and slender, stem pale brown, yellowed at base, knob darker brown. Legs very long, the coxæ and trochanters yellow; remainder light brown, only the extreme outer tarsal segments darker. Wings with a weak brownish tinge, prearcular and costal fields more yellowed, stigma lacking; veins lighter brown, yellowed in the brightened fields.

Venation : Sc_1 ending a short distance beyond origin of Rs , Sc_2 at its extreme tip ; R_{2+3+4} strongly arcuated, basal section of R_5 short to very reduced ; vein R_4 long, slightly exceeding Rs , ending only a short distance before the wing tip ; $m-cu$ at fork of M .

Abdomen and hypopygium brown, sternites more yellowed. Male hypopygium with apical lobe of basistyle very small. Outer dististyle a pale blade, the glabrous lower edge more infuscated, at tip produced into a short point. Inner style bispinous, the more basal spine long and slender with a strong setigerous puncture at near midlength, outer spine smaller, more slender and strongly curved ; apical beak short with the usual pair of enlarged bristles. Phallosome with a single appressed spine, entirely blackened, terminating in a long acute point ; terminal blade expanded, pale.

Hab. Pakistan (North-West Frontier Province).

Holotype, ♂, Kaghan, altitude 6,688 feet, 27 June, 1953 (*Fernand Schmid*).

The present fly differs from other small sized members of the subgenus, including *Gonomyia* (*Gonomyia*) *pensilis*, sp. n., and *G.* (*G.*) *teucheris*, sp. n., especially in the structure of the male hypopygium, particularly the inner dististyle and phallosome.

Gonomyia (*Gonomyia*) *pensilis*, sp. n.

Belongs to the *tenella* group ; rostrum yellow ; pleura yellow, with a vaguely indicated darkening on the propleura ; Sc_1 ending nearly opposite one-third the length of Rs , Sc_2 at its extreme tip ; male hypopygium with the outer dististyle narrowed outwardly to the virtually acute tip, inner style with two strong basal spines ; phallosome entirely pale, without blackened spines, aedeagus on outer end subterminal, pendant on outer half.

Male.—Length about 5.5 mm. ; wing 6 mm.

Rostrum yellow, palpi brown. Antennæ brownish black throughout ; basal flagellar segments long, outer ones becoming very long and slender, subequal to or slightly exceeding the longest verticils. Head brownish grey ; eyes large.

Pronotum yellow. Mesonotal præscutum and scutal lobes brownish grey, lateral præscutal borders narrowly reddish ; pseudosutural foveæ elongate, reddened ; central region of scutum obscure yellow ; scutellum behind broadly light yellow, the base narrowly darkened ; mediotergite darkened, the anterior lateral parts yellowed. Pleura and pleurotergite yellow ; a vaguely indicated darkening on the propleura. Halteres with stem yellow, knob weakly darkened. Legs with all coxæ and trochanters yellow ; remainder of legs brownish yellow to light brown, the outer tarsal segments darker. Wings weakly greyish yellow, prearcular and costal regions clearer yellow ; veins pale brown, more yellowed in the brightened fields. Costal fringe short. Venation : Sc moderately long, Sc_1 ending nearly opposite one-third the length of Rs , Sc_2 at its extreme tip ; R_{2+3+4} arcuated ; cell R_3 large, vein R_3 oblique, R_4 approximately as long as Rs .

Abdominal tergites dark brown, the incisures and sternites paler; hypopygium brownish yellow. Male hypopygium with the apical lobe of gasistyle small, oval. Outer dististyle straight, appearing as a flattened blade that narrows to the virtually acute slightly curved tip, without a distinct flange before apex, as in some allied forms. Inner style with the body oval, narrowed to a slender tubercle that bears the usual two modified setæ at tip, these slightly unequal; two slender spines on outer margin of style near base, one slightly longer and more slender. Phallosome entirely pale, without blackened spines, the apical blade obtuse; what appears to represent the aedeagus breaks free at the base of the blade, narrowed to an acute point, the outer half strongly pendant.

Hab. Kashmir.

Holotype, ♂, Gulmiti, altitude 6,000 feet, 29 July, 1954 (*Fernand Schmid*).

The present fly is quite distinct from *Gonomyia* (*Gonomyia*) *affinis* Brunetti and other Himalayan members of the *tenella* group in the structure of the male hypopygium.

Gonomyia (*Gonomyia*) *teucheres*, sp. n.

Belongs to the *tenella* group; rostrum yellow; antennæ black; scutellum posteriorly broadly testaceous yellow, remainder of notum chiefly greyish brown; pleura whitish grey, patterned with dark brown; wings weakly tinged with brown, stigma a little darker; Sc_1 ending opposite one-third the length of R_s , vein R_4 long; cell R_3 at margin approximately five or six times as extensive as cell R_2 ; basal section of R_5 very reduced; male hypopygium with the outer dististyle bearing a darkened flange on inner margin just before apex; inner dististyle complex, armed with two spines, the outermost larger; phallosome with the apophyses black, well-developed, slightly unequal; apex of aedeagus irregular in outline, the outer angle produced into a very small black curved hook.

Male.—Length about 5.5 mm.; wing 6 mm.

Rostrum yellow; palpi brownish black. Antennæ with scape, pedicel and basal segments of flagellum black, remainder broken; basal flagellar segments oval. Head grey.

Pronotum yellow. Mesonotal præscutum with disk greyish brown, indistinctly striped. humeral and lateral parts light yellow; scutal lobes extensively brown, the median region light grey; scutellum broadly testaceous yellow, the extreme base darker; mediotergite grey pruinose, the anterolateral parts more yellowed; pleurotergite light grey, the posterior border dark brown. Pleura chiefly whitish grey, conspicuously patterned with dark brown, including an incomplete dorsal greyish brown stripe extending from the propleura to the posterior edge of the anepisternum, narrowed behind; ventral sternopleurite greyish brown. Halteres with stem whitened, knob weakly darkened. Legs with coxæ pale, the fore pair slightly darker; trochanters brownish yellow; remainder of legs brown, the outer tarsal segments brownish black. Wings weakly tinged with brownish grey, the prearcular and costal regions more

yellowed; stigma oval, pale brown; veins brown, paler in the brightened fields. Venation *Sc* relatively long, *Sc*₁ ending about opposite one-third the length of *Rs*, *Sc*₂ faint, a short distance from its tip; vein *R*₄ long, extending parallel to vein *R*₅, cell *R*₃ at margin approximately five or six times as extensive as cell *R*₂; basal section of *R*₅ very reduced so *Rs* is virtually in longitudinal alignment with the distal section; cell 1st *M*₂ shorter than vein *M*₄; *m-cu* a little beyond the fork of *M*.

Abdomen dark brown, the sternites and incisures paler. Hypopygium lighter brown. Male hypopygium with the apical lobe of basistyle oval, small. Outer dististyle a straight blade, terminating in a single long bristle, just before apex on lower face produced into a darkened flange. Inner dististyle with the body narrowed into a small tubercle that bears the usual two modified setæ, the lower of which is slightly larger; base of style produced into a plate that terminates in a strong outer black spine and a much smaller inner point, the two spines separated by an oval notch. Phallosome with two well-developed unequal black gonapophyses at near midlength; aedeagus irregular in outline, extended apically into a slender free part, the outer angle near the apex produced into a very small black curved hook.

Hab. Kashmir and Pakistan.

Holotype, ♂, Khoghozi, Chitral, Pakistan, altitude 5,180 feet, 5 October, 1954 (*Fernand Schmid*). *Paratype*, ♂, Astor, Kashmir, altitude 7,150 feet, May 29, 1954 (*Fernand Schmid*).

Gonomyia (*Gonomyia*) *teucheris* is quite distinct from all other regional species where the male sex is known by the structure of the male hypopygium. It differs from *G.* (*G.*) *affinis* Brunetti, of which the male hypopygium is not known to me, in the venation, as the longer *Sc*, reduced basal section of vein *R*₅, shorter cell 1st *M*₂, and other characters.

Gonomyia (*Gonomyia*) *pleurolineola*, sp. n.

Belongs to the *cognatella* group, allied to *aperta*; basal three antennal segments yellow, the elongate outer ones black; thoracic pleura with a broad dorsal brown stripe; wings with *Sc* short, ending distinctly before origin of *Rs*, *R*₂₊₃₊₄ long, only a little shorter than *R*₄; abdominal tergites dark brown, the posterior borders of the segments narrowly light yellow.

Female.—Length about 4 mm.; wing 4.5 mm.

Rostrum and palpi brownish black. Antennæ with proximal three segments yellow, the remainder passing into black; outer flagellar segments long and slender. Head light yellow, the central part of posterior vertex darkened.

Pronotum and pretergites clear light yellow. Mesonotal præscutum chiefly brown, the humeral and lateral areas broadly pale yellow; pseudo-sutural foveæ reddish; scutal lobes brown, the median area obscure yellow; scutellum testaceous to weakly darkened, parascutella yellow; mediotergite chiefly light grey, more yellowed behind. Pleura very conspicuously striped longitudinally with brown and yellow, the dorso-

pleural membrane and dorsal sclerites broadly brown, darker along the ventral edge; ventral sternopleurite paler brown, between the two darkened areas a broad yellow stripe, involving the fore coxæ, extending backward to the abdomen. Halteres obscure yellow, knob infuscated. Legs with the fore and middle coxæ whitened, posterior pair a little more reddened; trochanters yellow remainder of legs brownish yellow, the outer tarsal segments light brown. Wings weakly tinged with brown, the short-oval stigma darker brown, preceded and followed by slightly paler areas; prearcular and costal regions more yellowed, especially the veins, which elsewhere are pale brown. Venation: Sc short, Sc_1 ending before the origin of Rs a distance longer than the basal section of R_5 , Sc_2 near its tip; R_{2+3+4} long, only a little shorter than R_4 ; distance on costa between R_{1+2} and R_3 more than one-third cell R_4 ; $m-cu$ close to fork of M .

Abdominal tergites dark brown, the posterior borders of the segments narrowly light yellow; sternites more infuscated medially, the sides broadly, the posterior borders more narrowly pale; genital segments light yellow; valves of ovipositor horn-coloured.

Hab. Kashmir (Gilgit).

Holotype, ♀, Gilgit, altitude 4,770 feet, 27 July, 1954 (*Fernand Schmid*).

Paratopotype, ♀, pinned with the type.

Readily told from *Gonomyia (Gonomyia) aperta* Brunetti and *G. (G.) subaperta*, sp. n., by the diagnostic characters listed above.

Gonomyia (Gonomyia) subaperta, sp. n.

Belongs to the *cognatella* group; generally as in *aperta*, differing markedly in the venation.

Wings with Sc_1 ending just beyond the origin of Rs , Sc_2 exactly opposite this origin; vein R_3 gently sinuous, a little longer than R_{2+3+4} ; vein R_4 long and nearly straight, nearly three times R_{2+3+4} ; cell R_3 at margin extensive, somewhat more than three times cell R_2 ; cell 2nd M_2 about one-third longer than its petiole; $m-cu$ at fork of M .

Hab. South India (Madras).

Holotype, ♀, Coimbatore, October 26, 1939 (*P. Susai Nathan*).

Although generally similar to *Gonomyia (Gonomyia) aperta* Brunetti, the present fly seems obviously distinct in the wing venation. The discovery of the male sex will probably provide further characters for the separation of the species.