XXVII. NEW ORIENTAL SEPSINÆ.

By E. BRUNETTI.

The Acalypterate sub-family Sepsinæ recently received a substantial addition to the number of its Eastern species by Herr Meijere's publication of eight new ones, in addition to javanica, a species he had established two years earlier.

In the Indian Museum collection, this group is very liberally represented, and I now give descriptions of a number of new species therein contained, with notes on other known species and such new localities as the material presents. After careful examination of over 500 specimens, representing nearly thirty species, I find, as stated by Herr Meijere, that it is unsafe to rely too much on certain characters as bases of classification. number of dorso-central bristles is four, but the front pair are frequently reduced in size, or are absent; in one specimen there was a distinct fifth bristle. The spiny bristles on the abdominal segments are also variable in size and, occasionally, in number. Moreover, all the bristles, also the spines on the fore femora, are very easily broken off, generally leaving no trace of their presence. In addition to the two conspicuous bristles on the scutellum, there are often two other very small ones towards the sides of the anterior part, and the presence of small additional bristles is not at all rare.

The two basal cells are in some species united by the absence of the intermediate veinlet, but this character is not invariably consistent, and in one specimen I found a supplementary veinlet joining the third and fourth longitudinal veins, in a line with, and apparently an extension of, the outer cross-vein.

The extent of the greyish white dust on the sternopleuræ is also more or less variable, and in some species, with an otherwise wholly black thorax, there is a tendency to a dark brown tinge on the shoulders and along the sides.

In studying the species herein recognised, I have considered all the above characters taken together, in preference to relying on any particular one. I do not feel able to present a satisfactory analytical table of species, but an approximate grouping for the present will, at least, give the affinities of my new species.

- A. Wing with a distinct black spot near tip.
- B. Wing spot rather clearly cut, generally round or squarish.

Two allied species form a first or cynipsea group; these are cynipsea, L., and modesta, Meij.

Four species allied to the punctum, F., of Europe; these are himalayensis, rufibasis (with two varieties), similis and fulvolateralis, all new.

BB. Wing spot indistinct; sometimes opened out hindwards, and fading away—never very pronounced.

In this group are basifera, Wlk., Meijere's apicalis and limbata, with my new ones, flava, rufipectus, lineatipes, tincta, dilata and dissimilis.

N.B.—Belonging to Group A are fascipes, Wlk., linearis, Wlk., and monostigma, Thoms., but from the descriptions it is impossible to tell whether they fall in my Group B or in BB.

AA. Wing entirely clear.

The species falling in this division appear divisible into two main groups, which I will designate the *indica* and *bicolor* groups respectively.

- 1. indica, Wied., group.—Mainly reddish yellow species of comparatively larger size. These are indica, W., rufa, Mcq., trivittata, Big., spectabilis, Meij., tenella, Meij., and my new species brevicosta, adjuncta and brevis. Lateralis, Wied., belongs here, but neither Meijere nor myself have been able to recognise it.
- 2. bicolor, Wied., group.—Mainly black species of comparatively smaller size. These are bicolor, W. (javanica, Meij.), coprophila, decipiens and beckeri of Meijere, and my new species humeralis, nepalensis, pubipes and fasciculata.

A last species, *viduata*, Thoms., is a somewhat isolated one, large, black, and with an ant-like appearance.

N.B.—Belonging to Group AA but not to be determined more closely owing to the brevity of the descriptions are nitens, complicata and lateralis of Wiedemann; revocans, frontalis and testacea of Walker.

The genus Nemopoda is, so far as my experience goes, not Oriental (vide postea).

Walker's two species of *Piophila* (the second one with a doubt)—contecta and disjuncta—I know nothing of; van der Wulp's ruficornis I have identified from Meijere's description adding, moreover, a variety from Calcutta (flavifacies).

The genus Saltella now becomes Oriental as well as Palæarctic, as a species occurs in Bengal, and a second in South India, both herein described. Two other species of this sub-family appear in van der Wulp's Catalogue, Cephalia bicolor, Big., and Megamerina annulifera, Big. Of these I also know nothing, and would prefer to regard them specifically and generically as uncertain.

Of the localities mentioned in this paper, Theog (8,000 ft.), Phagu (8,700 ft.), Matiana (8,000 ft.) and Dharampur (5,000 ft.) are all in the Simla (7,000 ft.) District in the W. Himalayas.

The following localities are all in South India (in Travancore State) and were visited recently (1908) by Dr. Annandale, all being

in the plains at low altitude, except Tenmalai which is among the hills :-

Trivandrum Travancore State, near coast. Nedumangad 10 miles N.E. of Trivandrum. Pallode 20 miles N.E. of Trivandrum. Shasthancottah. 12 miles N.N.E. of Quilon (Travancore). Tenmalai West side of Western Ghats (Travancore). Maddathorai

West base of Western Ghats (Travancore). Shencottah Madras Frontier, east side of Western

Ghats (Travancore).

Sepsis cynipsea, L.

This common species, which extends over the whole of Europe, North Africa and North America, probably extends also over the whole of the Palæarctic region.

The Indian Museum possesses it from the following places: Simla (7,000 ft.), 11-v-08 and 16-v-09 (on the latter date common on flowers of white stonecrop); Theog (8,000 ft.), Phagu (8,700 ft.) and Matiana (8,000 ft.), Kufri (8,000 ft.), 11-v-09; Dharampur (5,000 ft.), 28-iv-3-v-08, and also again at Theog and Phagu, 11-13-v-09 (all Annandale, and all these places in the Simla District). Naini Tal (6— 7,000 ft.) [Lloyd]; also taken by the Indian Museum collector at Unchagaon, 7-iv-09, Bindukhera, 13-v-09; Kichha, 4-iv-09, these all in the Naini Tal District but in the plains; Kumaon (Naini Tal District, 6,000 ft.), 5-vi-09; Darjiling (6,000 ft.), 28-ix—1-x-08 [Brunetti]; Noalpur, Nepal, 23-ii-08; Bhachkati, Bahraich District (United Provinces, India). This latter place is near the base of the Western Himalayas. I have also examined a σ and φ taken in April on Paresnath Hill, Western Bengal, by Dr. Annandale, at a height of 4,350 feet. Paresnath Hill is separated by about 200 miles from the hills of Nepal, the nearest point in the Himalayas. It will be seen that the specimens examined by me are nearly all from localities of some altitude, except the few from the plains in the I think it probable that in the East it is Naini Tal District. practically a hill species, but occurs sparingly at the base of the hills, or on isolated elevated localities in their vicinity.

Sepsis himalayensis, mihi, sp. nov.

(Plate xiii, figs. 1, 2.)

Darjiling. Long. 2½-4 mm.

Head -Frons shining blue-black, bare; ocelli red, equidistant, rather widely separated, with two strong, diverging bristles situated between them. A row of four equidistant bristles along the vertex, reaching from eye to eye, and some bristles of different lengths on the back of the head, which is black. Face, cheeks and mouth border red, varying to reddish brown and to reddish yellow, with a longitudinal row of strong bristles on each side of the

mouth. Proboscis light brown, with short pale hairs. Antennæ black, third joint more or less reddish, especially at base and on under side, the whole joint sometimes with a greyish reflection.

Thorax rather dull black, smooth, sometimes with a slight dark green or aënous tinge, especially on the sides. The dorsum bears five longitudinal rows of very minute spines; the middle row is central, and the outer rows nearly on the edges of the dorsum. Placed on the posterior half of the dorsum, and forming part of the two intermediate rows of minute spines, are two pairs of strong, black, spiny bristles, slightly curving backwards. The front pair are sometimes smaller and often absent. The lengths of the two spines forming the front pair often are unequal in the same specimen.

A strong spiny bristle in front of the insertion of each wing, and a lateral row of three on each side of the thorax, just below the dorsum. Scutellum concolorous, with two long spines; metanotum shining black. Sternopleura itself wholly grey dusted, the grey not carried forward over the mesopleura or any other portion of the side of the thorax. Mesopleura shining, often with an aënous or dark green tint, but never grey dusted.

Abdomen shining violet-black, with scattered, soft short hairs. Sides of second segment often more or less reddish. Second segment with one or two comparatively small but distinct bristles towards the sides, almost on the posterior border. Third, fourth, fifth and sixth segments each with a strong bristle towards each side, placed near the posterior border, those on the fourth segment being just behind the middle line, although towards the sides of the segment like the others. Occasionally an additional bristle occurs on the fourth segment, and even on the fifth also, placed between the two normal ones.

Legs.—Coxæ reddish yellow, fore pair narrowly at base, and posterior pairs up the middle, black. Femora mainly shining black, but sometimes with a slight dark green tinge, with bases and tips narrowly reddish yellow. The yellow colour is variable in extent, sometimes occupying the greater part of the fore pair, especially on the under side; also in some specimens reducing the black part on the posterior femora almost to a wide, ill-defined band, or confining it (the black) chiefly to the upper side.

The fore femora in the o much enlarged below, the enlargement terminating just before the end in a pair of small bumps (inner and outer) almost contiguous, which bear a few very short black spines. Three strong spines occur near together in the centre of the femora on the under side, followed by four or five shorter strong ones placed on a small bump just before the end of the incrassated part; and these stronger spines form, with some

l In this paper, by "sternopleura" I refer only to that subtriangular piece itself which in most Oriental species is more or less grey dusted, but in all such cases wholly so. In the few instances where the grey is carried forward in a thin line as mentioned by Herr Meijere in the European Nemopoda cylindrica, etc., I expressly take note of this fact.

intermediate small ones, a more or less regular row along the whole of the under side. Fore femora in 9 simple. All the femora in both sexes minutely pubescent, the middle ones bearing a small spine (sometimes two) on the under side near the middle.

Tibiæ: fore pair in ø generally reddish yellow, narrowed at base (where there are two short black spines), also about the middle, in front of which are two small enlargements, of which the upper one bears three or four very short bristles. Fore pair in 9 simple. Middle tibiæ with three or four bristles on the outer and hinder sides, placed on the apical half. Hind tibiæ with two bristles in the middle, on outer and hinder sides, and one on the outside near the tip, but neither the number nor the exact position seem to be constant. The hind tibiæ bear at the tip several bristles of varying length. In both sexes the colour of the four posterior tibiæ is black, with rather close, black pubescence, especially on the hind pair, but the base and tip are often pale.

Tarsi: yellowish brown, black towards the tips; with black bristly hairs below, which are strongest below the metatarsus in the o

Wings nearly clear: small transverse vein placed at about three-fifths of the discal cell. The spot at the tip of the second longitudinal vein is narrow on the bent up portion of that vein, below which it is enlarged, with a tendency to turn outwards towards the tip of the wing. It is never squarish in shape nor does it ever reach the third vein. This latter is very faintly suffused towards, but not at, its tip. Halteres pale.

Described from a considerable number of both sexes taken by me at Darjiling, 16-ix-08—2-x-08, mostly in fields of grass, mixed plants and weeds. Also in the Indian Museum from Darjiling, 10-viii-09, and Pashoke, Sikhim (2,800 ft), 5-ix-09. It is a well-marked species, but shows considerable variation, especially in the colour of the legs and at the base of the abdomen. The minute rows of spines on the thoracic dersum are often inconspicuous or absent, and there seems a tendency towards occasional extra spines on the legs and on the fourth segment of the abdomen.

N.B.—A careful examination of all the specimens convinces me that they represent but a single species, and that the size, presence or absence, of the anterior pair of dorso-central thoracic bristles is a variable character, as about half the total number of specimens captured show four spines (the front pair generally slightly smaller, and not infrequently of different lengths in the same specimen) and the remainder show little or no trace of them, a few specimens having them of quite small size.

Sepsis punctum, Fab.

(Plate xiii, fig. 3.)

A specimen taken by me at Shanghai, 16-iv-c6, agrees with the descriptions of punctum, F., as given by Schiner, but from comparison with four males of this species in the Indian Museum,

my specimen is much too slender and too small to be this species. It however possesses the four bristles on the fourth abdominal segment, and has only two dorso-central bristles on the thorax, in these characters agreeing with *punctum*. For the present, it will be wisest to omit the name from my list. In my collection.

Sepsis similis, mihi, sp. nov.

o Darjiling. Long. 3 mm.

Closely allied to S. punctum, F., a European species which is known to extend to North Africa. My species differs from that of Fabricius by having four dorso-central thoracic bristles, and by the absence of the middle pair of bristles on the fourth abdominal segment. Minor differences are the slightly darker hind legs, the wing spot reduced to a small dash, and the inner cross-vein being more nearly over the middle of the discal cell.

In the formation of the fore femora it agrees with punctum, and if the number of bristles on the thorax and fourth abdominal segment are inconstant, the two species may be identical.

Described from two males taken by me at Darjiling 24—26-ix-08, in grassy fields. In the Indian Museum collection.

Sepsis rufibasis, mihi, sp. nov.

o Darjiling. Long. 3—44 mm.

A handsome and conspicuous species, allied to punctum, similis and himalayensis.

The second abdominal segment is always more or less reddish (above as well as at sides), the colour extending sometimes to the base of the third segment, above also; the rest of the abdomen showing violet, bronze and green tints, the fifth segment also, with the anal appendage, being principally reddish yellow. Four dorso-central bristles are present. The shape of the wing spot is as in himalayensis. The fourth abdominal segment carries four bristles, sometimes of unequal length (one specimen possessing a fifth bristle).

A principal specific character is the presence of bristles on the legs, distributed as follows: Several on the apical half of the under side of the middle femora, also along the whole length of the middle tibiæ on the hinder and outer sides. On the front of the hind femora towards the tips are a few, and two are in the middle of the hind tibiæ, placed somewhat posteriorly.

From himalayensis it may be distinguished at once by its wholly reddish yellow femora, all the legs being of that colour except the tarsi and the hind tibiæ, which are blackish. Apart from any differences contained in the above remarks this species resembles punctum, F.

Described from four $\sigma \sigma$ in the Indian Museum collection taken by me at Darjiling, 23—26-ix-08, in fields.

Var. major, mihi.

o Darjiling. Long. 41 mm.

Two males taken by me in company with the typical form appear at first sight to be a distinct species, although on examination it is difficult to point out any character of sufficient strength on which to separate them specifically. They are nearly 4½ millimetres in length, the whole of the second segment (abdominal) and the basal half of the third, are shining reddish; the fifth segment being wholly yellowish, with the genitalia. There are four dorso-central bristles on the thorax, and four bristles on the fourth abdominal segment.

The bristles on the legs in one of the specimens correspond with those in the typical form, but in the other specimen they are placed more in a uniform row on the outside of the hind tibæ (except one towards the tip in front, and one on the inside).

The wing spot is slightly larger and very deep black.

Var. obscuripes, mihi.

o Darjiling. Long. 3 mm.

What appears to be a second variety of my rufibasis is represented by two o o taken by me in company with it at Darjiling, 24—26-ix-08, in fields. In one, the four dorso-central thoracic bristles are present, in the second specimen the front pair are very abortive. One example has the tip of the abdomen (fifth segment) yellow, but the other has no sign of this colour at the tip. The leg bristles are as in the typical form, the legs themselves being much more blackish, the fore femora being nearly wholly brown in one specimen, and with a blackish upper side in the other. The posterior femora are mainly black, with the bases broadly and their tips more or less narrowly pale, and the posterior tibiæ almost wholly black, but with a tendency to paleness at the tip of the middle pair. The tarsi are dirty yellow, with blackish tips.

Sepsis fulvolateralis, mihi, sp. nov.

o' Himalayas. Long. 3 mm.

Head.—Frons, face and cheeks bright reddish orange, frons touched here and there with black. Vertex blackish; back of head mainly reddish yellow, but black just behind vertex. Antennæ reddish orange, upper side blackish, also the grooves in the face in which they lie; bristle on second joint very large. Mouth blackish, proboscis brownish yellow.

Thorax.—Dorsum blackish; four large dorso-central bristles, and five more or less uninterrupted rows of very distinct short stout bristles, the rows often double; in addition to scattered short bristly hairs over the whole dorsum. The dorsum is sharply

divided from the sides of the thorax, which, at least on the humeral calli and for some little distance around, are distinctly reddish orange. Sternopleura prominently grey dusted, and traces of grey dust here and there above the sternopleura. Scutellum blackish. Metanotum shining black.

Abdomen shining black, with a slight violet tinge, with short pubescence. Sides at base, especially on second segment, considerably orange-yellow. Second segment with a few stiff bristles towards each side; third and fifth with two spiny bristles placed as usual; fourth with a row of four such bristles. Abdomen tip orange-yellow. Genitalia large and prominent, yellow, with two small palpi shaped like the antenna of a Tabanus.

Legs orange-yellow, with short pubescence. Posterior tibiæ brownish; tar-i brown, middle tarsi (except metatarsus) black.

Fore femora with the enlargement below bearing a strong spine before the middle, followed by two or three smaller ones on a small bump, and thence to the tip by several short ones. Hairs on upper side of fore femora rather stronger than in most species. Fore tibia widened behind up to the middle, where it is somewhat contracted, and again at three-fourths of its length; the basal half of the tibiæ bearing three or four strong short spines.

Middle femora with a bristle on the front side, in the middle; middle tibiæ with two bristles on outside, one behind and several at the tip. Hind femora with two on the outside in the middle and some at the tip. All the tarsi pubescent below, with rows of spines; fore metatarsus below with a thick fringe of bristly hair; hind metatarsus below with two stronger spines at its base.

Wings clear, with a distinct, generally round (but sometimes irregular) brownish spot at tip of second vein; third and fourth veins converging just before the tip; inner cross-vein at two-fifths of the discal cell.

Described from several σ σ in the Indian Museum collection with the following data: Darjiling, 26-ix-08 [Isrunetti]; Phagu (9,000 ft), 11-v-09 [Annandale]; Simla (7,000 ft.), 16-v-09, on flowers of white stonecrop [Annandale]; Matiana (8,000 ft., Simla District), 28—30-iv-07 [Annandale]; Naini Tal (6—7,000 ft.) [Lloyd]; and 5-vi-09 [Ind. Mus. Coll.]. A σ in the Pusa collection taken by Mr. Howlett at Simla in x-(8.

N.B.—A very distinct and rather handsome species somewhat allied to rufibasis. Its black dorsum and yellow sides, to at least the front part of the thorax, will separate it from all my species with a wing spot, except rufipectus, from which it is, however, distinguished by its larger size, superior robustness, and usually round-shaped wing spot.

Sepsis violacea, Mg.

Five females taken by me at Shanghai, 16-iv-06, appear to be this European species, although they do not quite agree either with the description, or with specimens from Europe. The or

taken by me the same day at Shanghai, and which I dubiously refer to punctum, F., may possibly be the σ of violacea, as I have never seen that sex of this species, and two other σ σ taken with them (now in the Indian Museum) more nearly approximate to what I should expect violacea, σ , to be like. I have never seen a σ violacea or a \circ punctum.

Sepsis flava, mihi, sp. nov

(Plate xiii, figs. 4, 5.)

o India. Long. 2-3 mm.

Head.—Frons, face, back of head, proboscis, mouth, under side of head and antennæ wholly orange-yellow. Upper side of antennæ sometimes a little darker, and there is sometimes a blackish irregular line across the back of the head, just below the vertex.

The ocelli are placed on three small black spots, between which emerge two bristles. Three pairs of bristles occur along the vertex, one in the centre, and one behind the corner of each eye.

Thorax normally entirely orange-yellow, sometimes an irregular darker part or streak or two on dorsum. Four dorso-central bristles. Scutellum concolorous, a stiff bristle near fore border in front of each spine.

Abdomen reddish orange; the extreme base, the posterior border of second segment, and more or less of the third and fourth segments, blackish. Tip of abdomen, orange-yellow. The black colour varies considerably in intensity and extent, sometimes being reduced to the posterior half of the third segment, with a little on the fourth and fifth, and sometimes covering all the abdomen except the basal half of the second and the abdomen tip. The whole abdomen is covered with scattered, stiff hairs, including a more or less regular row near the posterior border of each segment. These are much longer than in any of my previously described species, and are almost as long as the usual pairs of spiny bristles towards the sides of the second to the fifth segments. Genitalia large and conspicuous, orange-yellow, with stiff hairs.

Legs.—Front pair entirely yellow, with soft hairs; femora with a arge enlargement on basal half below, bearing five or six black spines of different lengths; tibiæ widened on apical half, this half being contracted in the middle and bare, whilst the basal half bears a row of short stout spines Posterior legs yellow, with soft black pubescence; the basal half of the tibiæ and towards the tarsi tips, more or less brownish. Middle femora with a few spiny bristles below, about the middle; the hind pair with a bristle or two, apparently irregularly placed. Middle tibiæ with a row of spines behind, one on the outer side in the middle and a few at the tip. Hind tibiæ with a few on the apical half, irregularly placed on the outer and hinder sides. All the tarsi with short

hairs and some bristles; hind metatarsus bearing at extreme base a row of four strong spines close together, followed by a further row of several others, wider apart, along its whole length.

Wings clear; wing spot of considerably variable size and intensity, often reduced to a small brownish oval suffusion, or almost a mere dash at tip of second vein; third and fourth veins parallel, not diverging at tips. Inner cross-vein at a little beyond middle of discal cell. Basal cells united, through the absence of the intermediate veinlet. Veins yellowish brown.

Described from several & & in the Indian Museum collection, bearing the following data: Calcutta, 14-vi-07, 11-vii-07, 25-v-09. Jalpaiguri, 1-vii-08 (in railway carriage); Puri, 18-i-08 [Annandale]. Rajmahal, 5-vii-09 [Annandale]; Tinpahar, near Rajmahal, Bengal, 7-vii-09. Allahabad, 12-viii-09 [Lord]. Also from six specimens in the Pusa collection taken at that place on shrubs and manure, 29-v-06, 29-vi-07, 1-vii-07, 27-vii-07.

N.B.—The amount of black in both thorax and abdomen is very variable, especially in the latter. In one specimen from Puri, Bengal, the whole thorax is brownish; and in another from the same locality there are traces of four dorsal blackish stripes. A specimen in my collection taken by me at Jhansi, 2-viii-05, is similarly marked, and has in addition several additional strong spiny bristles on the posterior part of the thorax. Yet I have no doubt both specimens belong to this species.

Sepsis rufipectus, mihi, sp. nov.

9 India. Long. 24 mm.

Head.—Frons brown, black about the vertex and on back of head. Face, cheeks and antennæ light yellow ochre; mouth border narrowly black; proboscis brown.

Thorax (slightly injured).—Dorsum shining black, apparently four dorso-central bristles. Sides shining black; shoulders reddish yellow, the colour spreading immediately downwards to the lower part of the thorax and carried forward below in front. Sternopleura shining black; no signs of grey dust. Scutellum and metanotum blackish, moderately shining.

Abdomen shining black to the tip; base at sides a little light brownish. Apparently no large spiny bristles, but towards posterior border of third, fourth and fifth segments, a row of somewhat stronger bristly hairs than the general pubescence of the abdomen. Genitalia small, shining black, with some hairs.

Legs yellow, with soft pubescence; middle tibiæ nearly to the tip, hind tibiæ wholly, and the apical half of all the tarsi, rather dark brown. Fore femora with a few bristly hairs below, near the base. Posterior femora apparently unspined. Middle tibiæ with a bristle on inner side, about the middle; hind tibiæ (of the unique specimen) do not possess any bristles but they have probably been accidentally broken off. All tarsi with bristles below, longest on fore pair, two spines at base of hind metatarsus.

Wings clear; spot fairly well defined, but without clear-cut edges, brownish, oval. Inner cross-vein at just beyond middle of discal cell.

Described from a single 2 in the ndian Museum collection, labelled Bhogaon (West Bengal), 6-x-08 [Paiva].

N.B.—Several specimens of both sexes in the above collection may represent varieties of this species, or further additional ones.

Sepsis tincta, mihi, sp. nov.

(Plate xiii, figs. 6, 7.)

σ Ω India. Long. $2\frac{1}{4}$ — $2\frac{1}{2}$ mm.

Head.—Frons shining black. Face, mouth, proboscis, lower part of head and lower part of ocular orbit, reddish yellow to reddish brown, the colour often extending to just above the antennæ, which are reddish yellow to reddish grey, the basal part and the upper side of third joint more or less blackish.

Thorax blackish, shining, no tinge of any other colour. Four conspicuous dorso-central bristles. Sternopleura shining black.

Abdomen shining black. The second segment (which sometimes is faintly pale at sides or on posterior border) is barely humped up in the σ , as in most species. Moreover it is somewhat attenuated in the σ , and the whole abdomen in this sex is somewhat narrower than usual. There are in one specimen two or three rather small spiny bristles on the fourth and fifth segments, but in the remainder they are absent, although some of the bristly hairs occurring in the spots where the spines usually occur, are somewhat longer than those scattered over the entire abdomen. Practically it is a species bare of abdominal spiny bristles. Genitalia very large and conspicuous in the σ , triangular in shape, shining black; in the Ω very small and pointed, or withdrawn.

Legs.—Coxæ yellow, fore pair wholly so, paler; posterior coxæ reddish yellow, blackish on basal portion.

Fore femora reddish yellow, with upper side more or less blackish, the variation in colour being considerable. On the under side is an enlargement (narrowing towards and at the tip), which bears two large spines, with a smaller one between them, also, just beyond (on a small elevation) two small spines. There are two or three bristles at the base.

Fore tibia (o) narrow on basal half, with a row of short spines on inner side, extending nearly to the middle, where, to the end, the tibia suddenly widens considerably, but is bare; in the ? the difference in width is inconspicuous, the tibia gradually widening.

Posterior femora and tibiæ black, the former always narrowly pale at base, the middle tibiæ slightly pale at tips. Knees rarely, narrowly pale.

The femora are apparently bare of spiny bristles, the middle tibiæ bear two in the middle (outside and behind), with some at

the tip; the hind tibiæ have two similarly placed about the middle, but none at the tip.

All the tarsi minutely spined below, with larger ones intermixed, hin metatarsi with three strong spines of uneven length, below at base. All tarsi dirty yellow, blackish towards tips.

Wings practically clear wing spot in the form of a distinct suffusion at the end of the second vein, and diminishing gradually posteriorly, its extent varying in different specimens, sometimes to the third longitudinal vein, or, in one example, almost to the hind border of the wing. The third and fourth veins are slightly tinged, as though thickened, immediately in a line behind the suffusion, and they are more nearly parallel than in *lineatipes*. The inner cross-vein at just beyond the m'dd'e of the discal cell. The basal cells are united, by reason of the absence of the usual intermediate vein. Halteres yellow.

Described from three $\sigma \sigma$ and six Q in the Indian Museum collection, all from localities in India.

Locs—Puri (Orissa, East Coast), 18—19-i-08; Jalpaiguri, 1-vii-08, in railway carriage; Shencottah (South India), 25-xi-08 [all Annandale]; Calcutta, 29-v-07, 17-vii-07, 1-vi-07 [Annandale, Paiva, Caunter]; between Bolpore and Rampore Haut (Bengal), at light in railway carriage, 3-viii-07 [Paiva]; Katiliar (Bengal), 24-iii-09, one 9 [Paiva]; Rajmahal (Bengal), 5-vii-09 [Annandale]; Sitarampore, Bengal, 10-viii-09 [Lord]; Dhikala, 9-v-07; Jumnogwar, 14-v-09, both in the Garhwal District, Western Himalayas; Tinpahar (Bengal), 7-vii-09; Unchagaon (plains of Naini Tal District), 7-iv-c9; Allahabad, 15-viii-09 [Lord]. In the Pusa collection, from Pusa, 14-xii-07 and v-08.

N.B.—Although near to linealipes, this species is very distinct, and may be at once distinguished by the shining black sternopleura, the attenuated second abdominal segment in the σ , the practical absence of spines on the abdomen, the almost wholly black posterior femora, the large σ genitalia, the differently shaped fore femora in the σ , and by the darkened wing mark, which always appears as a suffusion, gradually dying away posteriorly, instead of a fairly distinct spot, although tolerably faint, and with ill-defined but roughly circu'ar outline. Moreover the present species seems to occur in the plains only, whereas linealipes I only know from Darjiling.

Sepsis lineatipes, mihi, sp. nov.

σ Darjiling. Long. 2½—3 mm.

Head.—Frons shining black, with a tendency to change just above the antennæ to the reddish brown colour of the face and mouth. On each side of the mouth, a narrow black stripe, on which is placed the usual row of bristles. Proboscis reddish yellow. Antennæ black, the whole under side of third joint reddish yellow.

Thorax black, with a slight dark green tinge. Four dorso-central bristles. Sternopleura grey dusted.

Abdomen shining violet-black, second segment at sides and above sometimes with a reddish brown o violet-brown tint, but sometimes entirely violet-black. Tip of abdomen (sixth segment) yellowish in one specimen, which has the apical half of the abdomen of a greenish bronze tint. Second segment with two or three rather small but distinct bristles towards the sides, third, fourth and fifth segments with a strong bristle towards the side of each, sixth segment with some bristly hairs.

Legs yellow; all the femora with a black streak on upper side, which on the fore pair becomes more or less diffused over the sides. Fore femora with under side as in punctum, posterior femora apparently without spines, except one in the middle of the middle pair in front. Middle tibiæ on basal half and hind tibiæ wholly black. The middle pair with three or four spiny bristles on the outer side, also one in the middle, in front, and three at the tip. Hind tibiæ with two or three similar bristles about the middle, on outer and hinder sides. Tarsi dirty yellow, with short, spiny bristles below, black towards tips.

Wings near y clear, the spot rather indistinct but roughly circular, and always of the nature of a "spot" and not a "suffusion." Inner cros vein at about two fifths of the discal cell.

Described from five σ or in the Indian Museum collection taken by me at Darjiling, 24-ix—2-x 08, in fields.

N.B.—A variable species in the colour of the abdomen, at base and tip, and to a less degree in that of the legs also, but the black streaked femora, in conjunction with the nature of the wing spot and the reddishness of the face extending above the antennæ, will distinguish it. I have no doubt whatever that the five examples represent but a single species.

Sepsis dissimilis, mihi, sp. nov. (Plate xiii, fig. 8.)

o ♀ India. Long. $1\frac{1}{2}$ —2 mm.

Head, o, entirely yellow, frons reddish yellow, vertex round, ocelli blackish, antennæ reddish yellow, eyes black; ?, frons blackish, with reddish marks, antennæ darker, back of head black.

Thorax, σ , in one specimen wholly reddish yellow, with a dusky dorsum which is slightly darker on the posterior part; in the other σ , dull reddish yellow with two blackish ill-defined stripes towards the sides. Sternopleuræ reddish yellow, a little grey dusted. φ , wholly shining black, including the sternopleuræ. Sides of thorax reddish in front below the shoulders. Scutellum brownish yellow (σ), or black (φ). Four distinct and large dorso-central bristles in both sexes.

These are not fully present in any one specimen, but in two or three there are ce tain traces of them having been p escut, and in at least one specimen, a single bristle (rather short) of the anterior pair is still intact.

Abdomen, σ , reddish yellow, dorsum, especially of the third and fourth segments, violet-black, fifth yellow. ?, wholly violet-black, tip greenish, shining.

In the σ the third, fourth and fifth segments each bears a pair of strong bristles towards the posterior border, but they are not visible in the \circ (the \circ specimen is in equally good condition as the σ).

Legs (middle pair wanting in σ) yellow, posterior tibiæ brownish; tips of tarsi black; coxæ in σ pale yellow; posterior femora in \circ brownish towards tips. Fore femora in σ enlarged with a bump in the middle, below, bearing three short spines. A single strong long spine precedes the bump, which is followed by the leaf-shaped appendage bearing a short spine. A little black hair at the base, on the inside of the fore femora, and a strong spine on the outer side, in the middle. Fore tibiæ (σ) contracted at base and middle, with a few bristles on basal half. Posterior femora apparently bare of bristles; posterior tibiæ with a few bristles on apical half.

Wings as in tincta; inner cross-vein distinctly beyond middle of discal cell; two basal cells distinctly separated.

Described from a pair in cop. and an additional σ taken at Shasthancottah, 12 miles N.N.E. of Quilon, South India, by Dr. Annandale, 8-xi-08; a σ from Rajmahal, Bengal, 5-vii-09 [Annandale]; and a σ from the Garhwal District, Western Himalayas, 9-v-09.

N.B.—This species is the only one seen by me in which so much difference appears in the sexes, and but for Dr. Annandale's assurance that they were personally taken in cop. by him, I should have regarded them as distinct. The species is near both flava (σ) and coprophila ($\mathfrak P$) but may be distinguished from each by the basal cells being distinctly separate, instead of united. I know of no species in which the abdominal strong bristles are present in the σ only, yet there is no trace of any in the type $\mathfrak P$ of this species, which specimen is in as equally good condition as the σ

Sepsis dilata, mihi, sp. nov.

? &. Bengal. Long. 23 mm. barely.

Head.—Frons and back of head black; antennæ, face, proboscis and lower part of head, reddish.

Thorax black, two dorso-central bristles, curved inwards at tip. The two scutellar bristles rather close together, long, somewhat erect and waved. Sides of thorax, especially towards the front, slightly dark brown. Sternopleuræ not white dusted.

Abdomen shining black, with soft hairs only.

Legs.—Fore pair yellow, posterior legs reddish, hind femora slightly brownish, hind tibiæ black, also tips of tarsi, and hind metatarsi, the latter with a few large spines below at base. Hind tibiæ distinctly dilated on apical half. Middle femora with a bristle in the middle in front and a row of short stiff hairs below near tip; middle tibiæ with a bristle on inner and on hinder sides towards tip.

Wings clear, but with a distinctly perceptible but rather faint suffusion at tip of second vein. Inner cross-vein at middle of discal cell; basal cells distinctly united; third and fourth veins parallel.

Described from one example in the Pusa collection taken at Pusa, on tobacco, 22-iii-06.

N.B.—The fore femora are somewhat flattened and distorted, evidently by accident, and it is rather difficult to determine the sex, but from their apparent depth I believe the specimen to be a σ No spines or bumps are visible on the fore femora, the tibiæ of which are simple. The dilated hind tibiæ will easily distinguish this species from all others known from the East.

This species is the only one I have seen which causes any doubt as to whether to include it in the "wing spotted" or "wing clear" division of the genus. As in some of the specimens of both my tincta and my flava, the spot becomes much fainter than usual, though always distinctly present, I include the species in the "wing spotted" division.

Sepsis indica, Wied.

(Nemopoda fusciventris, Big., nom. nud., in Indian Museum collection.)

Herr Meijere classed this species with the unrecognisable ones of the older authors. Having identified a good series from South India to my satisfaction with this species, specimens were sent for comparison with the type to the Vienna Museum, where they were kindly confirmed by Herr Handlirsch as correctly named. I therefore redescribe it at some length from the good series of freshly captured specimens in the Indian Museum, because it must be taken as the typical form of a group of more or less common Oriental species; its nearest allies being rufa, Mg., and trivittata, Big, from which the differences are noted in my redescription. It is evidently widely distributed in the East, and appears in the Indian Museum from the following localities:—

Calcutta, 15-xi—xii-o6 [Brunetti]; 29-iv-o7, 30-ix-o7, 8-x-o7 [Caunter]; Rajmahal (Bengal), 31-vii-o7; Sadiya (Assam); Rungpo (Sikhim), 1,400 ft.. 6-ix-o9; Maddathorai, 19-xi-o8, and Pallode, 15-xi-o8 (both South India, taken by Dr. Annandale; at the latter place he found it swarming on dung). Tinpahar (near Rajmahal, Bengal), 7-vii-o9; Goalbathan, East Bengal, 9-vii-o9. Also in my collection from Calcutta.

Redescription.

(Plate xiii, figs. 9-13.)

o' 2 India and the Orient. Long. 3 to nearly 5 mm.

Head.—Frons, face and antennæ vary from lighting reddish yellow to nearly black; second joint of antennæ with fairly long

bristle. Proboscis yellow. Back of head reddish yellow, blackish towards vertex, some bristles in the centre, behind.

Thorax normally, wholly reddish yellow, with a broad black dorsal stripe which varies very considerably in width, sometimes occupying the greater part of the dorsum and being of uniform width throughout, sometimes reduced to a much narrower stripe, which narrows still more at the anterior margin. What I consider the typical form are those examples with a fairly wide stripe of equal width. Sides of thorax with a rather broad greyish white shimmering band across the sternopleuræ, extending narrowly to the pectoral corners. Beneath this grey shimmer, and shining through it, the ground colour on this part is in some specimens black, the sternopleuræ bearing also in these a small black streak on each side, towards the front. Four strong dorso-central bristles. Two rows of distinct, short bristles extend from them almost to the anterior margin, the first in each row (contiguous to the anterior pair of dorso-central ones) being considerably larger than the remainder. A third longitudinal row of minute bristles occurs in the middle of the dorsum. Scutellum and metanotum reddish yellow.

Abdomen normally, reddish yellow, more or less irregularly marked with black, which sometimes occurs as a dorsal stripe, sometimes as large spots on the segment, sometimes occupies nearly the whole abdomen. Third, fourth and fifth segment with four strong spiny bristles, the two outer ones on the fifth segment being placed at the sides. Second segment generally with two bunches of bristly hairs at each side, the hinder bunch the stronger. Genit lia reddish yellow, with two strong bristles, rather large and complicated.

Legs reddish yellow; fore pair paler, hind tibiæ dark brown, and all the tarsi black towards the tips. Fore femora not so thickened as in many species, lightly pubescent, bearing a peg-like bump below, in the middle (which bears three or four short spines), followed by the leaf-shaped appendage. There are no strong spines on the fore femora below, but three or four stiff hairs towards the tips, and two or three spiny bristles above, near tip. Fore tibiæ slightly enlarged just beyond the base, and again on apical half, which latter bears a row of stiff very short, spiny bristles towards the outer side and for the whole length of the apical half of the tibia. The basal half of the fore tibia is entirely bare of bristles or spines. Fore metatars: with two long black spines below at base, and some yellowish red pubescence. Posterior semora with no conspicuous bristles, but one or two at tip above, on the middle pair, and a few small ones on hind pair above at Middle tibiæ sometimes blackish towards the base, with three or four insignificant bristles in the neighbourhood of the middle, one on the outer and two on the hinder side, also a few at the extreme tip. Hind tibiæ with normally, two on hinder side on apical half, and one on outer side just below the middle.

Wings clear; fourth longitudinal vein rather bowed, but parallel to the third towards tip.

Described from numerous of of and ? ? in the Indian Museum, captured by Dr. Annandale in South India. Other specimens in the Museum collection, and in mv own from various Oriental local ties, agree with the species. The South India series show all varieties, were very common on dung, and were examined and described soon after capture when in perfect condition.

This species is nearest to trivittata, Bigot, and ruta, Macq. The former is recognised by the wholly red-yellow thoracic dorsum, in conjunction with the very spiny legs. Ruta, Macq., is nearest to indica, but the fore legs will always at least distinguish the males. In indica the fore femora are only slightly thickened, there are no separate strong spines below before the bump, which latter takes the form of a rather elongated peg, and the fore tibiæ are bare at the base and possess a row of bristles on apical half.

In rufa the fore femora are considerably thickened, with two strong spines just before the bump, which is short, fan-shaped, with four or five short spines; the fore tibiæ have a short row of bristles near the base, the apical half being bare.

Sepsis trivittata, Big.

Males of this species are in the Indian Museum from Margherita (Assam): Rangoon, 24-ii-08 [Annandale]; Pallode, 15-xi-08, and Maddathorai, 19-xi-08 [both South India, Annandale]. In the Pusa collection from Pusa, 15-vii-07.

Sepsis rufa, Macq.

Both sexes in the Indian Museum from Tharbani (Nepal), 27-ii-08; Gangtok, Sikhim (6,100 ft.), 9-ix-09; Shillong; Mandalay, 12-iii-08 [Annandale]; Rangoon, 24-ii-08 'Annandale]; Darjiling, 7,000 ft., 28-ix-08 [Brunelti]; Kurseong, 5,000 ft., 3—9-vii 08 [Annandale]; Calcutta, 20-ii-07, 17-ix-07, 28-x-07, 27-xi-07; Puri, 18-i-08 [Annandale]; Bhogaon, 6-x-08 [Paiva]. Katihar (Bengal), common, 23—26-iii-09 [Paiva]; Tinpahar (Bengal), 7-vii-09. Taken also by Mr Howlett at Simla in October 1908, and I have seen it from Pusa, 29-v-06.

The dark variety mentioned by Herr Meijere (Ann. Mus. Hung., iv, 182) with all-black thorax (with or without a more or less distinct dark red side stripe), second abdominal segment often with two slightly yellowish marks, dark red-brown frons and posterior femora often only streaked above with black, was common at Katihar (Purneah District, Bengal), 23—26-iii-09 [Paiva]. The males are easily recognised from those of coprophila, Meij., by the fore femora, but the females of this variety approximate very closely to those of coprophila. The variety is smaller than the typical form.

Sepsis spectabilis, Meij.

Specimens of both sexes collected by Dr. Annandale at Maddathorai, 18-xi-08, Pallode, 15-xi-08, and Nedumangad, 14-xi-08 (all Travancore, South India), are certainly referable to this species, and agree very well with specimens named by Meijere. I have a ? in my own collection which I took at Penang, 3—8-viii-06; and two specimens taken by me in Calcutta, 6-x-04 and 6-iii-05. It is a somewhat variable species, as stated by its author.

Sepsis brevicosta, mihi, sp. nov.

σ Q India. Long. 3 mm.

This species is very closely allied to *spectabilis*, Meij., and for some time I regarded it as a variety of that species, especially as I had seen no σ that I could join with the ? form. However, a σ captured recently in Calcutta agrees so well that I am constrained to believe it to be this species.

The fore femora are not easily seen in the specimen, but they are fairly strongly thickened on the basal two-thirds, and bear a strong spine some distance from the base, a small bump with three or four strong short spines, and possibly a further spine or two on the distal portion.

The fore tibiæ bear a short row of short spines at the base. In this species the dorsum of the thorax is much more covered with short black bristles than in *spectabilis*; and the sternopleura alone are blue-grey dusted, instead of this colour being carried forward as in Meijere's species.

The abdomen is wholly black, except the (usually) reddish basal portion of the second segment. Another and more striking peculiarity is the costal vein, which becomes suddenly so faint as to appear to terminate abruptly just beyond the second longitudinal vein. In nineteen specimens of true spectabilis examined by me (including a or and two ? ? sent by Herr Meijere), this latter peculiarity is not present; yet I have seen it occasionally in specimens of rula, Macq., and a tendency to it in two specimens I refer to the vicinity of my rulipectus. Moreover, the tip of the wing just below the apparent termination of the costa, is distinctly whitish, another character that I have not observed in spectabilis.

The two species are about equal in size, and *brevicosta* seems to be generally distributed in India.

The only of I have seen comes from Calcutta, 28-v-09. Females are from Calcutta, 24—28-iv-09, Shencottah, 25-xi-08 [Annandale]; Tinpahar, Bengal, 7-vii-09. The Pusa collection has it from Pusa, 26-xi-08, taken on a manure heap at that place; also one from Lahore, May 1907. A Q in my collection was taken by me in Calcutta, 28-x-04.

Sepsis adjuncta, mihi, sp. nov.

(Plate xiii, fig. 14.)

♂ South India. Long. 3 mm.

This species is very closely allied to Herr Meijere's recently described spectabilis, & 2, from New Guinea and Singapore. The distinctly differently formed fore femora separate it; as in my species, this limb bears on a not very pronounced bump five or six short but strong black spines, whilst two longer and stronger spines are situated just before the bump. Meijere only mentions two spines, placed on the peg—not bump—and his figure is quite unlike the fore leg of my species; and on comparison with a & and two & & (co-types) the species appears distinct.

The middle tibiæ have some spines on the inner side, and the middle femora three or four short but distinct spines on the front side, about the middle. The abdomen possesses a few bristles towards the side of the second segment, four distinct long bristles near the posterior edge of both third and fourth segments, two on the fifth and some bristly hairs on the genitalia, which in one specimen is almost entirely concealed.

The thorax bears very distinct short hairs over its entire surface; they are more numerous than in most species, whereas Meijere says his species is nearly bare on the thorax.

In all other respects my species agrees with spectabilis.

Described from two or or taken by Dr. Annandale at Pallode, 15-xi-08.

Sepsis brevis, mihi, sp. nov.

(Platex iii, fig. 15.)

o Central India. Long. 1½ mm.

Head wholly reddish yellow, including antennæ and proboscis; ocelli black.

Thorax rather broader and deeper than usual. Wholly reddish yellow, the dorsum with traces of black indistinct marks. Four dorso-central bristles. Scutellum black on under side.

Abdomen reddish yellow, marked irregularly with black; third segment with some bristly hairs on posterior border; fourth and fifth with a strong spiny bristle towards each side.

Legs wholly reddish yellow, practically to the tips. Fore femora below with a thick row of strong black spines of irregular length, and extending nearly the whole length of the femur. Fore tibiæ with a short row of strong, short, black spines on inner side at base. Middle tibiæ with three bristles behind, in the middle; one on inner side, in the middle, and a few at tip. Middle metatarsus with a row of well separated bristles below. Hind femora with a bristle above, near tip; hind tibiæ with bristles as on middle pair; hind tarsi bristly below, the metatarsus with four strong ones in a row at the base.

Wings clear; third and fourth veins parallel; inner cross-vein at middle of discal cell; basal cells united. Halteres reddish brown.

Described from a σ in the Pusa collection (type) and a second σ in the Indian Museum collection (co-type). Both specimens

from Baroda, Central India, taken 1-iv-05.

N.B.—This is a well-marked species, distinguishable by its rather short and thick-set appearance, and easily identified by the conspicuous row of spines on the fore femora, which latter are thickened but without any bumps or peg-like protuberances. The species is in general appearance something like my fliva, but will be grouped as a somewhat abnormal one with the indica set of species, coming nearest to Herr Meijere's tenella.

Sepsis tenella, Meij.

Specimens that I can refer without doubt to this species (or or only) occur in the Museum collection from Sylhet, 15-v-05 [Hall]; Chittagong, 5-viii—21-ix-08 [Hall]; Sukna (base of Darjiling Hills), 1-vii-08 [Annandalz]; Tinpahar (Bengal), 7-vii 09; Rajmahal (Bengal), on cowdung, 5-vii-09 [Annandale]; Trivandrum (S. India), 12-xi-08 [Annandale].

Sepsis coprophila, Meij.

The Indian Museum possesses this species from Darjiling, 9-viii-09; Calcutta, 16-iii-07, 5-viii-08, 23—31-x-07; Barrack-pore (near Calcutta), 1-viii-09; Pallode (S. India), 15-xi-08; Rangoou, 24-ii-08; Mandalay, 12-iii-08 [all Annandale]; Bhogaon (Benzal), 6—20-viii-07 and 2—6-x-08; also Katihar (Purneah District, Benzal), 23-iii-09, five \mathfrak{P} [both Paiva]; Tinpahar (near Rajmahal, Bengal), three σ σ , two \mathfrak{P} \mathfrak{P} , 7-vii-09; Batavia, xi-07, and Samarang (Java), i-06 [both Jacobson].

In my collection I have it from Peradeniya, Ceylon, xi-07

[Green].

N.B—The variety mentioned by the author of the species, with reddish sides to the thorax, bears considerable resemblance to my fulvolateralis, from which, of course, the clear wings separate it. In one of the second basal cell is merged in the first, through the absence of the intervening veinlet; this irregularity, by the way, occurs occasionally in other species. This form approximates closely to the small dark form of rufa, Mcq., and the females are often difficult to distinguish.

Sepsis humeralis, mihi, sp. nov.

♂ ♀ Simla. Long. 3—3¼ mm.

Head &.—Frons and antennæ black; under side of head reddish brown, back of head blackish.

Thorax blackish; two dorso-central bristles. Sides blackish, mesopleura shining black, sternopleura barely dusted. Humeral

cells and sides of thorax below them, and the whole prothorax below, red-brown. Scutellum blackish, tip reddish brown.

Abdomen blackish, with a violet tinge; a little reddish at base of second segment. No strong bristles, but a row of rather longer hairs on the posterior border of third and fourth segments, the fifth bearing numerous long hairs. Abdomen rather swollen towards tip; genitalia concealed, but apparently of large size and complicated form.

Legs.—Coxæ reddish brown, front pair pale yellow towards tips. Fore femora brownish yellow, bases and tips paler, with a row of about 12 strong bristles below, extending nearly all the length of the limb, and diminishing in size towards the tip. A single long stiff hair at the base. Fore tibiæ pale yellow, with a row of short black spines on inner side, extending well beyond the middle. Fore metatarsi brown with golden yellow pubescence below; rest of fore tarsi black. (Middle legs missing.) Hind femora blackish brown, pale at tips, with some stiff hairs below; hind tibiæ black.

Wings clear; third and fourth longitudinal veins nearly parallel;

inner cross-vein at three-fifths of the discal cell.

Described from one perfect σ (except for the absence of middle legs) in the Pusa collection taken by Mr. Howlett at Simla in October 1908, and a $\mathfrak P$ in my collection from Hongkong, 4-iii-o6. Another $\mathfrak P$ example was taken by Mr. Howlett at Simla in October 1908. The face, antennæ and frons just above them are all reddish brown, the back of the head yellowish. There are four dorso-central spines; two strong bristles on the third, and four on the fourth abdominal segment. The legs are nearly all yellow, the middle femora slightly brown; the middle tibiæ bear a few bristles, and the hind femora possess no stiff hairs below. I can only presume the abdominal bristles have been broken off in the σ specimen, leaving no trace, as the examples are so similar, and from the same locality.

N.B.—In a headless specimen in the Indian Museum collection taken by me at Shanghai, 16-iv-06 (the head was present when I first identified it with this species), the legs are nearly all yellow as in the above \circ . The specimen also shows the bulged abdomen at tip, and also has no spines on the abdomen. I cannot, however, suggest that the spines are a sexual character.

Sepsis nepalensis, mihi, sp. nov.

9 Nepal. Long. 4½ mm.

Head.—Frons and back of head shining black, mouth black. Lower part of head yellowish; antennæ dull reddish yellow, third joint cinereous grey dusted. Face brownish yellow (probably variable), with a slight violet-grey dust along the cheeks; proboscis brownish yellow.

Thorax.—Dorsum dark olive-green, four dorso-central bristles. Sides shining blue-black, shoulders bright yellow. Sternopleuræ

wholly and conspicuously pale bluish-grey dusted, whilst there is also a distinct bluish grey narrow line just below the dorsum of the thorax, passing above the humeral yellow spot. Mesopleura shining aënous black; scutellum with posterior half reddish yellow, as are also the hind corners of the thoracic dorsum.

Abdomen shining violet-black; first two segments black, with some soft hairs towards the sides of the second. Third segment without spines (? broken off), fourth and fifth with four spines each, towards posterior border; some bristles about the tip of the abdomen. Whole abdomen with soft hairs.

Legs wholly yellow, with a faint indication of brownish on upper side of hind femora; last three tarsal joints black. Hind femora with two bristles above, near tip; middle tibiæ with some bristles on lower half and at tip; hind tibiæ with two on outer side beyond the middle.

Wings clear; inner cross-vein at three-fifths of the discal cell.

Described from a single perfect unique 2 taken at Nagarkote, Nepal. Indian Museum collection.

Sepsis bicolor, Wied.

(S. javanica, Meij.)

Wiedemann's description of this species is very brief, but specimens thus identified by me sent to both Herr Meijere and to the Vienna Museum have been confirmed as correctly determined; by the former as identical with his *javanica*, and by Herr Handlirsch at Vienna as identical with *bicolor*, W., after comparison with the type.

This species extends over a considerable region of the Orient, the Indian Museum possessing it from the following localities:—

Thamaspur, 18-ii-08, Benikhola, 17-ii-08, and Sarah, 24-ii-08 (all Nepal); Sylhet, 20-ii-05, 3—10-v-05 [Hall]; Gangtok, Sikhim, 9-ix-09; Kurseong, 5,000 ft., 5-vii-08, 10—26-ix-09; Darjiling, 2-x-08 [Brunetti], 6-viii-09; Simla, 7,000 ft., 11-v-08; and 10-v-09 on flowers of white stonecrop; Naini Tal (6,000 ft.), 2-vi-09. Calcutta, 2-viii—12-ix; (occurs "at light") Rangoon, 24-ii-08 [all Annandale]; Bhogaon, 6-x-08, Katihar (Bengal), 23-iii-09 [Paiva]; Tinpahar (Bengal), 7-vii-09; Rajmahal (Bengal), 5-vii-09 [Annandale]. On board launch (at light), Mud Point, Hooghly R. [Jenkins].

Dr. Annandale found both sexes common in South India during November 1908, the localities being Shasthancottah, Trivandrum, Pallode, Tenmalai and Maddathorai (all Travancore State). Amongst these, several specimens of both sexes show traces of reddish colour on the sides of the thorax, this variation being mentioned by Herr Meijere in his description of javanica. In the Pusa collection it figures from Pusa, ii and 7-xii-08; also from the outskirts of Calcutta, 13-iii-08.

Sepsis pubipes, mihi, sp. nov.

(Plate xiii, figs. 16—18.)

♂. Nepal and Sikhim. Long. 2½—3 mm.

Head shining black, antennæ reddish.

Thorax blackish; four dorso-central bristles. Sternopleura distinctly grey dusted, the grey dust extending forwards narrowly, and hindwards more broadly. Scutellum and metanotum shining black.

Abdomen shining violet-black, with soft pubescence, under side occasionally a little pale. Second segment somewhat elongated and contracted a little at tip. Dorsum apparently without prominent strong bristles, but there are two on the large, black genitalia, which are more conspicuous in some specimens than in others.

Legs yellow, with soft black hairs. Hind femora and tarsi tips brown. Fore femora somewhat considerably enlarged below, with three small spines on a bump placed about the middle, and four long spines in a row towards the tip, and verging round somewhat towards the outer side of the femur. Fore tibiæ swollen on lower side about the middle and again towards the tip, bearing four long spines between the base and the first swelling (verging round somewhat towards the inner side), and several smaller ones on the second swelling. Fore tarsi with bristly hair below.

Femora without bristles. Middle tibiæ with rather close rows of long black bristly stiff hairs on inner side, which contain also a row of a few strong bristles; the outer sides of this pair of tibiæ being quite bare. Middle metatarsi with four rows of stout bristles placed on the outer, inner, front and hinder sides respectively, those on the front side being the strongest; rest of tarsus with bristly hair below.

Hind tibiæ covered with rather close black hairs except on the inner side: hind metatarsus with a single row of long stiff bristles below, a row of much smaller ones on the outer side, and a fringe of very short golden pubescence below; rest of tarsus with short bristles below.

Wings clear; inner cross-vein at about two-fifths of the discal cell; third and fourth veins parallel.

Described from four σ or in the Indian Museum collection taken at Thamaspur, Nepal, 18—20-ii-08, and one σ from Shamdang, Sikhim (3,000 ft.), 7-ix-09.

N.B.—The most distinct species of any described here, for although it is of normal appearance, the thick bristly hair on the posterior legs will distinguish it at once from all others known to me.

Sepsis fasciculata, mihi, sp. nov.

o. Ceylon; Calcutta. Long. 21 mm.

Head.—Frons shining black, with a pair of additional bristles, placed midway between those springing from amid the ocelli, and

the antennæ, and situated at the extreme edge of the frons, touching the eyes. Face black, with a perpendicular reddish stripe just below the antennæ, which are reddish, with the upper side a little blackish. Under side and the rather bristly proboscis reddish. Back of head shining black.

Thorax blackish (posterior part of dorsum injured by the pin), apparently four dorso-central bristles. Sternopleura grey dusted only above; mesopleura shining black; scutellum blackish.

Abdomen shining black. Second segment with several strong bristly hairs towards sides; third and fourth with the usual pair each, which are hardly larger than the bristly hairs which are scattered over the whole dorsum, intermixed with hairs of various lengths.

Genitalia shining brownish black; very large, conspicuous and of peculiar shape, elongated, thick, with two long palp-like organs at the tip; with two stiff bristles at the extreme base above, and with generally scattered hairs. The fourth abdominal segment is drawn out below and carries a bunch of long, ciliated filaments

Legs mainly yellow. Fore femora only slightly enlarged below on basal half, where is placed a stiff long bristle, followed by a strong spine. In the middle of the under side is another strong spine followed by a much wider, shorter and slightly curved one. The fore tibiæ are narrow for the basal half and then suddenly widened to double their width. A single spine is placed on the inner side of the basal half; the rest of the tibia bearing (with the fore femora) short hairs, as is the case with all the legs.

Posterior femora without spines or strong bristles, the apical half mainly blackish. Posterior tibiæ mainly blackish, without spines, even at tips. All the tarsi blackish towards tips, with a row of short, strong bristles below, intermixed on all the tarsi with short, thick, golden yellow pubescence below, the hind pair bearing also a pair of small spines at the base, below.

Wings clear; inner cross-vein at only just beyond middle of discal cell.

Described from two σ σ ; one (now the type) is in my own collection sent me by Mr. E. E. Green from Ceylon; the other was in the Indian Museum collection from Calcutta, 16-vi-07, but was accidentally destroyed.

Sepsis viduata, Thoms.

Nemopoda formiciodes, Big., nom. nud., in Indian Museum.

This species is commonly distributed over the East, but appears more rarely in the hills.

Locs.—Sukna (E. Himalayas, 500 ft.), I-vii-08 [Annandale]; Berhampur (Bengal), I-i-08 [Lloyd]; Calcutta, 29-v-07, I0-viii—31-x; Maddathorai, I8-xi-08, and Pallode, I5-xi-08 [Annandale]; Rangoon, 25-ii-08 [Annandale]; Margherita (Assam), Batavia, x-07 [Jacobson]. The above localities are represented in the Indian

Museum, whilst I have taken it myself at Rangoon, 18-viii-06, Manila, 13-iii-06, Soerabaya (Java) and Mussoorie, these being in my own collection. Thomson recorded it from China.

It is an easily recognised species, from its larger size (5—6 mm.), dull black colour, the abdomen bearing whitish cross-bands; its whole appearance resembling that of an ant.

Enicita annulipes, Meig.

This common European species is quite common at most of the Himalayan hill stations, but it does not appear to frequent the plains except occasionally close to the base of the Himalayas.

Locs.—Simla (7,000 ft.), 24-iv-07, 6-v-07, 12-v-08 [Annandale]; Phagu (Simla District, 8,700 ft.), 3-v-07, & ? in cop. [Annandale]; Küfri (8,000 ft., Simla District), 11-v-09 [Annandale]; Darjiling (5,000 ft.), 26-ix—1-x-08 [Brunetti]; (7,000 ft.), 7-viii-09, common; Kurseong, 4-vii-08 [Annandale]; Mussoorie, 20—24-v-05 [Brunetti]; Kichha (plains of Naini Tal District), 4-iv-09; Pashoke (2,200 ft.), 5-ix-09, and Gangtok (6,100 ft.), 9-ix-09 (both Sikhim); Shillong; Siliguri (base of Darjiling Hills), 18—20-vii-07. Manipur (Assam, 6,400 ft.), vii-08, two pairs in cop. [Pettigrew].

I have not seen any specimen from the plains, except the single one from Siliguri and one from Kichha, which places, it will be noted, are at the foot of the hills.

NEMOPODA, R. Desv.

Of this genus I have not seen a specimen from the Orient. A species has been described by Bigot (retronotata, Ann. Soc. Ent. Fr., 1886, p. 391) from Celebes, but there is no certainty of it belonging to Nemopoda, although van der Wulp's Catalogue has it under that genus. Three "species" of Nemopoda by Bigot figure in the Indian Museum collection all as nomina nuda. These are "N. fusciventris" which is certainly S. indica, W; "N. formiciodes" which is S. viduata, Thoms.; and "pallipes," which is too damaged to recognise. The last being a female, its real genus cannot be ascertained.

PIOPHILA. Fln.

A \circ specimen taken by Dr. Annandale at Calcutta, 15-vii-08, and another at Kurseong, 9-vii-08, agree perfectly with Herr Meijere's redescription of P. ruficornis, v. Wulp.

A second specimen also in the Indian Museum is a or and differs from ruficornis by the whole face and under side of the head being yellow; moreover the front tarsi are not dilated. The scutellum bears four spines as in typical ruficornis but the bristles on the thorax are too damaged to describe with certainty. I have named it as a var. (flavifacies) of ruficornis, and am not sure that it is not a distinct species. Taken in Calcutta, 17-iv-07.

Van der Wulp's measurement was 2 mm., my variety is $2\frac{1}{2}$, the Calcutta specimen above mentioned, $3\frac{1}{4}$.

Saltella setigera, mihi, sp. nov. (Plate xiii, fig. 19.)

o South India. Long. 4½ mm.

Head.—Frons, vertex and antennæ orange-red; frons with two broad, darker oval brownish marks in the shape of a V. Ocelli triangle blackish, with two small proclinate bristles. A small bristle on each side; in the middle of the frons close to the eye margin. Lower part of head, and proboscis yellowish; latter with some stiff hairs; mouth border with a row of stiff hairs on each side.

Thorax tawny orange. Dorsum with a broad black stripe occupying one-third of the entire width. The dorsum is covered rather freely with small black spines, which form four rows on the part occupied by the black stripe, and form a rather broad irregular oval around the black part. There are also numerous similar short spines on the humeral region; two large ones each side in front of the wing, and a pair of large strong dorso-central ones, near the posterior border; also two strong ones on the posterior corner of the dorsum, on the edges. Many small ones are intermixed with the general plan of distribution.

Scutellum bright (but not at all shining) orange-red, with a strong spine each side at the base and two apical ones, close together, directed horizontally backwards.

Abdomen flat, normal; shining orange-yellow; major part of dorsum except at base and tip, black, shining, nearly bare. Numerous small hairs on each side of the basal segment, which appears somewhat long, a fan-shaped row towards the side near the posterior border, and a few very small ones scattered over the dorsum and sides of the whole abdomen. A fairly stiff bristle at the extreme edge, on each side of the second, third and fourth segments, and two diverging ones at the abdomen tip. Genital apparatus large, yellow, softly hairy, curved under tip of abdomen, with small black spines at its tip.

Legs orange-yellow, wholly covered, moderately thickly, with short black bristly hairs; tibiæ slightly darker; metatarsi yellowish white; rest of tarsi black; onychia brownish grey with a white fringe. Coxæ bare, except for two strong bristles and several very small ones all near the tip. Fore femora thickened on basal twothirds, with six strong spines on upper side, six shorter strong ones below, in the centre, placed a little towards the inner side. the outer side of this row is another row of eight or nine somewhat smaller ones and on the inner side of the femur is a single one, just above the centre lower row. On the fore tibiæ is a long row (extending from just beyond the base to the extreme tip) of strong very short spines, about twenty in number. On the middle femora, a long row on the front and lower side; on the middle tibiæ, a row of smaller ones on the outer, and a row of strong ones on the hinder side, a shorter row of strong ones on the inner side; also a circlet of strong but not long ones at tip. On the hind femora a row of long ones on upper side, placed on the distal two-thirds, and a row of about six on the lower side near the tip. On the hind tibiæ there are no strong ones, but the bristly hair is arranged in several longitudinal rows. Metatarsi with long, rather soft, pale yellow hair below, posterior pairs with two rows of black spines below. In addition, the whole of the metatarsi have irregular, small stiff black hairs.

Wings very pale yellowish grey. Two short rows of minute black spines at the base. Veins yellow; halteres orange-yellow.

Described from a single perfect σ in the Indian Museum collection taken by Dr. Annandale, 14-xi-08, at Nedumangad, near Trivandrum, Travancore State, South India.

Saltella metatarsalis, mihi, sp. nov.

P Bengal. Long. 3\frac{1}{4} mm.

Head.—Top of head dark shining brownish red, more or less blackish in parts. Face, mouth and lower part of head yellowish, a little more brownish behind. Ocelli flat on the surface, with two diverging hairs between them. Antennæ yellow, microscopically pubescent; arista, basal half yellow, thickened, remainder forming a black bristle; second joint of antennæ with a short bristle. Proboscis yellow, pubescent; oral orifice with two stiff, short, curved bristles each side, with a row of several hairs below them.

Thorax mainly reddish yellow; dorsum, except extreme edges, wholly dull black, with some very short bristles, apparently irregularly placed. Humeral regions with several short black bristles, followed by a row of four strong ones from the shoulder to beyond the base of the wings—all these placed just below the dorsum. Two bristles near posterior corners. Apparently only one pair of strong dorso-central bristles, possibly a smaller front pair (thorax in both specimens slightly damaged). Scutellum conspicuously orange-red, two basal bristles placed near the edge, and two apical ones close together directed horizontally backwards.

Abdomen flat, normal, practically bare, shining black, except tip, which is whitish on under side.

Legs.—Fore coxæ yellowish; posterior coxæ brownish, base of femora brownish yellow. Remainder of legs black, except all the metatarsi which are pale yellowish white. All the legs rather closely beset with black hairs and short bristles; in addition to which there is a row of stronger bristles on the upper and lower sides of the fore femora, the lower side of the middle femora, and a double row of short bristles below the hind tarsi. The posterior tibiæ are rather thickened towards the ends and bear in that part a few stronger bristles.

Wings clear; veins and halteres yellow.

Described from two examples in the Indian Museum collection, taken at Tinpahar (near Rajmahal, Bengal), 7-vii-09, by Dr. Annandale.

REVISED LIST OF THE ORIENTAL SPECIES OF SEPSIS.

A. Wing with a spot at the tip.

cynipsea, L., 1761. F. Suec.

Loc.—Himalayas, Nepal.

modesta, Meij., 1906. Ann. Mus. Hung., iv, 172, & ?

Loc.—Ceylon; Western India.

himalayensis, mihi, sp. nov., & Q; plate xiii, figs. 1, 2.

Loc.—Darjiling.

similis, mihi, sp. nov, &

Loc.—Darjiling.

rufibasis, mihi, sp. nov., &

var. major, mihi, &

var. obscuripes, mihi, &

Loc.—Darjiling (typical form and both varieties).

fulvolateralis, mihi, sp. nov., &

Loc.—Himalayas.

violacea, Meig.

Loc.—Shanghai.

apicalis, Meij., 1906. Ann. Mus. Hung., iv, 168, & Q, pl. ii, I, fore leg &

Loc.—Papua (Astrolabe Bay, Paumomu-Fluss, Moroka).

limbata, Meij., 1906. Ann. Mus. Hung., iv, 169, ♂♀, pl. ii, 2, fore leg ♂

Loc.—Papua (Paumomu-Fluss, Moroka).

basifera, Wlk., 1859. Pr. Linn. So. Lond., iii, 124, & 9 Meij., Ann. Mus. Hung., iv, 170, &, pl. ii, 3 (wing), 4 (middle metatarsus), &

Loc.—Amboina, Aru Islands, Papua (Paumomu-Fluss).

flava, mihi, sp. nov., σ ; pl. xiii, 4 (fore leg, σ), 5 (hind leg, σ). Loc.—India (Bengal, Orissa).

rufipectus, mihi, sp. nov., ♂

Loc.—West Bengal.

tincta, mihi, sp. nov., $\sigma \circ$; pl. xiii, 6 (fore leg, σ), 7 (tip of σ abdomen).

Loc.—India, Himalayas, Bengal, Orissa, South India.

lineatipes, mihi, sp. nov., &

Loc.—Darjiling.

dissimilis, mihi, sp. nov., $\sigma \circ \varphi$; pl. xiii, 8 (fore leg, σ).

Loc.—South India (Quilon).

dilata, mihi, sp. nov. (? σ).

Loc.—Bengal.

fascipes, Wlk., 1860. Pr. Linn. So. Lond., iv, 163, 9 Loc.—Macassar.

linearis, Wlk., 1849. List. Dipt. Brit. Mus., iv, 998, & Loc.—Philippines.

monostigma, Thoms., 1868. Eugene Resa, Dipt., 587, & Loc.—China.

B. Wing entirely clear.

indica, Wied., 1830. Auss. Zweifl., ii, 467; pl. xiii, 9—12 (thorax vars.), 13 (fore leg, σ).

Loc.—India; Calcutta, Bengal, South India, Assam.

trivittata, Big., 1886. Ann. So. Ent. Fr., 388.

Loc. -- Bengal, South India, Assam, Rangoon.

rufa, Macq., 1850. Dipt. Exot. Supp., iv, 269, 9.

Meij., Ann. Mus. Hung., iv, 179, & 2, and notes.

Loc.—Nepal, Assam, Himalayas, Bengal, Orissa, Bombay, Rangoon, Papua. Also Egypt, from whence originally described.

spectabilis, Meij., 1906. Ann. Mus. Hung., iv, 179, & Q, pl. ii, 10 (fore leg, &).

Loc.—Singapore, Papua (Stephansort), South India.

brevicosta, mihi, sp. nov., ♂♀

Loc.—Bengal, Punjab, South India.

adjuncta, mihi, sp. nov., o; pl. xiii, 14 (fore leg, o).

Loc.—South India.

brevis, mihi, sp. nov., σ ; pl. xiii, 15 (fore leg, σ).

Loc.—Central India.

tenella, Meij., 1906. Ann. Mus. Hung., iv, 183, ♂ et (?) ♀, pl. ii, 12 (fore leg, ♂).

Loc.—Singapore, Sylhet, Chittagong, base of Darjiling Hills (Sukna, 500 ft.), Bengal, South India.

coprophila, Meij., 1906. Ann. Mus. Hung., iv, 178, & Q, pl. ii, 10 (fore leg, &).

Loc.—Singapore, Papua (Stephansort), South India, Calcutta, Bengal, Ceylon, Rangoon.

humeralis, mihi, sp. nov., o

Loc.—Simla, ? Shanghai.

nepalensis, mihi, sp. nov., 9

Loc.—Nepal.

bicolor, Wied., 1830. Auss. Zweifl., ii, 468.

javanica, Meij., 1904. Bijd. Dierk., xviii, 107, pl. viii, 18 (fore leg, σ).

id., Meij., 1906. Ann. Mus. Hung., iv, 184, & Q, pl. ii, 13

(fore leg, σ).

Loc.—Java, Papua, Rangoon, Colombo, South India, Bengal, Darjiling, Sylhet, Nepal, Naini Tal. Also China, from whence originally described.

N.B.—Herr Meijere's two diagrams of the fore leg do not agree. Specimens identified by me agree with his second figure.

decipiens, Meij., 1906. Ann. Mus. Hung., iv, 177, or pl. ii, 9 (fore leg, or).

Loc.—Papua (Stephansort).

beckeri, Meij., 1906. Loc. cit., 185, & ?, pl. ii, 14 (fore leg, &). Loc.—Bombay, Singapore. pubipes, mihi, sp. nov., σ ; pl. xiii, 16: 17, 18 (fore, middle, hind legs, σ).

Loc.—Nepal.

fasciculata, mihi, sp. nov., &

Loc.—Ceylon, Calcutta.

viduata, Thoms., 1868. Eugene Resa, 587.

Loc.—China, Assam, Eastern Himalayas, Bengal, Calcutta, South India, Rangoon, Batavia, Manila.

- N.B.—In addition to the above, all of which appear to be distinct species, the following have been described, the descriptions being too brief or too weak for identification.
- S. nitens, Wied., 1824. Analec. Ent., 57, and (1830) Auss
 Zweifl., ii, 467.
 Loc.—China.
 - N.B.—This is, according to Handlirsch (who kindly compared a specimen with the type), quite distinct from both typical bicolor, Wied. (javanica, Meij.), and the red variety of bicolor, with which I had thought it might have been identical.
- S. lateralis, Wied., 1830. Auss. Zweifl., ii, 468. Loc.—China.
 - N.B.—A specimen in indifferent condition in the Indian Museum collection, incorrectly determined by Bigot as this species, is my brevicosta. An example of my brevicosta, sent to the Vienna Museum, and kindly compared by Herr Handlirsch with Wiedemann's type, was returned as certainly distinct from that author's species.
- S. complicata, Wied., 1830. Auss. Zweifl., ii, 468. Loc.—China.
- S. testacea, Wlk., 1860. Pr. Linn. So. Lond., iv, 163, & Q Loc.—Macassar.
- S. frontalis, Wlk., 1860. Loc. cit., iv, 163, & Q Loc.—Macassar.
 - N.B.—In this species Walker describes the σ as black, and the φ as with a yellow thorax and black abdomen. This is the only instance to my knowledge in which the sexes differ in colour, with the exception of my new species dissimilis, in which, however, the colours are reversed.
- S. revocans, Wlk., 1860. Loc. cit., iv, 163, ? Loc.—Macassar, Philippines.
 - N.B.—As in none of these six descriptions is any mention made of a wing spot, the presumption is that they will all fall in the "wing clear" division of the genus.