

A MONOGRAPH OF EGYPTIAN DIPTERA

Part VII

FAMILY BOMBYLIIDAE

Section II : Subfamily Bombyliidae Tomophthalmae

(with Plates I - VIII)

by Professor H.C. Efflatoun

PREFACE

Efflatoun's Monograph of the Egyptian Diptera, part VI, was published in the Bulletin de la Société Fouad ler d'Entomologie, volume XXIX, 1945. The present part (VII), dealing with the Bombyliidae Tomophthalmae, has been found amongst the files left by Professor H.C. Efflatoun following his death. However, while going through the typescript and drawings, it was noticed that both are incomplete. The keys for the subfamilies and genera are missing and, furthermore, the genera Thyridanthrax, Oestranthrax and Villa are not treated. As information concerning the above mentioned lacking items can be obtained from O.E. Engel (in Erwin Lindner : Die Fliegen der Palaearktischen Region, Band IV, 25. Bombyliidae, 1937), it was thought advisable to publish here the parts treated as left by the late Professor Efflatoun. As to the unworked genera, the nomenclature of their species is given here, together with data, as found in Efflatoun's collection actually preserved in the Museum of the Société Entomologique d'Egypte at Cairo.

THE EDITOR

Genus ANTONIA Lw.

Key to species

- 1(2) Abdomen in both sexes orange-yellow and black, the latter colour as a rule very extensive on the basal segments and very rapidly decreasing in size apically. Vertex with two conspicuous lemon-yellow spots immediately behind the ocellar tubercle. Cell R_5 closed just before the margin. Larger and bulkier species suavissima Lw.
- 2(1) Abdomen in both sexes black with the lower margin of all the segments whitish giving it a narrow banded appearance. Vertex black, devoid of yellow spots. Cell R_5 wide open at the margin. Smaller and much slimmer species gabalenis nov. spec.

Antonia suavissima Lw.

(figs. 1-15)

This fly was originally described from Egypt without precise locality and redescribed by Walker as Dimorphophora (Dimorphophus) syrphoides from Arabia. Bezzi has seen in the British Museum a male from Algeria and a second specimen of the same sex from Abyssinia. Becker records it from Syria and Hermann has reported its capture by Kneucker in Sinai on flowers of Zygophyllum coccineum. I have myself caught many specimens of both sexes on the flowers of the same plant in different wadis in the Eastern desert, in Sinai and in Gebel Elba, from March 10th. to end of April.

Antonia gabalensis nov. spec.

(figs. 16-23)

A medium sized strikingly graceful fly, at once distinguished from suavissima by its smaller size, the wing venation, the vertex being devoid of yellow spots and by the entirely black tergites whose lower margins are whitish, thus giving the abdomen a characteristic banded appearance.

Male : Head as broad as the thorax and seen from in front distinctly higher than broad; frons with the narrow upper third or more blackish, which colour extends down forming a mid-dorsal longitudinal stripe on the centre of the tubercle leaving the rest of the frons yellowish and all obscured by a very delicate glistening white pulverulence; the mid-dorsal blackish stripe is remarkably variable in shape being digitate to spatulate in shape or with the outer margins emerginate or even interrupted at the centre by a pale brownish area; face entirely barium-yellow except for a large oblong ovate to quadrate black spot (distinctly larger than in suavissima) in the centre of the deep cavity between the prominent frontal tubercle and the projecting face; the pale yellow colour of the face extends on the cheeks and on the entire mouth margin but often the facial cone is more or less extensively dark brown at the tip, rather more so than in suavissima; the sparse pubescence on the frons and face (except all about the middle portion where it is absent as usual) is pure white; ocellar tubercle blackish with blackish erect pubescence, with the ocelli forming a small prominent equilateral triangle, which is distinctly shorter than in suavissima; vertex black, without trace of yellow spots; occiput black, grey dusted and short yellowish tomentose above, with longer white pubescence elsewhere with the yellow lateral border, which in suavissima begins a little above the indentation in the hind margin of the eye, commencing in the present species about parallel to or immediately below the indentation; proboscis thick and short brownish-yellow and darker towards the apex, the tip of the labellae often being blackish; palpi one-segmented brownish-yellow with sparse, erect - yellowish hairs; antennae somewhat less approximated at the base than

in suavissima; first segment cup-shaped, barium-yellow, bare above as usual, with a very few white hairs beneath; second segment very short sub-cylindrical, almost globular, of the same barium-yellow colour as, and bearing a similar pubescence to the first segment, and often with an ill-defined obscure brownish spot towards the apex dorsally; third segment black, although obscure brownish apically, elongate pyriform, about as long as the two first segments together, bare, and with a very minute microscopic, apparently two-segmented style which is almost insignificant when compared with that of suavissima.

Thorax dorsum deep black with the two lateral borders, including the calli of a paler citron-yellow colour than in suavissima and which also extends almost to the scutellum, below; dorsum adorned with a tin white pulverulence which gives it a dull dark mouse grey appearance and with hardly any trace of the usual paler longitudinal stripes on the disc, although this white dust shows a tendency to be extremely sparse on the sides thus these areas appear blackish; the pubescence on the disc is predominantly white except for a few adpressed, minute, glistening hairs about the centre, as well as the sparse row of erect bristly hairs (representing the chaetotactic bristles) on the post humeral calli yellowish; pleurae having a rather dense white pulverulence which obscures the yellow and black ground colour, the latter being decidedly more extensive than in suavissima, particularly so on the mesopleura; sternopleura black with the outer third at most yellow; hypopleura with rather more than the posterior half black; the usual longish pubescence on the pleurae is white; scutellum of the same more or less pale citron-yellow colour as the calli, with the black colour bordering the extreme base

narrower and less apparent than in suavissima, but quite as conspicuous and evident on the outer angles, and with a very few, insignificant erect whitish hairs.

Wings narrow and long, hyaline with the entire surface wrinkled, with blackish-brown veins which are paler brownish at the base; cell R_4 wide open; r-m cross-vein placed somewhat near the end of 1st. M_2 cell than in suavissima; cell 1st. A open; squamae with a very slight, almost obsolete fringe.

Legs citron-yellow except the apical third of the hind femora, the tips of the hind tibiae, all the hind tarsi and the apical segments of the front and middle tarsi blackish-brown; the short insignificant pubescence is white on the yellow parts and blackish and brownish-yellow on the black and obscured areas; spicules obsolete; claws black; pulvilli whitish-grey, darker at the base.

Abdomen long and very narrow, almost fistular, consisting also of eight segments of almost equal length, and with the dorsum of the tergites entirely slate-black, and the lower margin of all the segments whitish-grey, being enhanced by a dense pure white pulverulence, giving it a characteristic narrow banded appearance; seen in profile, the ventrally curved sides of the tergites which are more or less pale citron-yellow show a characteristic design as follows: the outer border of the black colour is undulating, being somewhat emarginate above and convex below, is edged with a yellowish-red or orange hue which fades away rapidly into pale yellow; the pubescence is uniformly white all over except for some very few yellowish and a few blackish hairs which are rather more numerous about the apical segments. Venter entirely pale citron-yellow with the fifth and sixth or fifth to seventh sternites entirely

hidden by the margins of the corresponding tergites and which meet each other in a mid-ventral line; the pubescence is very sparse and short, insignificant and pure white. Genitalia rather concealed owing to being retracted with the eighth abdominal segment, reddish-yellow and adorned with short, erect hairs which are mostly brownish above and blackish beneath.

Female : Similar to the male, although the abdomen somewhat broader, less fistular, and with segments three to seven giving the appearance of being less compressed laterally; eighth segment which appears to form the basal part of the ovipositor with short erect bristly hairs on the outer margin forming a fringe, which is ventral in position, and which is mainly brownish but among which are interspersed more or less numerous black hairs; appendages of ninth abdominal segment short, broad leaf-shaped, brownish-yellow with very short brownish pubescence and with a sparse row of much longer bristly hairs on the apical margin.

Male and female length of body: 8-13.2 mm.; breadth (with wings expanded): 11.8-18.2 mm.

Nine males and five females are known, all of which were captured near St. Catherina Monastery in Southern Sinai (Wadi El-Legaa, Wadi Garagneya and Rabba) at an altitude of 1700 metres, between the middle of June to the end of August, 1941-1943.

Genus ANISOTAMIA Macq

Anisotamia ruficornis Macq.

(figs. 24-32)

One of our largest and more conspicuous Bombyliid, quite distinct owing to its broad and elongate black and reddish-yellow transverse striped abdomen, and the comparatively narrow (to the abdomen) wings which possess ill-defined diffuse brown infuscation bordering most of the veins except at the apex.

13 males and 12 females, all originating from localities on the north-west coast of the Mediterranean, were captured in the regions of Abu Kir, Alexandria, Mex and in the Mariout District as far as Hamman, always in or in the close vicinity of low marshy land where Frankenia revoluta grows profusely. My records extend from May 13th. to June 3rd., the comparatively short period during which this plant is in flower. Owing to the large size and powerful wings of this fly it is a strong flyer, and most of my captures were effected while the specimens were resting or feeding in the flowers of this low-growing bushy plant available of the occurrence of this fly in any other part of Egypt.

Genus PLESIOCERA Macq.

Small to medium sized of pale smoke-grey, sandy-yellow or chamois coloured flies, very much resembling the Anthracinae in general aspect, but distinguished by the shape of the head, the antennae and the wing venation.

Plesiocera europaea Lw.
(figs. 33-36)

A small to medium sized very variable Buckthorn-brown to olive-grey or slaty-grey species distinguished by the projecting beak-like upper mouth margin, the glassy hyaline wings with two submarginal cells and reduced axillary lobe and by the antennae.

This species varies considerably in size as well as in the general colour of the head and body vestiture. The long series of more than fifty specimens of each sex collected in different localities in Egypt exhibit manifold variations, a great number of which show transitional colour characteristics between the two extreme forms (ochraceous or brown and greysh), the former more readily agreeing with Loew's type-species europaea, and the

latter with Bezzi's pusilla. The former type is more commonly distributed along the Mediterranean coastn while pusilla, as well as its apparently local races or varieties aegyptiaca Bez. and nigrirostris Bez., seem to be restricted to numerous localities mostly in the South and South-Western neighbourhood of Cairo (Kerdacé, Kafr Hakim, Mansouriah, Abu Rawash, Mazghouna, Dahshour and Fayoum). I possess two small specimens, one male from the Mariut (Burg El-Arab) (2.5.21) and one female from Wadi Hoff (16.4.22) (two widely different localities), in which the general colouration of the body is almost pallid neutral-grey owing to the scarcity of ochraceous-tawny short depressed hairs particularly on the thorax and scutellum; the frons in the male specimen is glistening silvery-white tomentose and the erect pubescence is pure white; in the above mentioned female specimen the tomentum on the frons is very sparse, whitish and the erect pubescence is mixed yellowish and black. In both specimens the three or four distal tarsal segments are black. In one largest specimens, a female from Mariut (2.5.21) vein R_{2+3} emits a short stump in R_1 cell from its distal half at the base of the deep loop.

This species, with its varieties, was collected from the end of March to the end of May.

Genus APHOEBANTUS Lw.

Key to species

- 1 (10) Two submarginal cells (R_3 and R_4) only, present; third segment of antennae as long as, or longer than the two basal segments together; style of antennae distinctly two-segmented, in addition to the minute sensory bristle. Wings hyaline or with a ill-defined brown spots which are hardly six in number.
- 2 (8) Distal half of R_{2+3} with a more or less deep upward bend immediately before its looped apical portion.
- 3 (9) Wings unspotted.
- 4 (7) Distal half of R_{2+3} with a deep upward bend immediately before its looped apical portion; abdomen short conical; claws minute; whitish pubescence with more or less numerous dark or black hairs.
- 5 (6) Body and legs entirely black; short, depressed pubescence on thorax and scutellum not scaly, the latter often very shining. Largest Egyptian species efflatouni Bez.
- 6 (5) Body greyish-brown, legs pale yellowish-brown and black; short depressed pubescence on thorax and scutellum decidedly scaly dichromatus Bez.
- 7 (4) Distal half of R_{2+3} with only a weak upward bent (feebly undulation) before its feebly looped apical portion. Abdomen elongate narrow, subconical. Claws well developed; whitish pubescence devoid of dark hairs anywhere asiaticus nov. spec.
- 8 (2) Distal half of R_{2+3} straight, before its looped apical portion. Species resembling dichromaticus in size, shape and colour wadensis Bez.
- 9 (3) Wings spotted with at most six more or less dark brownish spots which possess ill-defined suffused outlines escheri Bez.
- 10 (1) Three submarginal cells (1st R_3 , R_3 and R_4) present; third segment of antennae shorter than the two basal segments together; style of antennae uni-segmented. Wings with more than six dark blackish-brown spots tewfiki nov. spec.

Aphoebantus asiaticus nov. spec.

A medium sized uniformly grey to pale olive-buff fly, not unlike dichromatopus and wadensis but distinguished from them by the distinctly narrower, longer, subconical and more elegant abdomen, the almost complete absence of black or dark erect hairs and bristly hairs anywhere, as well as by the wing venation.

Male : One headless specimen.

Female : Head black but the lower half of the frons, as well as the face, genae and occiput covered by a rather dense white pulverulence which gives these parts a pale gull grey colour and leaves the denuded upper half (or a little more) of the frons very shining black; the very short erect pubescence is more insignificant than in other species, consisting of only a very few scattered blackish hairs (when seen in profile) on the sides of, and just beneath the ocellar tubercle (in addition to a very few depressed ochraceous scales), of more numerous, but by no means dense whitish or yellowish hairs on the lower third of the face and of the usual coarser yellowish or ochraceous hairs of the moustache; lower part of face and occiput rather dark gull grey and almost bare; ocellar tubercle small, broad-triangular with a very scanty tuft of short erect, mixed blackish and yellowish hairs; the distance between each inner eye-margin and the outer border of the ocellar tubercle at the vertex is distinctly longer than the breadth of the latter; proboscis and palpi blackish-brown, the former somewhat paler (reddish-brown) about the base. Antennae black; two basal segments very much as in dichromatopus, efflatouni and escheri; third segment elongate conical, gradually tapering to the apex, longer than the two basal segments together and terminating by a minute uni-segmented style which ends in a short microscopic yellowish sensory hair.

Thorax male and female greyish yellow or pale olive-buff like the abdomen with three evident but by no means conspicuous darker longitudinal stripes on the mesonotum, the median one of which reaches the upper margin of the disc and divided by a median narrow paler stripe; these three stripes (one median paler and two darker) which are narrower above, very gradually broaden out below until they almost reach the posterior margin; the two side stripes do not nearly reach the front of the thorax and below, they almost touch the lower margin of the disc; the vestiture on the thorax is not unlike that of dichromatopus and wadensis except that here the erect hairs on the upper margin, forming a rather well arranged tidy collar, and those on the sides of the disc, particularly of the upper half, are all whitish; all the erect bristly hairs occupying the position of chaetotactic bristles are insignificant and whitish although the two longer and stronger ones of the postalar calli may be yellowish; the short depressed moderately dense narrow scales are whitish about the upper margin and sides of the dorsum and warm olive-buff elsewhere, and hardly more numerous or crowded about the lower margin, as is often the case in some of its allied species; pleurae grey and almost bare except for a very few white depressed scales and some soft erect white hairs on the mesopleurae; scutellum blackish, not shining, with moderately dense, untidily arranged warm- olive-buff depressed scales and some erect yellowish bristly hairs about the margin.

Legs, male and female, with the coxae, trochanters and femora obscure brownish-black except the apex of the latter luteous or reddish-yellow like all the tibiae and tarsi although the apical tarsal segments are darkened (brownish), as usual; depressed pure white scales cover all the legs being much more dense on the femora, particularly so on the hind pair, and these scales give

these dark parts a pale slaty grey appearance; the short erect whitish pubescence is extremely scanty or almost inexistant and the insignificant rows of short and weak spicules, as well as the apical spurs on the tibiae and tarsi are all pale reddish-yellow or whitish; claws unusually long and black but reddish-yellow about the base; pulvilli obsolete, yellowish.

Wings, male and female, unspotted, shimmering glassy-hyaline with the veins yellowish-brown except all about base and the Sc. much paler (yellowish); only two submarginal cells (R_3 and R_4) present; distal half of the R_{2+3} with an upward bend before its looped apical portion, which bend is distinctly weaker than in all the other species with the exception of wadensis and which may be more correctly termed undulation; R_4 angulate at the base and in the two only representatives known so far, the type and co-type, not showing a tendency for emitting an appendix in R_3 cell, r-m cross-vein placed on the middle of 1st M_2 cell; 1st A cell wide open and hardly narrowed at the apex; squamae fairly well developed with a short delicate white fringe; halteres reddish-yellow but brownish at the base.

Abdomen, male and female, dull plumbeous and rather uniformly clothed with depressed narrow scales which are of a light to warm buff colour and which gives it a pale olive-buff appearance; the erect longish hairs, which, on the sides of the basal segment are tufted and almost furry (but much less so on the sides of the consequent segments), are all whitish; on the dorsum the erect, easily abraded pubescence is short, not dense and uniformly white or very pale yellowish; venter pale gull grey with pinkish-buff hind marginal hems on the second to fifth segments; the vestiture consists of rather abundant, pure white, closely adpressed narrow scales and of a few long erect whitish hairs which are scattered all over the sternites; seventh segment, in which the ovipositor

is completely retracted, pinkish-buff about the apical margin where it is bordered by a fringe of longish sub-erect whitish hairs.

Female length of body : 6.3-7.5 mm.; breadth (with wings expanded) : 10.8-12 mm.

Only three specimens, one male and two females are known of this elegant looking species collected at Ein Gedeirat in N.-E. Sinai between April 13 and 22, 1938. Unfortunately the head of the male specimen was knocked off and lost, consequently I am unable at present to include it in the description.

Aphoebantus dichromatopus Bezzi
(figs. 37-39)

A comparatively small brownish-grey species not unlike wadensis Bez. but at once differentiated from it by the wing venation and by the short depressed pubescence on the thorax and scutellum which is decidedly scaly.

Male : Head entirely black, covered with dense pure silvery white pulverulence all over the front areas but which show a yellowish or pale brownish tinge on the occiput; the vestiture on the head is pure white to pale yellowish and consists of sparse erect hairs among which are interspersed shorter sub-erect scales; the inner border of the eyes below the ocellar tubercle are more approximated than in any other Egyptian species, in fact so much so, that unless examined under higher magnification in some specimens, they appear to be touching; antennae entirely black with the two basal segments clothed with a thin white tomentum which hardly obscures the ground colour.

Thorax blackish but covered by a thin greyish pulverulence which, together with the short adpressed (although never dense), whitish or yellowish-white scaly hairs gives it a dull dirty-grey

appearance; the three darker longitudinal stripes on the dorsum are often very apparent, although never conspicuous and occasionally the two admedian stripes may be covered by brownish-red dust; the collar on the upper margin of the mesonotum and the rest of the pubescence is pale-yellowish although occasionally a few of the hairs may be blackish; all the weak but longer chaetotactic bristly hairs are somewhat darker being pale brownish or reddish-yellow; pleurae with dense white tomentum and with the sparse pubescence also white; scutellum black with approximately the basal half bearing untidely arranged short narrow whitish or yellowish scales and the apical portion bare and shining; the few marginal scutellar chaetotactic bristly hairs are pale reddish yellow, very similar to those on the thorax.

Legs obscure blackish-brown and brownish-yellow, the darker colour extending on all the coxae and trochanters, the femora except the apices, the distal fourth of the tibiae and on the two apical segments of the tarsi; the brownish-yellow colour is more or less dark, merging into the blackish areas, and sometimes the bases of the anterior and posterior tibiae is darker (brownish), the short depressed scaly pubescence (mainly on the femora, particularly so on the hind pair) is not dense, and the very sparse erect pubescence is more or less whitish; the insignificant rows of spicules are yellowish; claws minute, black; pulvilli obsolete.

Wings unspotted, shimmering glassy, with the base and fore-margin brownish-yellow to the tip of R_1 and the veins dark brown except the subcosta pale as usual; distal half of vein R_{2+3} as in escheri and efflatouni; vein R_4 usually angulate near the base, showing a tendency to emit an appendix in R_3 cell; only two submarginal cells (R_3 and R_4) present; r-m cross-vein almost always placed a little before, and only occasionally on the middle

of 1st M_2 cell; 1st A cell almost as narrowed at the apex as in escheri and much more so than in wadensis and other species; squamae well developed, with a short whitish fringe and frequently with a short delicate down on the surface; halteres with a more or less pale brownish-yellow stem and an ivory yellow to cream colour knob.

Abdomen black but a deep olive-buff appearance owing to its vestiture which is similar to that of the outer margins of the thorax and whose short depressed whitish to brownish yellow untidily arranged scales are rather dense and obscure, the ground colour very much as in wadensis; the longer erect pubescence is more furry, particularly so on the sides of the basal segment about the outer margin, and usually whitish, while the less numerous hairs on the dorsum (occurring mainly on the lower border of the segments) are mixed, white and black, the latter from being in larger proportion to the white. Venter greyish-black with the lower margin of the sternites dark greyish; the pubescence is very insignificant so that the belly is almost bare. Genitalia dark reddish-brown with the forceps reddish-yellow with minute erect reddish-yellow hairs at the apex.

Female : Very much similar to the male although the general colour of the body is rather darker. Head with the much broader frons at the vertex owing to the distance between each inner eye-margin and the outer border of the ocellar tubercle being hardly more than half the breadth of the latter and face dull blackish-grey owing to being greyish-white dusted; frons occasionally with a more or less broad shining black, apparently denuded patch on the upper half, which however may not be entirely denuded except on a small narrow longitudinal median shining black stripe in the centre, leaving the neighbouring area blackish-grey.

The short erect pubescence on the upper part of the frons often consists of an admixture of black and yellowish hairs. Thorax and abdomen with the vestiture somewhat coarser and the lower fourth of the abdominal tergites possess a decidedly larger proportion of black erect hairs than the male. Ovipositor with minute reddish-yellow hairs and the spines concealed.

Male and female length of body : 3.8-7 mm.; breadth (with wings expanded) : 8.6-13 mm.

14 males and 13 females, including the types, 1 male and 3 females were captured at Ein Gedeirat (North Sinai) and specimens collected in the Mariout district, between Amria and Hammam, chiefly at Burg-el-Arab. Records for the above two localities extend from the beginning of March to the end of April.

A. dichromatopus may be confused with A. wadensis owing their close resemblance in size and general body colouration. I think that there can be no doubt as to the specific validity of the two species, in as much as that A. dichromatopus has never been captured in any other locality except those mentioned above, while A. wadensis, which is about as common as A. efflatouni in all the Eastern desert and North Sinai, has never been collected in the Mariout district.

Aphoebantus efflatouni Bezzi

(figs. 40-45)

A medium sized to fairly large blackish fly, easily distinguished from any other Egyptian species of the genus by its entirely black body and legs, as well as by its more robust appearance.

Male : Head entirely black but covered with more or less dense pure silvery white pulverulence which usually extends all over the frons, on the very narrow space separating the eyes,

as well as on the upper part of the occiput immediately behind the shining black ocellar tubercle; the tomentum on the remaining parts of the head (face, genae and most of the occiput) is rather sparse or almost absent. The short erect and not dense pubescence on the frons and face often with a few less erect short scales occurring on the centre is paler on the former, often being somewhat whitish while on the latter, where it occurs around the mouth margins, it is less white, being generally of a brownish-yellow or yellow colour, sometimes also a few black erect hairs intermingle among the darker pubescence of the face; ocellar tubercle * black, hardly shining, with short sub-erect black hairs and with the inner border of the eyes almost touching each other below the ocellar triangle; proboscis obscure brownish-black with very short and very sparse whitish or yellowish pubescence; palpi black, almost bare. Antennae entirely black with the two basal segments covered by a thin white tomentum; the two basal segments with some very short erect yellowish hairs and both together hardly as long as the third elongate conical segment whose basal half is somewhat bulbous and apical half rapidly narrowed apically very much as in dichromatopus and escheri.

Thorax black and more or less shining according the condition of the specimens; in fresh, well preserved individuals the sparse pale grey or ochraceous tomentum gives the disc a dull greyish or pale ochraceous-black appearance and shows distinct traces of the usual three longitudinal stripes on the upper half, but in many specimens the scarcity of the tomentum and pubescence gives the dorsum an almost uniform rather shining black appearance; the sparse, adpressed and short pubescence on the disc varies somewhat in colour from almost pure white to pale ochraceous and the much

longer erect and denser pubescence on the upper margin and sides in always darker and often with more or less numerous black bristly hairs on the sides; chaetotaxic bristles usually all ochraceous or brownish-yellow but occasionally a few may be black; about three supra-alar; about four or five post-alar; pleurae black with insignificant pale tomentum and almost bare, except for the usual pale yellow or whitish hair fan on the mesopleura; scutellum black, often very shining but in specimens in good condition much less so owing to characteristic pubescence which consists of very short more or less numerous adpressed whitish or pale yellow soft hairs on the upper half or even more, of the disc, as well as of very long erect hairs which are whitish very soft and sparse about the center and which become gradually stronger, coarser, being decidedly bristly and darker (from all whitish to yellowish, brownish-yellow or dusky) about and round the margin; occasionally some of these bristly hairs are black.

Legs entirely black and the very short depressed pubescence of the femora from pale yellowish to brownish-yellow, usually more evident on the posterior pair only and almost always less dense and less decidedly scaly than in the other five Egyptian species; in addition short erect pubescence occurs on the postero-ventral sides of the femora which are more evident than in the other five species and which are usually pale brownish on the front femora and often blackish or black on the middle and hind legs; the rows of spicules on the tibiae are more evident and better developed than in dichromatopus, escheri and wadensis and are correspondingly yellowish on the front legs, darker yellowish-brown on the middle and blackish on the hind tibiae; claws very small, black but reddish-brown at the base; pulvilli obsolete.

Wings unspotted, shimmering glassy and often the base and fore-margin brownish-yellow to the tip of R_1 with the veins blackish-brown except the sub-costa pale brownish-yellow, as usual; distal half of vein R_{2+3} with a deep upward bend before its looped apical portion; vein R_4 usually not at all angulate near the base but occasionally distinctly so with a strong tendency to emit an appendix in R_3 cell; only two sub-marginal cells (R_3 and R_4) present; position of r-m cross-vein variable, often placed a little before the middle, and frequently on the middle of 1st M_2 cell; 1st A cell open but narrowed at the apex; squamae well developed with a short but usually dense whitish fringe and often with a very short delicate down on the surface; halteres with a more or less dark brownish-yellow stem and an ivory yellow knob.

Abdomen entirely black, hardly shining; the short depressed untidily arranged whitish to pale ochraceous pubescence on the tergites is rather more dense than the corresponding vestiture on the thorax and hardly shows a tendency towards being scaly; the long erect bristly pubescence on the lower borders and sides of the segments consists mainly of black hairs but usually most of those on the lateral borders are whitish and sometimes a few on the dorsum are also white. Venter dull black with the lower margins of the sternites obscure yellowish-brown; the short whitish scaly pubescence is not at all dense, untidily arranged and the long hairs are even more sparse, soft and all whitish. Genitalia black with the upper forceps obscurely reddish or reddish-brown and each with a small tuft of minute erect reddish hairs at the apex.

Female : Very similar to the male but the abdomen is often broader and more plump. Head with the much broader frons at the vertex (owing to the distance between each inner eye-margin and the outer border of the ocellar tubercle being almost equal to the breadth of the latter), and face shining black owing to the absence of white tomentum almost all over except often with very sparse, thin and inconspicuous white dust along the middle of the inner margin of the eyes, which occasionally extend (but always very lightly) over the lower half of the frons and on the genae; the short erect pubescence on the head is often decidedly more dense than in the male and consists mainly of black hairs, although frequently with an admixture of very short adpressed reddish-yellow hairs interspersed in between the former and sometimes the erect hairs of the moustache about the mouth margin consist of more or less numerous rufous or reddish-yellow hairs. The long erect pubescence on the second to seventh abdominal segments are somewhat coarser and more than in the male, with a tendency for the black hairs to being predominant over the white ones, and occasionally forming weak clusters on the lateral margins of the segments. Ovipositor reddish-brown with minute erect reddish bristly hairs; spines concealed.

Male and female length of body : 5.1-11 mm.; breadth (with wings expanded) : 10.5-20 mm.

This species varies considerably in size in both sexes and although apparently endemic to the North-Eastern desert, seems to be the commonest representative of this genus in Egypt. More than 40 males and 60 females were collected in most of the chief wadies of the Eastern Desert from Meadi (Wadi Digla, etc.) to Kosseir (Wadi Um-Biar, etc.), as well as in North and South Sinai (Ein Gedeirat, Kosseyma and Wadi El-Arbein near St. Catherina Monastery). Records extend from beginning of March to middle of May.

APHOEBANTUS ESCHERI Bezzi
(fig. 46)

A medium sized greyish black species, at once distinguished by the wings which always possess six more or less dark brownish black spots or dots whose borders are very diffuse.

This species is certainly rare in Egypt and its distribution appears so far to be restricted to the Mariout district. Eight males and a single female were captured between 1921 and 1955, all *at* Burg-el-Arab and its vicinities (Ikingi, Hamman). Other specimens known are three females, two of which are unfortunately greasy and in bad condition, were collected one at Mersa Matrouh and the other two at Amria. Records extend from 16.III to 26.V, 1921-1935.

APHOEBANTUS TEWFIKI nov. spec.
(figs. 47-52)

A small to medium-sized pale brownish-grey species at once distinguished by the wings which possess three submarginal cells and are ornamented by about eight conspicuous brown spots, as well as by the legs whose middle and hind femora are unusually stronger and stouter than in all the other Egyptian species and by the particularly long and strong bristles on the posterior femora.

Male : Head broader than the thorax, entirely black but of a glistening silvery white appearance on all the front part, owing to pulverulence of that colour which is more dense on the frons than on the occiput; the pubescence on the frons, which is absent on the upper third, consists of a small tuft of erect black hairs followed below (on the lower half, above the base of the antennae) by somewhat more numerous erect glistening white or yellowish hairs; the pubescence on the very short face consists mainly of the longish sub-erect yellowish hairs forming the moustache; occiput more evenly inflated round the hind margin of the eyes, with the silvery white tomentum of the face and vertex extending

less densely behind the eye-margins above in a narrow line and rapidly broadening downwards until it covers most of the lower half of the back of the head; occiput also with very short erect but unusually dense pale yellowish pubescence, in which may occur a few black hairs above, immediately behind the vertex; ocellar tubercle somewhat ovate, hardly triangular, unusually narrow and bearing a moderate tuft of erect black hairs; the upper inner border of the eyes is distingly separated from the distal margin of the ocellar tubercle, and below the latter much more so than in all the other Egyptian species (including wadensis), the distance between them being decidedly larger than the breadth of the tubercle; proboscis and palpi blackish, almost bare; mouth-opening pale brownish-yellow about the margin; antennae black, unusually approximated at the base; basal segment broad sub-cylindrical and more than twice the length of the short rounded cup-shaped second segment; the former with a few very short erect whitish hairs dorsally and the latter bearing minute, microscopic erect reddish-brown hairs above and at the apex; both segments also bear thin white tomentum; third segment narrow sub-conical, very much as in wadensis with the apical half not rapidly thinned down as in dichromatopus, escheri and efflatouni and distinctly shorter than the two basal segments together; the minute one segmented, rather globose style at the tip of the unusually blunt apex of the third segment, bears an equally minute yellowish sensory bristle which is hardly longer than the sparse microscopic row of erect brownish hairs on the outer-ventral side of this third segment.

Thorax brownish-grey like the abdomen with the three fairly clear but by no means conspicuous darker longitudinal stripes, the median one of which reaches the upper margin of the disc, being obscurely or not at all divided by a median paler stripe;

the two side stripes do not nearly reach the front of the thorax and hardly extend to the lower margin of the disc, as they often expand below and merge into the lower border of the median stripe on the lower third of the mesonotum; the pubescence on the thorax, although by no means more dense than usual, gives the impression of being definitely coarser than in the other Egyptian species, being partly due to the untidy arrangement of the short, depressed white to brownish-yellow scales, which are somewhat crowded on the sides and definitely so about the posterior margin of the disc, as well as to the long erect pubescence on the dorsum, which is stronger than usual and mostly black; the erect pale yellowish pubescence on the sides of the anterior half of the disc is not long, unevenly arranged and the same applies to the pale coloured hairs on the upper margin which can hardly be termed collar; chaeto-taxic bristles not strong but long and mostly black, definitely weaker than in escheri; about 3-5 supra-alar, one or two may be yellowish; about 3 post-alar; pleurae greyish-black almost bare except for a tuft of whitish yellow hairs on the upper part and margin of the mesopleura; scutellum black with the rather dense adpressed yellowish or pale reddish-yellow scales forming a characteristic design on the disc in the shape of an inverted triangle whose more or less broad base lying on the upper margin and whose apex extending down in the centre in a narrow line reaching the lower margin, where it somewhat expands; the upper margin of the base of this inverted triangle is concave, thus forming two large ovoid or rounded shining black admedian spots; the very few marginal bristly hairs are longish and all black.

Legs with the coxae, trochanters and femora obscure reddish- or blackish-brown, the latter often less obscure about the tip and with the middle and hind femora unusually strong and stout;

tibiae and metatarsi varying from reddish- or brownish-yellow to rather obscure reddish-brown, always somewhat darker (blackish) at the tip, and the remaining four tarsal segments blackish; very short depressed narrow whitish scales occur on all the tibiae and femora but are sparse and scattered on the front legs and much more numerous on the middle and hind legs; in addition to the scales the legs bear microscopic erect black bristly hairs which are so dense on certain parts that they obscure the reddish-brown ground colour and give the appearance of the blackish colour mentioned above (i.e. the tibiae and tarsi); a few longish soft whitish hairs occur on the ventral side of the front and middle femora and coxae, but longer and black hairs are present on the ventral side of the basal third or fourth of the hind femora; all the spicules and bristles are black and on the hind legs the latter are unusually strong and well developed, occurring in two or three conspicuous rows, almost long spine-like; front tibiae with a dorso-lateral row of about five minute spicules; middle tibiae with more numerous and somewhat longer spicules in more than one row of about six or more each; posterior tibiae with longer and stronger (but hardly more numerous) spicules in two dorso-lateral rows of about five each; all these spicules and apical spurs on the tibiae are easily abraded; claws reddish-brown or reddish-yellow and black about the apex; pulvilli minute, reddish-yellow.

Wings hyaline but with a faint brownish or greyish tinge, with the base of the fore-margin brownish-yellow to the tip of R_1 ; three submarginal cells (1st R_3 , R_3 and R_4) present and with about eight conspicuous dark brown spots whose borders are less diffuse than in escheri as follows: two small rounded spots, one on the apex and a similar one on the base of the looped apical portion of R_{2+3} ; these two spots, which are approximated, show

a tendency to join each other; a third fairly large quadrate spot on the cross-vein portion of R_4 which divides R_3 cell into 1st R_3 and R_3 cells; a fourth (one of the largest), rather variable, being usually long, quadrate with its lower portion extending over the r-m cross-vein and its upper half in R_1 cell, reaching the tip of R_1 , or it may be divided into two spots, the upper one paler, nebulous, extending from about the middle of R_{2+3} and reaching the tip of R_1 , and the lower, somewhat ovate, on the r-m cross-vein; a fifth or sixth narrow stripe-like brown marking (spot) covering the cross-vein like portion of M_2 which forms the outer margin of 1st M_2 cell; a sixth or seventh somewhat small and rounded spot on the short angulate base of M_2 ; the seventh or eighth spot near the base of the wing is the largest, broad stripe-like and covering the base of the RM fork, and prolonged down over the cross-vein portions of M_3 and Cu_1 ; r-m cross-vein placed well after the middle (the outer third or fourth) of 1st M_2 cell; 1st A cell rather narrowed at the margin but always well open; squamae only moderately developed, rather small and almost bare; halteres with the stem pale ochaceous-buff, obscure brownish about the base and with the knob light buff.

Abdomen remarkably narrow, sub-cylindrical, almost tubular and somewhat depressed and arched, not unlike that of the Toxophorinae; the white pruinescence which obscures the black ground colour, gives it a brownish-grey appearance like the thorax; basal segment with numerous elongate depressed white scales roughly dispersed over the upper half and with a fan-like tuft of long, erect whitish hairs on each side; second to seventh segments with the depressed white scales more numerous and crowded on about the upper third, while the scales on the rest of the dorsum are much less numerous and the majority being of a buff-yellow colour, which gives the abdomen a somewhat banded appearance; the long pubescence

on the dorsum consists of a very sparse row of evenly arranged, erect, unusually long and strong black bristly hairs, almost bristles, close to the lower border of the tergites, but on the extreme sides and about the apex of the abdomen the erect pubescence consists of shorter, much softer hairs and which are for the most part whitish; venter with the lower margin of the sternites buff yellow but elsewhere densely covered with depressed white scales which almost entirely obscure the back ground colour and with long, soft, drooping whitish pubescence which is rather dense, almost tufted on the four apical sternites; hypopygium brownish-red with very short, erect, mixed yellowish and black hairs, and the apices of the forceps blackish.

Female : Not unlike the male, distinguished by the usual sexual characters and by the shape of the abdomen which is broader, not depressed, nor arched, and consequently sub-conical; head unusually bulging out or inflated on the upper part of the occiput, conspicuously more so than in all the other Egyptian species; the distance between each inner eye-margin and the distal border of the small sub-ovate ocellar tubercle is somewhat longer than the breadth of the latter; the glistening silvery white tomentum is very sparse or almost absent on the frons except along the eye-margins and sides of the occiput, consequently the black ground colour is much more evident than in the male; the pubescence on the frons consists of some scattered longish erect hairs which are black and similar to the few hairs present on the upper part of the occiput as well as on the ocellar tubercle, and which extend down to the lower two thirds where they are replaced by more numerous sub-erect whitish or yellowish hairs on the sides of the lower third of the frons; the erect bristly hairs of the moustache are apparently less numerous than in the male and are more or less

dark yellowish; the brownish-yellow or warm buff depressed scales on the body is in a larger proportion than the white scales, particularly so on the third to seventh segments of the abdomen which consequently exhibits a less evident banded appearance; venter with the long whitish pubescence very sparse; ovipositor blackish, retracted and terminated by short erect reddish-yellow hairs, a few of which may be black.

Male and female length of body : 4-7 mm.; breadth (with wings expanded) : 6.8 - 10.5 mm.

Only eight specimens, five males and three females were collected in the wadies around St. Katherine Monastery (S.-E. Monastery), 1700 metres altitude, between 13th and 27th April 1939 and 1940.

Aphoebantus wadensis Bezzi
(figs. 53-56)

A comparatively small to medium sized more or less pale brownish-grey species very much like dichromatopus Bez. but at once distinguished from it, as well as from the other Egyptian species, by the wing venation and the shape of the third joint of the antennae.

Male : Head black but of a beautiful glistening silvery-white appearance owing to being densely covered by pulverulence and pubescence of that colour, particularly so on all the front area; the pubescence on the frons, which is absent on the lateral margins, is sub-erect and tufted, but often the hairs about the centre, below, as well as the erect hairs round the mouth-margin forming the moustache, possess a markedly yellowish tinge; occiput blackish-grey owing to being sparsely covered by white tomentum and very short whitish hairs; ocellar tubercle dull blackish with the usual small tuft of short erect hairs yellowish or whitish;

the inner border of the eyes below the tubercle are much less approximated than in all the other Egyptian species except tewfiki, the distance between their upper inner borders being almost as wide as the breadth of the ocellar triangle; the very short proboscis and palpi blackish, obscure reddish-brown about the margins. Antennae black; third segment comparatively broad and of a more regular cone-shape, with the apical half, in comparison with its basal portion, by no means as slim as in dichromatopus, efflatouni and escheri.

Thorax blackish-grey to brownish-grey with three clear blackish stripes, the median one of which distinctly separated in the centre by a paler stripe, thus giving the impression of the presence of four dark longitudinal stripes on the dorsum; the median double stripe reaches the upper border of the disc but ends well before the lower border and the greyish median stripe separating them has usually the shape of a very narrow triangle with its apex ending on the centre of the disc; the two side stripes are often slightly narrowed anteriorly but not nearly reaching the front of the thorax and posteriorly they may either be also narrowed and not quite reaching the hind margin or broadened and suffused with the darker colour below (according to the condition of the specimen); the general vestiture is not unlike that of dichromatopus but the very short depressed scaly hairs are more numerous and of a brownish-yellow, almost ochraceous colour all about the centre and whitish about the front and lateral margins; the longer erect pubescence forming the collar on the upper margin of the disc and the coarser hairs on the sides of the upper part, as well as the much longer chaetotactic bristly hairs are very similar to the ones in dichromatopus, in number as well as in colour; pleurae with very dense white tomentum and almost bare, except of the usual tufts of longish white hairs

on the mesopleura; scutellum blackish; somewhat shining, with sparse, untidily arranged short adpressed, narrow, brownish-yellow scaly hairs and with the long erect bristly hairs, equally untidily arranged and not numerous, with longer and stronger ones arranged round the margin, in the position of the marginal scutellar bristles in more than one row and reddish or brownish-yellow.

Legs with all the coxae, trochanters and femora blackish except the apex of the latter reddish to pale brownish-yellow; all the tibiae and tarsi more or less pale brownish-yellow with the apices more or less deeply ⁸oscured brownish; the short, depressed narrow scales, which are weaker and less evident on the front legs as well as on all the tibiae and tarsi, is quite dense and whitish; the short spicules and spurs are yellowish as in dichromatopus; claws very small, black but reddish-yellow about the base; pulvilli almost obsolete, yellowish.

Wings unspotted, hyaline, with a well marked yellowish-brown venation which is paler about the base and fore-margin to the tip of R_1 ; distal half of R_{2+3} characterised by being almost perfectly straight and at least not possessing an upward bend before its looped apical portion as is the case in all the other Egyptian species except tewfiki; R_4 not at all angulate at the base and not showing a tendency for emitting a stump or appendix in R_3 cell; r-m cross-vein placed a little before or on the middle of 1st M_2 cell; the portion of M_2 forming the outer lower margin of 1st M_2 cell is unusually angulate near its junction with $Cu_1 + M_3$ and occasionally emits a short stump in 1st M_2 cell; 1st A cell wide open at the apex and occasionally only very feebly narrowed, but never as much so as in escheri and dichromatopus; squamae well developed with a very short,

sparse whitish fringe; halteres with a pale yellow stem which is usually more or less brownish about the base, and an ivory yellow knob.

Abdomen entirely black, not unlike that of dichromatopus in general aspect but of a paler olive-buff colour owing to the short depressed pale brownish-yellow scaly hairs (almost narrow scales) being more dense all over the dorsum, as well as to the usual much longer erect pubescence on the sides, dorsum and all about the apex of the tergites all whitish to very pale yellowish and with a total absence of black hairs; venter black, but of a light slate-grey appearance owing to being covered with white tomentum and with the lower margin of the sternites tulleul-buff to chamois; the vestiture, which is much less abundant than on the dorsum (but more so than in dichromatopus), consists of scattered pure white depressed narrow scales and of some long erect, also scattered whitish or very pale yellowish hairs; hypopygium blackish, with the upper forceps brownish-red about the apex and bearing each, as usual, a terminal row of minute, erect, pale reddish-yellow hairs.

Female : Very similar to the male but usually plumper, often larger and the general colour of the body somewhat darker. Head with the much broader frons at the vertex owing to the distance between each inner eye-margin and the outer border of the ocellar tubercle being almost equal to the breadth of the latter; the thin coating of white tomentum on the head is absent on the upper half or so of the frons, leaving this part shining black; the pubescence on the g front region is much less tufted than in the male and consists of short, not at all dense, sub-erect ochraceous hairs (except on the usual bare sides), and of similar bristly hairs of the moustache. Thorax, legs, wings

and abdomen as in the male. Ovipositor blackish, with very short reddish-yellow hairs and the spines concealed.

Male and female length of body: 4.1 - 8 mm.; breadth (with wings expanded) : 8 - 13.8 mm.

A. wadensis, as well as A. efflatouni, appear to be the commonest representatives of this genus in Egypt. More than 21 males and 58 females were collected in various localities in the South-Eastern desert from Helouan to Kom-Ombo and in most of its main wadies, as well as in Ain Gedeirat in North-Eastern Sinai. Records for the South-Eastern desert extend from March 1st to May 4th (North Galala plateau) and for N.-E. Sinai from beginning to end of May. A. wadensis, together with A. efflatouni, seem to be endemic of the more arid areas. - The two above species have not been so far recorded from other countries.

There can be no doubt as to the validity of A. wadensis, in spite of Professor Bezzi opinion, that this species may only be a variety of dichromatopus Bez.

Genus PIPUNCULOPSIS Bezzi
Pipunculopsis bivittata Bezzi
(figs. 57-66)

A small to fairly large elegant and rather odd-looking greyish species with sub-globose head, elongate narrow cylindrical abdomen which is usually laterally compressed, and often with darker olive-ochre to olive-yellow design (in specimens in good condition) on the thorax and abdomen.

This handsome and odd-looking species is one of our commonest Bombyliid in the North and North-Eastern desert. It has been captured frequently at Ismailia, Geneifa, in all the wadies on both sides of the Suez Road, South-East of Meadi and

Helwan (wadies Digla, Hoff, Itbadi, El-Garrawi, Rishrash, Araba, etc., as far as the Red Sea), the Fayoum, from as far as south as Wadi Assiuti and also at Ein Gedeirat (North-Eastern Sinai) and Rabba (South-Eastern Sinai, altitude above 1700 m.). Records extend from the end of April to the end of July.

The very wide variation exhibited by this species is manifested by the considerable difference in size, as well as by the design on the thorax and abdomen in both sexes, which varies considerably in specimens originating from most of the above mentioned localities from being quite conspicuous to entirely absent. There exist specimens unmistakably belonging to this species which are uniformly slate-grey with the vestiture rather less dense than usual and with the scales and the longer erect hairs all white. A single small male specimen from Gebel Elba (Red Sea mountains on the Soudanese frontier) whose thoracic design agrees with Bezzi's type but the abdomen is densely covered by uniformly ochraceous scales, without design. I am more inclined to accept it as a local race or variety rather than to give it a specific rank, although the wings are very feebly infuscated and the legs are obscured rather more extensively than in most (but by no means all) the specimens of Egypt.

Genus PETROROSSIA Bezzi
Petrorossia hesperus Rossi
(figs. 67-73)

A small to quite large fly extremely variable in general colour of the body, from dull blackish-brown to whitish-grey, and with the wings entirely hyaline with yellow venation partly coloured with dark blackish-brown veins.

This species, is probably the commonest Bombyliid in Egypt and is also the least handsome and least conspicuous of the family. *P. hesperus* and all its unstable varieties (letho, albifacies and latifrons, including the dwarf forms of letho liliputiana) are found very commonly almost everywhere in the Nile Valley as well as in the Western and Eastern Deserts as far as South of the Sudan frontiers and in the Sinai Peninsula. Dates of capture extend from end of January 1923 (Kom-Ombo) to end of September (Marg, near Cairo).

Genus PROTHAPLOCNEMIS Bezzi
Prothaplocnemis anthracina Becker
(Plate IV, figs. 74-81)

A small Bombyliid, at once distinguished by the remarkably shining jet-black body, the entirely hyaline wings and the unusually large knob of the halteres.

P. anthracina is a fairly common "desert species" occurring during the spring in all the Wadis East and South-East of Cairo and Helwan. 30 males and over 60 females were captured in the Wadis Digla, Hoff, Warak, Dar El-Maskhara, Garawi, Gendali, Rishrash, Zohleiga, Um Elek, Gharba, Ibtadi, Mourrah, and the Suez-Road. It also occurs, but less commonly, on the edge of the Desert and South-West of Cairo and at Mansourial. Other specimens were obtained from Wadi Wirak (North Galala), Wadi El-Ghoul (South-Eastern Desert, Aswan latitude) and from Siwa Oasis. Numerous

specimens were often collected while hovering over Zygophyllum in Wadi Um Biar (South of Kosseir) and North-East at Ismailia and Cairo, at Ein Gedeirat in Northern Sinai. Capture records extend from 17th February to the end of April.

Genus CHIONAMOEBA Sack

Chionamoeba nivea Rossi
(figs. 82-86)

A rather small to fairly large fly, unusually resembling a *Therevid* or *Cytherea* owing to the elongate cylindrical abdomen which is furry on the sides, characterized by the shape of the head and the beautifully velvety shimmering silvery white front part of the male (which may occasionally be glittering pale golden yellow).

This species is not uncommon in Egypt although its distribution is not very wide. It has been frequently captured in the neighbourhood of Cairo (Ezbet El-Nakhl, Marg, Kerdassa, Mansouria, Kafr Hakim, Mallaha), in many of the wadies East of Helouan (Wadi Hoff, Wadi Sayal, Wadi Gharagid, Ougret El-Cheikh, Wadi Morrah), at Serapeum and in the Fayoum. Capture records extend from 5th April to end of September.

Genus CHIASMELLA Becker

Chiasmella sabulonis Becker
(figs. 87-92)

A medium sized to fairly large blackish-grey to clay colour fly with short, plump, conical abdomen, comparatively short and broad wings which are often particoloured, and penicillate antennae.

Ch. sabulonis Beck. which, together with Petrorossia letho, may be considered as one of the commonest Bombiliid in Egypt, is found almost everywhere in its manifold variations. More than 100 specimens of each sex and originating from various localities in the Delta, the Nile Valley as far south as Aswan, along the Western

Mediterranean Coast from Abu Kir to Salloum, in all the Oases of the Western Desert, in the Eastern and South-Eastern Desert as far south as Gebel Elba, and in the Sinai Peninsula, El-Arish, Ein Gedeirat, as well as in the neighbourhood of St. Catherina Monastery at 1700 metres altitude, were examined. Records extend from March 10th, to the end of September.

Genus ANTHRAX Scopoli

Key to species

- 1 (4) Large to very large flies with the entire body blackish-grey to black or with the head, thorax and scutellum cinnamon or clay colour and abdomen blackish with one broad but undulate greyish transverse band; wings more or less deeply and more or less extensively infuscated or feebly infumated about the base and on anterior border and usually with three sub-marginal cells (4)
- 2 (3) Body blackish-grey to coal black; abdomen with or without narrow inconspicuous whitish transverse bands, in which latter case none of the bands are undulated; wings more or less deeply infuscated brownish on at least the basal half and below the coastal border ocyale Wied.
- 3 (2) Body (head, thorax and scutellum) cinnamon or clay colour; abdomen blackish with a broad undulated greyish transverse band on distal third of second tergite, in addition to two or three complete or interrupted pale narrow transverse bands below; wings feebly infumated and which colour is more evident at most about the basal third and fore border cupreithorax nov. spec.
- 4 (1) Very large to small greyish-tawny or black flies; wings with a different design or pattern or entirely hyaline and almost always with two sub-marginal cells (1)
- 5 (6) Very large greyish-tawny flies; wings distinctly tinged buck-thorn brown throughout with the veins in great part bordered brown hippolita Wied.

- 6 (5) Large to small blackish or shining black flies; wings entirely hyaline or with different pattern and design.
- 7 (10) Wings dimidiate (10)
- 8 (9) Outer border of deeply infusate basal half of wings rugged, with a rather sharp outline and with the hyaline distal portion possessing two dark spots, the outer one of which is completely isolated and on base of R_4 aygulus F.
- 9 (8) Outer border of infuscated proximal half of wings less sharply defined, evenly evanescent; hyaline apical half with one inconspicuous isolated pale brownish spot on base of R_4 elbayensis nov. spec.
- 10 (7) Wings not dimidiate, varying considerably from entirely hyaline to hyaline with conspicuous blackish spots or with more or less well defined darker spots or flecks (7)
- 11 (12) Wings with conspicuous blackish-brown spots on hardly more than the proximal half, leaving the distal portion, including the apical third of R_1 cell entirely hyaline aethiops F.
- 12 (11) Wings with conspicuous brownish-black spots in greater part confluent on proximal half, except for an always isolated rounded quadrate or oval spot in the hyaline distal portion in the apical third of R_1 priesneri nov. spec.
- 13 (22) Wings entirely hyaline or at most with very inconspicuous ill-defined darker markings, or very feebly tinged brownish about the base and upper border; small to medium sized species (22)
- 14 (19) Body (thorax in particular) very shining black; small to medium sized (never large) species .
- 15 (16) Small, plump, thick-set species; pubescence on the abdomen pure white, distinctly soft and furry (particularly so in male); wings hyaline but with a feeble milky hue, rarely suffused light ochraceous-tawny about the base and upper border chionanthrax Bezzi

- 16 (15) Medium sized species, less plump and less thick-set flies; pubescence on abdomen and on entire body predominantly black (15)
- 17 (18) Shining black colour of thorax and abdomen with a distinct bluish tone; abdomen cylindrical melanista Bezzi
- 18 (17) Shining black colour of thorax and abdomen without a bluish tone; abdomen less cylindrical (not at all in female); larger species with hyaline wings feebly tinged brownish about base in female lucida Beck.
- 19 (14) Body dull clothed with mostly white and greyish-yellow vestiture; medium-sized to large species.
- 20 (21) Dorsal surface of body clothed for most part with pure white fine hairs; abdomen mainly or almost entirely devoid of scales; cell R_4 very feebly narrowed at wing margin niphas Herm.
- 21 (20) Dorsal surface of body clothed with a darker vestiture, varying from whitish-grey to pinkish-buff; abdomen with more numerous scales and coarser hairs; cell R_4 more or much more narrowed apically on the margin.... isis Meig.
- 22 (14) Wings never entirely hyaline and usually with more or less conspicuous and better defined darker markings; medium sized to large or even very large species (14)
- 23 (24) Hyaline wings with a more or less deep infuscation confined to basal third; hyaline portion without isolated spots leucogaster Meig.
- 24 (23) Wing design otherwise, with infuscation on basal third if present ill-defined with evanescent outer border and with a variable number of more or less evident darker markings for most part on the cross-vein (23)
- 25 (26) Wings with an evident warm sepia to brown tinge almost as in 5, which colour is darker on proximal half, particularly so on the origin of the longitudinal veins and on the cross-veins where it forms darker blackish-brown stains and with the sepia or brownish colour rapidly fading away apically; body robust with more or less pronounced fulvous tinge.

- 26 (25) Wings hyaline, never tinged sepia or brown; darker ~~or~~ markings if present either very small and inconspicuous or in form of spots (25)
- 27 (32) Flecks on wings, mainly on cross-veins of proximal half, very indistinct and insignificant; whitish-grey to greyish-brown species.
- 28 (29) Flecks on wings two or three, more or less apparent; tufts of hairs on sides of abdomen alternating, white or rusty-yellow and black incisuralis Macq.
- 29 (28) Wing design otherwise; tufts of hairs on sides of abdomen rarely alternating, differently coloured.
- 30 (31) Silvery white scales on dorsum of abdomen forming transverse bands; legs with at most middle tibiae obscure yellowish-brown; medium-sized to very large whitish-grey flies candidum Sack.
- 31 (30) White transverse band on dorsum of abdomen less conspicuous, often interrupted; brownish-yellow colour of tibiae paler, less obscure and more extensive; brownish-grey to greyish brown medium sized species (30)
- 32 (27) Spots or strains on wings more distinct and often conspicuous; darker, greyish-black or blackish-grey species ..(27)
- 33 (34) Wings with three usually conspicuous dark spots; tarsal segments of front legs of female broadened, tuft of hairs on sides of second abdominal segment mainly black tripunctata Wied.
- 34 (33) Wing design otherwise; tarsal segments of front legs in female not broadened, normal; tufts of hairs on sides of second abdominal segment not black (33)
- 35 (36) Dull black abdomen with light narrow transverse bands on most of the segments and not at all kiel-shaped apically in either sex; tufts of hairs on sides of second to fourth tergites consisting each of black hairs above and white below; wings with four evident brown spots or flecks, the distal one on rectangular base of R_4 zohraensis nov. spec.

- 36 (35) Dull black abdomen without complete light transverse bands and with the apex of male laterally compressed; tufts of hairs on sides of second to fourth tergites all black; wings with at most three brownish flecks which are usually very faint and appearing as blurs and without darker margin on base of R_4 galali nov. spec.

Anthrax aethiops F.

(fig. 93)

A medium-sized to comparatively small black species with spotted wings whose brownish-black spots occupy hardly more than the proximal half leaving the distal half, including the apical third of cell R_1 hyaline, and with extremely dense glistening silvery-white broad scales closely adhering tile-wise (or even appearing plastered), almost entirely covering the apex of the abdomen (sixth and seventh segments) except for a more or less narrow mid-dorsal space in the male, but which scales are less extensive and much less evident on the same segments in the female; plumula black or brownish.

This species is very easily distinguished from any other in Egypt, and probably from any other Anthrax in the Palaearctic and Ethiopian Regions. It varies comparatively but little, except for the outer margin of the more or less dark blackish-brown colouration of the wings which is very irregular. A. aethiops is common on the Western Mediterranean Coast from Alexandria to Sollum, where it has been captured in various localities from Mex to the Libyan frontier, between March 26th to the middle of May (1920-1948). It was also collected from three wadies in the Eastern Desert, South-East of Helwan (Wadi Hoff, Zohleiga and Rish-Rash) at the end of March, but it appears to be much less common here than in the Mariut district. A male has been captured at Ein Gedeirat in Northern Sinai (13-24.iv.1938).

Anthrax aygulus F.
(fig. 94)

A fairly large blackish species easily recognizable by its dimidiate coloured wings, in which the hyaline outer half is marked by two dark spots, the outer one of which is completely isolated.

Of this handsome Ethiopian species the only two males known from this country originate from Wadi Kanssissrob and Wadi Edeib in Gebel Elba (S.-E. Desert), captured in January 24th and February 2nd, 1933, respectively.

Anthrax elbayensis nov. spec.
(fig. 95)

A fairly large blackish species much resembling *Anthrax aygulus* F. but at once distinguishable by its dimidiate wings in which the hyaline outer portion possesses an indistinct brownish fleck over the base of R_4 .

Male : Head black; frons white dusted along the inner-eye-margins only and with the erect pubescence black everywhere and intermingled with numerous short ochraceous scales which are evident on lower half of frons and face; upper part of frons and vertex almost bare and the distance between upper inner margin of eyes rather broad, being quite three times the breadth of the ocellar tubercle, as in *aygulus*; occiput very lightly grey dusted with a blackish short occipital fringe; antennae black lightly greyish-yellow dusted, with sparse short erect hairs on the two basal segments black; basal half of third joint sub-globose, distinctly less broad and flat onion-shaped than in *aygulus* but with a similar pedicellate distal half which terminates in an apparently two-segmented style which possesses a well developed reddish-brown pencil of hairs apically.

Thorax dull black (like the head and abdomen) with a vestiture very similar to that of aygulus, but there are rather more numerous whitish or yellowish long erect hairs interspersed among those on the shoulders and of the collar; pleurae blackish with very sparse soft brownish-yellow pubescence; scutellum like the dorsum of mesonotum with black hairs, bristly hairs on margin and very sparse short depressed yellowish scaly hairs.

Wings with the black and white design very much resembling that of aygulus but the outer margin of the oblique blackish-brown basal half less sharply defined being less rounded, diffused and gradually and uniformly fading away, particularly below, and the small dark fleck in the hyaline portion on the base of R_4 is smaller and much less distinct; origin of R_4 less rectangular than in aygulus and without a pedicel; r-m cross-vein placed on middle of 1st M_2 cell and just after the rectangular base of R_{2+3} ; 1st A cell closed on the margin; costal hook blackish-brown, comb at base of C black without any admixture of scales; squamae greyish-white with a very short white fringe; halteres blackish-brown with the knob buff about the apex; plumula brown.

Legs entirely black with black spines, spurs and claws and with an insignificant scaly covering as in aygulus; pulvilli pale brownish-grey.

Abdomen dull greyish-black, of a less deep mat coal black colour than in aygulus owing to the admixture of short depressed scaly hairs on dorsum being predominantly yellowish and the white scales on lower border of second to fourth tergites being more continuous and forming indistinct narrow transverse stripes; the long erect pubescence is mainly whitish or pale yellowish-grey on sides of basal segment only and black elsewhere on entire abdomen where it is definitely less coarse and less tufted than in aygulus;

the decumbent white scales on the lower border of the second to fourth segments which are replaced by mainly white and some yellowish decumbent bristly hairs about the middle of dorsum, and on the three apical segments where they are as dense and crowded as in aygulus, possess a distinct yellowish-grey tinge; venter black with the overlapping sides of tergites obscure dark reddish-black; hypopygium obscure brownish-red with the tip of the forceps black and with short erect black hairs.

Length of body : 7-8 mm.; breadth (with wings expanded) : 16-19 mm.

Female : unknown.

The only two males were captured in Gabal Elba (Wadi Edeib) in the same locality as aygulus, in the end of January 1933.

Anthrax candidum Sack.
(figs. 96-97)

A large medium sized grey to whitish-grey fly with more or less conspicuous white bands on the lower margin of the abdominal segments, all the longer tufted pubescence on the sides as well usually all white, and with the wings either almost entirely hyaline or infuscated at the extreme base and with more or less pale, ill-defined sepia coloured or mummy-brown transversely elongated flecks on the basal half, with only two sub-marginal cells.

More than fifty specimens of each sex from widely different localities in Egypt and which exhibit considerable variations in size, wing venation and colour of vestiture were examined. The paler and darker forms show series of intermediate varieties which render the characters usually adopted by most authors are nothing else but local races or varieties originating from the nature of the host and due to ecological factors.

The majority of specimens studied were captured in the Mount St. Catherine district (wadies El-Cheikh, Rabba, El-Lega, Garagnia, 1700 metres altitude), between the middle of June to end of August. Other samples were collected in various wadies East and South of Helwan (Hoff, Garawi, Gendali, etc.) in April and May, and at Ghoubbet El-Bouss (22.vii.1929) on the Red Sea coast, and also in Northern Sinai at Wadi Ein Gedeirat (8.V.1934) and at Geneifa (23.IX.1925). A few darker forms were collected at Wadi Faran (27.V.1934), Abou Rawash (14.VII.1924) and El-Mansouria (13.VI.1924).

Anthrax chionanthrax Bezzi

A small to very small somewhat plump thick-set species with very shining black thorax (more so in the male than in the female), distinguished by the uniformly soft, furry white pubescence on abdomen and by the wings being entirely hyaline but with a weak although distinct milky hue, which are but rarely suffused with light ochraceous-tawny about the base and Sc cell only.

Anthrax chionanthrax is a distinct and endemic Egyptian species described from specimens collected in the South-Eastern Desert. The male type was captured in Wadi Um-Biar, near Kosseir (Red Sea coast) in January, while the female type originates from the Suez Road (5th Tower), where it has been caught in March. Altogether twelve males and thirteen females were captured mostly from the Eastern Desert (Bir Abrag, Suez Road, Wadi Garawi, Wadi Mourra) and from the Western Desert (Borgash and Abou Rawash); the dates extend from end of January to end of August. A male was collected in Wadi El-Rabba, S.-E. Sinai (altitude 1700 m.), in April, and a female from Aboukir, in September, which is typical in all respects except for the legs being obscure yellowish-brown with the tibiae and tarsi paler.

Paramonov's nanus, male and female, are without doubt identical with chionanthrax. Anthrax cairensi described by Paramonov from a male collected in Wadi Hoff in April 1922 is also synonymous with chionanthrax Bezzi, although it differs in having the dorsum of the thorax, the scutellum and abdomen strongly shining, very sparingly squamose and pilose, while in nanus the squamosity and pilosity are rather well developed and the bristles in front of the wing are black. All other characters nearly as in nanus.

Anthrax cupreithorax nov. spec.

A very large robust, bulky rusty-black fly closely allied to ocyale Wied. but distinguished from it and inter alia by the cinnamon or clay colour head, thorax and scutellum, and by the feebly infumated wings which are more evidently so about the base and fore border.

Female : Head narrower than the thorax and of a cinnamon colour which is evident on the occiput but darker (clay colour) on all the front and lower parts in ground colour; vestiture on vertex, frons and face rather dense, consisting of erect black pubescence which is sparser and shorter on the former and longer below until they form a coarse rather tufted moustache over the front mouth margin, and of shorter depressed ochraceous scaly hairs which are longer on the lower part of the frons, about the base of the antennae; vestiture on cinnamon coloured tumid occiput consisting of sparse very short ochraceous scaly hairs and hairs situate mostly along the eye margins, particularly behind the indentation and above the centre forming a longer well developed, somewhat paler yellowish frill; in addition, mixed with the above, there are scattered short decumbent black hairs; proboscis short blackish-brown and not exceeding the comparatively short and broad, yellowish

rimmed mouth cavity; distance between upper inner margin of eyes rather more than three times the width of ocellar tubercle; antennae entirely black with thin yellowish dust, of the same shape as in ocuale and incisuralis, but with the terminal style almost as long as the slender part of the third segment and ending in a brownish pencil of hairs encircling a minute but stout and spine-like sensory bristle.

Thorax broad, narrower in front than behind, of cinnamon ground colour but (seen from above with the light coming from in front) with a feeble but distinct darker (clay colour) design on the upper two-thirds of the mesonotum forming three narrow blackish longitudinal stripes on the middle third; the vestiture, which is short on the disc, consists of mixed depressed ochraceous scaly hairs and hairs and sub-erect black hairs, is longer about the margins as usual, particularly so in front, where the black hairs of the collar are much more numerous than the yellowish and all about the sides and lower border being coarser and bristly; three strong supra-alar bristles and about five equally strong but long post-alar, all black; pleurae of pale cinnamon-greyish ground colour, clothed with rather dense long pale yellowish pubescence which is somewhat darker anteriorly but with some weak black bristles between the bases of the coxae and a row of similar but longer black bristles near the distal border of the mesopleura below the wing base and which extend forward but in more than one row; scutellum of the same cinnamon colour as the mesonotum but extensively darker (clay colour) about the centre of the disc, with a similar mixed vestiture as the thorax and with long black but weak marginal bristles.

Wings hyaline with very feeble infumation which is darker and more evident about the base and fore border and with ill-defined mummy-brown flecks situate as usual respectively below base of R_4 (third longitudinal vein), with a disconnected extension in the upper distal angle of 2nd M cell as well as on the cross-vein-like Cu_1 which forms the border between cells 2nd M_2 and Cu_1 , on the r-m cross-vein and the rectangular base of R_{2+3} ; venation cinnamon-brown except the thicker R_1 blackish-brown; right wing with three sub-marginal cells and the cross-vein-like (rectangular base) of R_4 with a faint brownish fleck and the almost rectangular portion of the vein forming the triangular upper outer angle of 1st R_3 cell also but even more faintly bordered brownish; left wing with the third sub-marginal cell (1st R_3) incomplete owing to the vein arising from the rectangular base of R_4 and separating cells 1st R_3 and R_3 in the right wing, disconnected and represented by a long reinlet; the same anomalousness is present in the basal portion of R_{2+3} , as in the right wing the veinlet arising from its rectangular base is prolonged and almost reaches the stout R_1 but in the left wing the veinlet is shorter and terminates far away from R_1 ; r-m cross-vein (duplicated in the right wing only) placed well before the middle of 1st M_2 cell and well after the rectangular base of R_{2+3} ; cells R_5 and 1st A open but narrowed on the margin, the latter more so than the former; a small tuft of decumbent whitish long scales occurs on the postero-dorsal side at base of R_1 ; plumula rusty brownish-black; basal hook obtuse, cinnamon or Mikado brown; costal comb black with mixed dense black pubescence which is longer and spiny above and sparse scattered elongate yellow scales which are more numerous below, at base; alula infumated with a mixed yellowish and dark brown fringe; squamae light ochraceous buff with a darker brown border and with a well developed fringe which is blackish-brown on the distal half and yellowish-white and longer on proximal portion; halteres blackish-brown with the knob ochraceous buff.

Legs obscure dark reddish-brown, almost blackish with a dense vestiture of mixed yellowish-grey scales and scaly hairs and short black pubescence; rows of spicules and apical tibial spurs well developed especially on the middle and hind legs and all black; coxae with a sparse tuft of longish black bristly hairs ventrally; claws black but obscure reddish-brown at the base in addition to the softer and shorter pubescence; pulvilli cinnamon-buff about half the length of the claws.

Abdomen blackish-brown cinnamon or clay colour at the base (first segment), short almost quadrate except for its broad-triangular apex, appearing broader than the thorax partly owing to the dense tufted pubescence on the sides of the two basal segments only and clothed with a vestiture which forms a very characteristic design as follows : basal segment with long, erect, very sparse black hairs on dorsum, which do not conceal the paler ground colour but which are more dense, longer and tufted on sides and of a Kaiser brown colour owing to being mixed black and russet; this first segment is devoid of scales; second segment with the erect pubescence including the longer more tufted hairs on sides almost black except for some cinnamon-buff hairs on the proximal third, and for the tufted black ones on the sides which possess much fewer reddish-brown hairs on the upper angles so that only these parts are of an obscure darker Kaiser brown colour; the squamosity which on the second segment consists of unusually elongate pinkish-buff scales forms a characteristic design being almost absent on the basal half and very dense on the distal half of the tergite where it forms a rather broad lighter transverse band but which is somewhat undulate being arched in the centre; third and fourth segments blackish owing to the scales (which are broader and less elongate than those on lower portion of second tergite), in addition to the black pubescence is mixed black and reddish-brown and only with a few scattered light scales, which

latter are a little more numerous on the sides but hardly more so on the lower borders; fifth and sixth segments much narrower with sparse black pubescence much longer and bristly on the sides (somewhat longer than those on sides of preceding segments) and with the fairly dense squamosity mixed whitish and cinnamon-buff or clay colour, the former being more numerous than the latter on the sides and upper half or more and which makes these two tergites appear greyish with darker narrow lower borders; seventh short conical segment with sparse mixed yellowish and cinnamon-buff scales and long black bristly hairs apically with which are intermixed a very few long truncate cinnamon-buff scales and which are much more numerous and darker on the overlapping sides; venter obscure dark clay colour about the centre and lighter, cinnamon at base and apically; vestiture very sparse and insignificant, consisting of a very few scattered cinnamon-buff scales and long equally sparse and mainly blackish pubescence except about the centre of the basal sternite where the hairs are more numerous, reddish-brown, longer and coarser and where they form a rather thin tuft; ovipositor brownish-black, cinnamon-buff apically with pale yellow spines.

Length of body : 15.2 mm.; breadth (with wings expanded) : 39 mm.

Male : unknown.

The single female specimen of this new species, which belong to the ocyale-group, was captured in the garden belonging to St. Catherina Monastery in Wadi Feran (altitude : about 700 m.), about half way between the Red Sea and the Monastery, on 25th June 1936.

Anthrax galali nov. spec.

A medium sized to rather large grey and blackish fly, closely allied to tripunctatus and zohrayensis, distinguished by the almost entire absence of design on the feebly but distinctly smoky grey wings which are usually devoid of spots or if the latter are present appearing at most blurred and confluent and present only on the basal half, as well as by the different arrangement of the white scales on dorsum of abdomen, particularly on the three or four keel-shaped (in male) apical tergites and on which the erect hairs are mainly pale brownish or yellowish.

Male : Head black with fine white dust which is more or less evident usually only on the occiput and along the inner eye-margins; vestiture (erect coarse pubescence and short scaly hairs) usually all black on upper third of frons and on face but on rest of frons the scaly pubescence is glistening greyish-yellow or brownish-yellow; distance between upper inner margin of eyes about two and a half times the breadth of ocellar tubercle and narrower than in female; frill above centre of occiput short but thick, blackish-brown; antennae black with black pubescence; third joint not longer than the two basal segments together, less globose than in tripunctatum at base but more so than in zohrayensis and terminating in a comparatively long and stout-cylindrical style which is slightly broader at the apex which possesses a well developed pencil of blackish hairs.

Thorax of very much the same ground colour and mixed vestiture whitish, black and yellowish as in the two above mentioned closely allied species and the long anterior row of hairs of the collar are predominantly black, mixed with some

greyish hairs behind; chaetotactic bristles not long at all, black; pleurae almost bare, the white dust on the mixed ill-defined blackish-grey and greyish pubescence more or less sparse, except on upper border of mesopleura where it is more dense, tufted and whitish; scutellum of same colour and vestiture as dorsum of thorax and with black or mixed black and brownish long marginal bristly hairs in more than one row.

Wings hyaline with a more or less weak infuscation on the basal half and Sc cell which may form darker areas in the same position as the flecks in tripunctatus but even less well defined appearing like blurs although usually with a more or less evident smoky grey tinge; the infuscation on the upper two-thirds of basal portion as well as the one on r-m cross-vein and base of R_{2+3} is very variable from almost inexistant and very faint to quite as evident and appears as in tripunctatus; r-m cross-vein placed before middle of 1st M_2 cell and just a little after the rectangular base of R_{2+3} which usually possesses a more or less well developed appendix; 1st A cell very variable, always narrowed and open or closed on, or before the wing margin; plumula white; costal hook pale brownish-grey; comb at base of C black, without scales; squamae very pale yellowish-grey, almost whitish with a slight pale yellowish or white fringe; halteres more or less dark mummy-brown with the apical half of the knob light buff.

Legs showing no sign of sexual dimorphism (with normal front tarsi as in zohrayensis), black with the apex of femora and tibiae as well as front tarsi obscure reddish-brown (seen ventrally); bristles, spurs and spicules short, weak and all black; middle and hind tibiae and femora with or without sparse minute greyish or whitish-yellow hairs which can hardly be termed scaly; claws black; pulvilli brownish-grey.

Abdomen dull black, of a distinct and characteristic keel-shape owing to the three apical segments being laterally compressed; basal segment with the side tufts pure white and the sparser long hairs on dorsum more or less pale greyish or brownish-grey; second segment with the side tufts (shorter and less bushy than above) all black and with the long black hairs on dorsum very sparse and scattered, mixed with numerous minute depressed hairs which are ochraceous tawny about the centre and whitish on the sides and with more or less numerous pure white scales on the lower border which are more dense on the sides and irregularly scattered on the dorsum; third segment with the long erect pubescence also blackish on the sides and the minute depressed ochraceous-tawny hairs as numerous as above but with the white scales on the lower border very irregularly scattered about the centre and assuming a yellowish tinge; fourth tergite with the erect pubescence all black and the white scales more numerous and with a more pronounced yellowish colour about the centre; fifth to seventh laterally compressed segments with the erect pubescence mainly glistening pale brownish-yellow except for a few black hairs about the centre, as well as on the triangular tip of the abdomen, and densely covered with scales which are whitish on the sides and yellowish elsewhere and which are usually absent on the centre forming a black mid-dorsal longitudinal stripe or elongate spot; venter black with the lower third of the sternites as well as the distal border of the overlapping sides of tergites yellowish-brown and with sparse white scales, scaly hairs and whitish pubescence; hypopygium obscure, more or less dark reddish-brown.

Female : Not unlike the male but the infuscation on the wings, in the same position as in the male, is frequently darker and the tendency to form spots on the basal half is more pronounced; the three or four apical segments of the abdomen are

of the usual shape and not at all laterally compressed and white scales occur only on their lower border forming fairly regular transverse bands similar to those on the two preceding segments above, and never almost entirely cover the tergites; the long erect hairs on apical third of abdomen (on sides and tip) are usually black and more dense; distance between upper inner margin of eyes a little broader than in the other sex, being quite three times the width of the ocellar tubercle; ovipositor hidden but ending by a very thick tuft of pale brownish-yellow hairs.

Male and female length of body : 8.2 - 12.2 mm.; breadth (with wings expanded) : 16 - 26 mm.

All the twenty specimens (8 males and 12 females, including the types) have been captured in Wadi El-Rabba, near St. Katherina Monastery, at 1700 m. altitude, in April 1940; one very large female was collected in Wadi El-Arbaine, in the same locality, in the end of August 1940.

Anthrax hippolyta Wied.

A very large robust species, not unlike ocysale in general aspect but easily distinguished by the greyish-tawny vestiture of body and by the wings which possess only two sub-marginal cells and which are feebly but distinctly tinged throughout buckthorn-brown and the veins in great part bordered deep brown.

Only five Egyptian specimens of hippolyta are known, two males and three females. Three of these (two males and one female) were collected in the Mariut (Hammam), 23-29.9.1916, and one female from Moweilleh (N.-E. Sinai), 15.9.1924; and one female from Kharga Oases, 18.9.1918. The latter specimen shows a distinct predominance of black pubescence on the head, thorax and abdomen,

and almost all the thoracic bristles are black, and may be a distinct local race or variety. Anthrax hippolyta has been previously recorded from Egypt (in a very broad sense, including Nubia, the Sudan and Erythrea) as muscaria by Klug, and Wiedman's type was described from specimens collected in Smyrna.

Anthrax incisuralis Macq.

(figs. 98-99)

Anthrax incisuralis with its varieties is very common in Egypt in the Nile valley, the Delta as well as in the desert regions and the Sinai Peninsula from February to end of October.

Anthrax isis Meig.

This species is very common and has a wide distribution in Egypt. Large series were obtained from the Nile valley (from Kom-Ombo to Alexandria, Damietta, etc.). It is also common in all the wadies of the Eastern and South-Eastern desert where a couple was captured in January at Gebel Elba. Records extend from end of January to end of October, but it seems to be commoner during the warmest summer months. From the very long series examined it appeared evident that in specimens originating from cultivated regions (the Nile Delta) the wings possess the most conspicuous mummy-brown flecks, while those obtained from desert regions, such as the wadies South-East of Cairo and Helwan show a definite predominance of the entirely hyaline wing form and a distinct pale or whitish colouration of the body; in fact the latter series of specimens may easily be confused with Anthrax niphas. More than thirteen specimens from Gebel Elba, in which the flecks on the wings are extremely faint or non-existent and, together with the general pale colour of the body vestiture, render them hardly distinguishable from niphas. In many of these specimens the erect bushy hairs forming the tufts on the sides

of the second and third segments are mixed, black and dark rusty-brown, recalling those in mixtum Lw. and one specimen shows three cells to the wing margin in both wings.

Anthrax leucogaster Meig.
(figs. 100-101)

A small to fairly large extremely variable blackish to blackish-grey Anthracid with mixed black, white and yellowish colour of the body vestiture variable blackish-brown and hyaline wing design in which the more or less dark infuscation may cover the entire proximal third or more or be reduced to two or three small ill-defined brownish flecks on the upper portion of the basal half.

A. leucogaster is one of the commonest Anthracid fly in Egypt everywhere, in the Nile valley as well as in the Eastern and Western deserts and in the Sinai Peninsula. Large numbers were collected in every locality almost all the year round, during the spring, summer and autumn months and in the Southern regions, from Luxor to the Sudan, it is active on the wing in January and February.

Anthrax lucida Becker

A medium sized dull blackish fly with almost entirely hyaline wings in the male and which are usually feebly infuscated about the base in the female.

A. lucida is not common and seems to be endemic to the desert region in Egypt. The original type (a female) was described from a specimen collected at Siala in the Fayoum, in March. Since then, it has been captured in the Fayoum, Helwan, in many of the wadies (Hoff, Um Girfan, Ibtadi, Gharba) in the South-Eastern desert, the North Galala Plateau and in the South Sinai near St. Katherina Monastery. It has also been obtained from North Sinai

(Wadi Ein Gedeirat) as well as from Gebel Elba in the Red Sea hills on the frontier of Egypt and the Sudan, and in Dakhla Oasis. Records extend from beginning of February (Gebel Elba) to end of September (Wadi El-Legaa, near St. Katherina Monastery).

Anthrax melanista Bezzi

A rather small to medium sized black fly with all the pubescence on the body black, almost always including the bushy tufts on sides of basal segments, usually entirely hyaline wings, at once distinguished from all other Egyptian species by the very shining bluish-black sheen or lustre of head, thorax and abdomen.

Anthrax melanista appears to be even less common than its closely related species lucida Beck. and its distribution is restricted also to desert regions although it has narrower limits. A number of specimens of both sexes were captured in most of the wadies South-East of Helwan (Hoff, Um-Elek, Zohleiga, Morrah, Dar El-Maskhara, Silly, Garawy and Rish-Rash). The type was described from a sample collected in Wadi Hoff on 10.3.1922. One male was captured in Giza on 22.4.1935. Capture records extend from the middle of March to end of May .

Anthrax niphas Herm.

Anthrax niphas and its varieties have a fairly wide distribution in Egypt. They were captured at the Barrage, Kafr Hakim, Wadi Ibtady, Wadi Hoff, Wadi Rish-Rash, Wadi Um-Elek, Wadi Garawi, Rabba (S.-E. Sinai), and Wadi Natroun. A male, which may be a dark variety of niphas, was obtained from Salloum. Capture records extend from April to end of August.

Anthrax ocyale Wied.
(figs. 102-103)

A very large bulky blackish-grey to almost entirely coal-black Anthracid with the wings always more or less deeply tinged sepia on the basal half and upper border, almost always showing three cells to the posterior margin.

Anthrax ocyale is one of the commonest of our large Bombyliids and, like all its closely related forms, is a lover of the warmth and has been captured in almost every part of Egypt from the Mediterranean coast to Asswan, including the Sinai Peninsula and all the Western Oases (Baharia, Kharga, Dakhla and Siwa). Records extend from March 5th to end of September.

Although the melanic form or variety (sordidum) is far more common than the typical grey form of ocyale along the Mediterranean coast from Mersa Matrouh in August 1954 and from the Mex, Mariout, Mersa Matrouh and Sollum, yet this dark form was obtained from very different localities such as in the wadies S.-E. of Cairo and Helwan, as well as from the North and South Sinai.

Anthrax priesneri nov. spec.

A comparatively small to medium sized black fly resembling aethiops F. in size and facies but at once distinguished by the wing markings which possess an isolated blackish brown spot in R_1 cell below the tip of R_1 vein, and by the silvery-white scales at tip of abdomen which are much less extensive, less dense and never appearing tile-like or plastered in both sexes; plumala white.

Male : Head black, white dusted, with the scaly hairs on frons ochraceous and the erect pubescence black above and mixed with more or less numerous yellow hairs especially above base of antennae; face almost bare and grey on upper half with black hairs; occiput with short brownish hairs above near deep post-vertical

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furrow and with a short brownish-grey occipital fringe; on sides there are white scales, which are denser near eye-indentation, very much as in aethiops; occiput very depressed at vertex, the latter with round, small ocellar tubercle placed in anterior end of occipital groove and distance between upper inner eye-margins hardly twice the breadth of the tubercle almost as in the female; proboscis blackish, retracted, and mouth-opening obscure reddish-brown; antennae short, black, of the same shape as in aethiops, with the basal part of the third segment bulbiform, broader than the shallow second saucer-shaper second joint, and without a projecting border; its styliform part short and thick, bisected beyond the middle (terminal portion being the minute style) with a longish pencil at tip.

Thorax black, dull, sparsely yellow dusted, which together with the short ochraceous hairs gives it a weak but distinct brassy tinge and showing a tendency to form three longitudinal stripes; there are erect black hairs in the middle which are hardly more numerous on the sides of upper half of disc and with the collar on the anterior margin well developed and consisting mainly of black hairs with more or less numerous whitish ones intermixed, although frequently it is all whitish above and blackish beneath; chaetotactic bristles all black; scutellum black with the same vestiture as thorax and with long marginal black bristly hairs.

Wings hyaline with a characteristic blackish-brown pattern, consisting of numerous irregular blackish-brown spots which are in greater part confluent except for an always isolated irregularly shaped (rounded, quadrate or oval) spot in the distal portion of R_1 cell, immediately below and touching the tip R_1 on the costal border; a second isolated spot is often present on the cross-vein-like base of M_1 cell (or apex of 1st M_2 cell), as frequently occurring in aethiops, and due to the interruption of the large

blackish marking above, on distal third of wing, in R_3 cell; extreme base blackish-brown in centre and paler brown along the Sc cell and below over the alar squamae and alula but fading away usually before reaching the lower border of 2nd A cell; in this dark pattern of proximal half of wings, which ends in an oblique, very rugged slope (distinctly more rugged than in aethiops) there are two or three pale, almost hyaline "window" spots, one (the smallest, darker and not always present) immediately before the origin of the RM veins, and the two other larger and more conspicuous sub-hyaline spots are of very much the same shape and in the same situation as the first and second "window" spots in aethiops, although usually smaller and the first of these near base of R_3 cell hardly extending downward below in 2nd M cell; rectangular base of R_4 with or without a pedicel; r-m cross-vein placed on basal third of 1st M_2 cell and immediately above or a little before base of R_4 ; 1st A cell much narrowed, open or closed on the wing margin; plumula white, squamae pale greyish-yellow or whitish with a very slight short white fringe; halteres, very dark reddish-brown with the knob buff about the apex.

Legs very dark obscure reddish-brown, darker than in aethiops and with the hind tibiae only, often paler; pubescence long and blackish on coxae and very short sparse, and scaly, yellowish with a few whitish scales intermixed elsewhere, but more evident and crowded on the posterior femora, tibiae as usual; all bristles, spicules, spurs and claws, black; pulvilli pale brownish-grey.

Abdomen black, feebly shining with a vestiture not unlike that of aethiops but the pubescence (erect hairs and depressed scaly hairs) is not as dense and the arrangement of the iridescent

silvery-white scales is not similar; the long erect and tufted hairs are all white on the first segment and black elsewhere, usually to the extreme apex, although occasionally a few greyish-yellow hairs may occur, scattered about the tip; the iridescent silvery-white scales on the basal segment are not numerous, less conspicuous than elsewhere and found at most in a small patch on the hind border near the sides; second segment with the silvery-white scales on sides of lower border much more numerous, crowded, extending on either side over the outer third and leaving middle third of tergite with at most a very few scattered white bristly hairs over the lower fourth; the transverse elongate silvery-white spot formed by the above mentioned scales is more conspicuous than elsewhere and usually with a much broader outer border and upper margin, tapering inwards to a point; third tergite with or without (probably rubbed) the white scales on outer third or fourth of lower border more numerous and more evenly arranged in a thin transverse side-stripe; fourth and fifth segments with erect black hairs and minute depressed ochraceous scaly hairs, without any white scales; sixth tergite with dense silvery-white scales which cover most of the segment and leaving a small black triangular interspace on lower part; seventh segment black with or without white scales, often concealed on the sides by the crowded white scales of the preceding tergite; the tip of the abdomen is usually obscured by the erect black hairs of the apical tergites. Venter black with the overlapping sides of the tergites more or less pale brownish-yellow or greyish-brown; pubescence sparse, consisting of a very few scattered yellowish-grey hairs and more numerous very short depressed ochraceous hairs which can hardly be termed scaly; hypopigium obscure reddish-brown with the triangular upper forceps yellowish-grey and the tip black and the broad elongate lower claspers possessing short erect black hairs about the apex.

Female : Not unlike the male but the silvery-white scales on abdomen, especially about the tip and in consequent forming at most two pairs of transverse narrow elongate side-spots, one pair on the lower border of the second segment and the other on the sixth tergite; these white scales on the second segment sometimes form a stripe over the entire lower border and occasionally very few such white scales may occur on the sides of the lower border of the basal segment; distance between upper inner margin of eyes hardly broader than in the male; ovipositor black, with tufted short yellowish-grey hairs at the tip.

Male and female length of body 5.2 - 8.7 mm.; breadth (with wings expanded) 11.8-19.5 mm.

A long series of 34 males and 39 females including the types, were captured in various wadies at the foot of St. Katherina Mountain in S.-E. Sinai (1700-1800 m.) between April 17th and September 6th, 1939 to 1943. Anthrax priesneri is probably an endemic of the high desert fauna of Egypt.

Anthrax tripunctata Wied.
(fig. 107)

A medium sized blackish Anthracid with more or less ill-defined narrow transverse bands on the abdomen, formed by silvery-white scales; wings hyaline bearing usually three more or less conspicuous mummy-brown flecks on the cross-veins and with tarsal segments of front legs in the female only, curiously flattened and enlarged.

Anthrax tripunctatum is comparatively rare in Egypt and its distribution seems to be restricted to the neighbourhood of Cairo (Ezbet El-Nakhl, Kerdasa, Abou Rawash) and to the Fayoum district. Altogether, 7 males and 6 females, one of which only was collected in the Wadi Hoff on 31.3.1922, the other 12 specimens originating

from the above mentioned localities, were examined. Capture records extend from March 22nd to May 25th. A specimen, bearing the label "Ecloué au Caire le 3.v.1935 d'un nid de Chalicodoma muraria recueilli à Wasta sur vieux mur, le 18.xi.1934", could be identified.

Anthrax zohrayensis nov. spec.
(fig. 108)

A medium sized grey and blackish species closely allied to tripunctatum Wied. and galali mihi, possessing a series of narrow transverse bands of white scales on dorsum of abdomen and with the feebly smoky wings bearing a fourth smaller but always more or less evident mummy-brown fleck on the rectangular base of R_4 which usually does not possess a recurrent appendix in R_3 cell, in addition to the three spots always found in tripunctatum and closely allied forms.

Male : Head of a black ground colour but appearing bi-coloured owing to the vestiture of the frons being dark and on the face very pale, almost always whitish; frons bearing greyish-yellow or brown dust and minute scaly hairs and occasionally white dust along the inner eye-borders and the erect pubescence usually blackish with a few greyish-brown hairs admixed; face with dense pure white or yellowish dust which occasionally may be brownish and with the erect pubescence white or pale yellowish with a few black hairs intermixed, but occasionally this pubescence may be all brownish-grey; occiput pure white dusted, with the minute scaly hairs along the eye-borders white and with a short but well developed and dense yellowish-grey frill on margin of occipital cavity; distance between upper inner margin of eyes hardly more than twice the breadth of ocellar tubercle and distinctly narrower than in the female; antennae entirely black with the insignificant pubescence on the two basal segments black

and with the third segment elongate-conical or awl-shaped, its proximal half being much less bulbous than usual (as in closely allied species), about as long as the two basal joints together with the short terminal style sub-cylindrical, being distinctly broader at tip where it possesses a reddish-brown pencil of hairs.

Thorax dull black but appearing dark sepia coloured owing to the admixture of greyish-yellow, whitish and black pubescence on dorsum; the usual longer, more tufted hairs on the sides of anterior half as well as those forming the thick collar, are much mixed and are of about an equal proportion of black and white, although occasionally the collar may be all brownish-yellow, and the white hairs on sides much more numerous than the black ones; chaetotactic bristles black; pleurae black but densely clothed with pure white dust, scaly hairs and pubescence; scutellum of same colour and with a similar vestiture as that of the mesonotum and with the weak but long marginal black bristles or, occasionally, with a very few yellowish.

Wings very feebly smoky or infumated with the basal portion and costal border to tip of R_1 mummy-brown and always with a fourth small evident brown fleck on the rectangular base of R_4 , in addition to the dark spots described in tripunctata; the larger proximal spot gives the appearance of being an outward extension of the infuscation on base with its distal border ending on the basal third of the wing but rapidly fading away below leaving the 2nd A cell and the alula hyaline; the second almost quadrate spot is situate over the rectangular base of R_{2+3} as well as over r-m cross-vein; the third fleck is the smaller and paler, over the rectangular base of M_2 and proximal third of base of 1st M_2 cell; the fourth spot on distal third of wings is always larger than the latter (third fleck), occasionally very light but never totally

absent as is usually the case in tripunctata; r-m cross-vein placed well before middle of 1st M_2 cell and immediately below base of R_{2+3} which is usually devoid of an appendix or stump; 1st A cell closed or narrowly open on margin; plumula white; costal hook blackish-brown; comb at base of C black; squamae yellowish-white with a pure white fringe; halteres blackish-brown with the knob more or less pale buff about tip.

Legs entirely black, clothed with pure white scales which are more evident on the middle and posterior tibiae and femora, particularly so on the ventral surface; spines, spicules and claws black; pulvilli normally developed, brownish-grey.

Abdomen dull black with pale greyish- or yellowish-white and black pubescence and with a series of narrow transverse bands of white scales, one on each lower border of the second to seventh tergites; the pale pubescence which is longer and more tufted on the sides mainly occurs, as usual, on the basal segment and sparsely on the lower third or less of the sides of the second to third or fourth tergites and accompanying the white scales; the pubescence, which is much less dense on the dorsum as well as on the apical segments, is all blackish but, on the sides of the second to third or fourth tergites, forms bicoloured tufts, each tuft consisting of black hairs above and white below; the transverse bands of white scales on the third and fourth tergites are frequently interrupted in parts by blackish scales or by pubescence of scales, thus forming a black and white spotted design, and white scales also usually cover the two or three apical segments except for a more or less broad mid-dorsal space, leaving that part almost denuded and blackish; this latter dark area is always more extensive than in galali mihi; venter white dusted and clothed with pure white scales and hairs; hypopygium obscure dark yellowish-brown, partly hidden.

Female : Not unlike the male but the spots on the wings are somewhat darker, larger and more evident and occasionally the cross-vein-like distal border of 1st M_2 cell is feebly edged with brown, showing a tendency to form a sixth spot; distance between upper inner margin of eyes quite three times the width of the ocellar tubercle; the white scales forming the narrow bands on hind margin of abdominal tergites are usually interrupted only in the centre, being thus divided by a black mid-dorsal longitudinal stripe and are well evident on the second to sixth segments; seventh segment devoid of white scales but with longish tufted erect bristly hairs; ovipositor hidden, ending by an unusual ochraceous orange pubescence which is so dense that it appears felty or velvety.

Male and female length of body : 8-12 mm.; breadth (with wings expanded) 15.8-25 mm.

Owing to the shape of the third antennal joint, the wing design with the absence of an appendix near the base of R_{2+3} and the arrangement of the white scales on the dorsum of the abdomen, this species cannot be confused with any of its congeners represented in the Egyptian fauna.

Six males and eight females of this endemic species, including the types, were collected in the wadies near St. Catherine Monastery (South Sinai), at 1700 m. altitude, between June and middle of September 1940-1943.

Genus EXOPROSOPA Macq.

Key to species

- 1 (2) Second cell R_3 divided by a transverse vein so that four submarginal cells are present ... bisharensis nov. spec.
- 2 (1) Second cell R_3 not divided so that never more than three submarginal cells are present (1)
- 3 (4) Lower border of 1st M_2 cell deeply undulate and forming an angle which projects into 2nd M_2 cell and which emits an appendage in this cell showing a tendency to duplicate it; 2nd posterior cell M_1 constricted near base and may or may not be divided by a small additional cross-vein in which former case a supernumerary cell is present (5 posterior cells, Cu_1 cell included) pygmalion F.
- 4 (3) Lower border of 1st M_2 cell normally undulated without an angle or appendage; 2nd posterior cell normal and never divided (3)
- 5 (16) Wings apart from the definitely ochraceous, very faintly yellowish tinge in upper border either entirely hyaline or with more or less extensive infuscations at base as well (16)
- 6 (7) Wings very glassy iridescent with R_{2+3} and R_4 very deeply sinuate, the latter almost angular, giving R_4 cell an L-shape; head and body bearing brilliant metallic, iridescent multicolored scales stupida Rossi
- 7 (6) Wings less glassy iridescent with R_{2+3} and R_4 normally undulate; no metallic multicolored scales anywhere (6)
- 8 (11) Abdomen (sometimes thorax as well) transversely banded (11)
- 9 (10) Bands on abdomen due to whitish pale olive-buff scales and hairs as well as of black scales, the latter, forming black bands being narrowed laterally and not reaching lower outer angles of tergites minos Meig.
- 10 (9) Transverse bands of pure white and antimony yellow vestiture on second and third abdominal segments, mesonotum and scutellum as well decrepita Wied.
- 11 (8) Abdomen not banded but uniformly clothed with unicolorous scales (8)

- 12 (13) Yellowish-white vestiture on abdomen so dense that latter appears mildewy; head and thorax yellow-ochre to ochraceous squamose; wings, in addition to the infuscation along C and Sc cells, with a feeble but distinct milky opaque hue; large species pharaonis Param.
- 13 (12) Thorax and abdomen clothed with uniformly coloured vestiture not at all appearing mildewy; wings without a milky opaque hue, medium sized species (12)
- 14 (15) Dense vestiture on thorax and abdomen of a uniform rich deep yellow-ochre colour; two basal segments of antennae reddish-yellow, third black joint almost cylindrical being only a little narrower at the apex than at base and without a style flava Param.
- 15 (14) Body vestiture not dense, consisting mainly of mixed pale yellow or cinnamon-buff scaly hairs and pubescence; antennae entirely blackish, third joint elongate conical ending in a short stout style Circeoides Param.
- 16 (5) Wings never entirely hyaline, with the infuscation usually much more extensive at base and often with more or less conspicuous spotted, banded or mottled design or uniformly infuscated sepia (5)
- 17 (20) Tawny-olive or sand coloured spp.; cell R_5 closed before the margin (long or short petiolate) (20)
- 18 (19) Cell R_5 closed at a short distance from the margin (its petiole much shorter than the cross-vein between 1st R_3 and R_3 cells); wings with often ill-distinct (sometimes hardly perceptible) oblique brownish-yellow infuscated band, but (in addition to infuscations covering r-m cross-vein and distal extremity of M_1 cell and on lower boundary of r-m cross-vein) also with dark spots respectively on base of upper branch of R_4 and on upper extremity of transverse vein separating 1st R_3 and R_3 cells; wing membrane light milky opaque, which colour is more evident about the centre of most of the cells mucorea Klug
- 19 (18) Cell R_5 closed usually far from wing margin (its petiole at least twice the length of cross-vein between 1st R_3 and R_3 cells); wings usually with darker brown infuscations forming very uneven spots or blotches covering most of transverse veins; wing membrane deeper milky opaque but with most of the cells clouded brown about the centre rivulosa Beck.

- 20 (17) Reddish-brown, blackish-brown or black species; cell R_5 more or less wide open apically, never closed before margin (17)
- 21 (22) Wings hyaline with a feeble brownish tinge but with a more or less conspicuous suffused brownish-yellow area about the base and extending oblique to tip of R_1 ; face conically produced, acute; head and thorax with shining silvery white to whitish-yellow vestiture which on the latter form three conspicuous longitudinal stripes; abdomen densely clothed with uniformly rich yellow-ochre scales; bristles on thorax weak, brownish-yellow efflatouni Bezzi
- 22 (21) Wings with different but variable patterns; face conically produced but blunt or obtuse; vestiture on body otherwise; bristles on thorax usually well developed, variable in colour, often all black (21)
- 23 (24) Wings hyaline with a dark sepia-brown suffusion on base, extending along anterior border to tip of R_1 ; abdomen clothed with dense yellowish-white, black and ochraceous vestiture forming characteristic broad transverse bands; legs entirely black; bristles well developed, black; large species elbayensis nov. spec.
- 24 (23) Wings hyaline with mottled brownish-black pattern or infuscated with clouded cross-veins; abdomen not banded but may be adorned on sides with tufts of long hairs; legs reddish-brown and blackish; bristles mostly reddish-yellow (23)
- 25 (26) Abdomen broad, flattened, almost discoidal with a conspicuous tuft of long black and white hairs on sides, in addition to a small rounded mid-dorsal light spot or dot on all the tergites, wings narrow-elongate with a very characteristic mottled brownish-black and hyaline pattern with most of the veins narrowly margined with whitish-yellow and with the alula considerably reduced, obsolete zanoni Bezzi
- 26 (25) Abdomen never as broad and not flattened, devoid of long tufts of hairs on sides and centre; wings more or less strongly infuscated, with clouded cross-veins forming ill-defined anastomizing spots; wings of normal shape

- not narrow; venation not margined with pale yellow and alula usually normal or at most weakly developed, never obsolete (25)
- 27 (28) Uniformly brownish-yellow infuscation of wings with rather evident darker brown spots on transverse veins; third segment of antennae short-conical with a short stout style; small species spiloneura Bezzi
- 28 (27) Brownish-yellow or clay colour infuscation of wings deeper on proximal half and upper border with much less evident, ill-defined brownish spots; third segment of antennae elongate-conical with a longish narrow style; large thick-set species algira F.
- 29 (30) Wings with extensive sayal brown pattern including yellowish fenestrae and an abbreviated hyaline middle band; abdomen very broadly-conical, blunt at apex; legs reddish with tarsi only blackish aegina Wied.
- 30 (29) Wings with more or less extensive snuff-brown pattern, without fenestrae (except a small one at most in the upper outer angle of 2nd M cell), with or without an abbreviated hyaline middle band or broad indentation on lower border; abdomen elongate-conical more or less narrowed or acute apically; legs usually obscure dark reddish-brown to black (29)
- 31 (32) Yellowish-brown infuscation of wings becoming darker, snuff-brown on distal and lower boundaries with a broad hyaline indentation which is prolonged outwards below on lower margin and extends obliquely upwards covering the apical portion to tip of R_1 ; legs obscure reddish-brown to blackish; pubescence on two basal segments of antennae black tamerlan-bezzii Param.
- 32 (31) Yellowish-brown infuscation of wings, which is also darker snuff-brown about distal boundaries and covering almost proximal half, extending obliquely and rather irregularly or jaggedly outwards without an indentation or abbreviated hyaline band and ending (attenuated) about the apex of cell R_1 ; legs reddish-yellow with the tarsi darkened (blackish); pubescence on two basal segments of antennae reddish-yellow ... ammophila Param.

- 33 (38) Wings, except distal extremities, practically uniformly black (38)
- 34 (37) Posterior tibiae pinnate; thorax and abdomen with very beautiful iridescent metallic scales (37)
- 35 (36) Iridescent metallic scales on thorax violet and bluish, those on entire abdomen of a superb glittering golden colour chrysogaster Bezzi
- 36 (35) Iridescent metallic scales on thorax and abdomen mixed bluish-violet and black chalybea von Roed.
- 37 (34) Posterior tibiae not pinnate; scales on body mainly black megerlei Meig.
- 38 (33) Wings except distal extremities not uniformly black ..
..... (33)
- 39 (40) Wings with the black portion possessing one large conspicuous rounded hyaline central spot and a much smaller hyaline spot on the upper outer angle of 2nd M cell; plumula white; screen in front of halteres black notabilis Macq.
- 40 (39) Wings with a very different black or blackish-brown and hyaline pattern or uniformly infuscated sepia ..
..... (39)
- 41 (42) Wings entirely and almost uniformly infuscated sepia; style of antennae very short conical; bristles on thorax yellow; medium sized species fayoumi nov.spec.
- 42 (41) Wing pattern very diverse consisting either of the mainly blackish portion with hyaline indentations and spots as well as with subhyaline spots in addition to the more or less extensive hyaline distal extremity or the wings deep blackish-brown with the lower and distal thirds mottled; style of antennae thin and long or short and stumpy; bristles on thorax black; medium sized to large species (41)
- 43 (44) Wings with the blackish-brown and hyaline pattern forming characteristic and distinct mottled or marbled design owing to the veins (longitudinal and transverse) in the hyaline portion being bordered or margined with blackish; style of antennae thin and long; abdomen conspicuously banded white and yellow lacerata Engel

- 44 (43) Wings except distal extremity brownish-black to dark brown with hyaline indentations and spots or jagged lower border and the posterior third without a mottled effect; abdomen usually less conspicuously banded (43)
- 45 (46) Brownish-black wings (except distal extremity) with a conspicuous hyaline median abbreviated indentation and a small rounded hyaline spot in upper outer angle of 2nd M cell; collar, notopleural hairs and tufted screen in front of halteres vivid ochraceous-orange only the latter with some black hairs efflatoun-beyi Param.
- 46 (45) Brownish-black wings (except distal extremity) with the hyaline parts forming different designs; collar, notopleural hairs and screen in front of halteres whitish-yellow to antimony yellow (45)
- 47 (48) Blackish-brown infuscation of wings extending over distal upper angle of cell R_4 as well as on entire 2nd A and 1st A cells; median hyaline indentation on lower margin broad-conical (female) or reduced to isolated elongate-oval spot (male) but almost vertical, with its narrower upper portion towards middle of 1st M_2 cell; blackish area of wings with at least three small rounded subhyaline spots on proximal half (much more evident in female); frons very shining black; front parts of head with glistening creamy-white scales; plumula white; screen in front of halteres antimony yellow sinaitica nov. spec.
- 48 (47) Deep brownish-black or blackish-brown infuscation of wings not extending over distal angle of R_1 cell nor on distal portion of 1st R_3 cell; median hyaline indentation on lower using margin more or less conspicuous, not evenly conical, with its narrower upper portion in distal half of 1st M_2 cell; blackish area without or at most with one small subhyaline spot or fenestra; from dull black; scales on head yellow-ochre; plumula and screen in front of halteres both more or less pale buff-yellow (47)
- 49 (50) Infuscation of wings deep brownish-black, with the outline of the dark colour very sharply defined and with the venation in the hyaline portion feebly margined

brownish; hyaline area on lower border interrupted by infuscation extending on apex of 1st A cell; black portion devoid of fenestrae; abdomen with a broad conspicuous, outwardly expanded transverse band of yellowish-white scaly hairs on second segment and with a narrow inconspicuous band on each of the consequent segments ferani nov.spec.

- 50 (49) Infuscation of wings blackish-brown with the outline of the dark colour not sharply defined, somewhat blurred, and the venation in the hyaline portion very faintly margined with a brownish tinge; hyaline area on lower border continuous (i.e. extending over apex of 1st A cell); blackish portion with one subhyaline fenestra on upper outer angle of 2nd M cell and with the narrow basal portion of R₁ cell brownish-yellow; abdomen with cinnamon-buff vestiture which is mainly concentrated on distal sides of tergites forming not very conspicuous lateral spots
 intermedia nov. spec.

Exoprosopa aegina Wied.
 (figs. 109-111)

This very large, handsome typically arenicolous species is very common in all the desert regions. More than fifty males and seventy females were examined, caught from different localities in the Western desert (from the Gizah Pyramids to Wadi Natroun, the Fayoum road, the Oasis of Baharia, Kharga, Dakhla and Siwa, as far South as Aswan) and in the Eastern desert (most of the Wadies of the Red Sea Coast from Suez to Gebel Elba) as well as in the Sinai Peninsula (from El-Arish, Wadi Ein Gedeirat to Abou Zuneima, Wadi Feran and in the vicinity of St. Katherina Monastery, altitude 1600-1800 m.). Date of captures runs from middle of May to the end of September. However, it is commonest during the warmest months in the summer.

Exoprosopa algira F.

(figs. 112-113)

A large thick-set obscure dark yellowish or reddish-brown species like aegina Wied. in size and bulkiness, but at once distinguished by the pattern of the wings which are feebly infuscated with cloudy cross-veins and bifurcations.

This species is not common in Egypt where its distribution appears to be almost restricted to the western mediterranean coast. Of the eight specimens so far collected (five males and three females) only one male was captured in the Fayoum in May 1945, the seven others at Marsa Matruh in May 1930.

Exoprosopa ammophila Param.

(figs. 114-115)

A large reddish-brown species not unlike aegina in general aspect, but less bulky and less thick-set, distinguished by the two black broad triangular markings on the dorsum of the second to fourth segments of the abdomen and by the equally not pronounced wing pattern but which is less extensive and in which the infuscated area is devoid of a median hyaline band but possesses only one small inconspicuous fenestra.

Female (nov.) : The single type-specimen known so far is not unlike the male but with a fairly large conspicuous isolated brown spot in the hyaline portion of the wings near the apex of 1st M_2 cell (which spot is either extremely faint or absent in the male) and the abdomen is darker, being chestnut-red with the black design somewhat different. The black triangular spot on the third tergite is almost as large and as extensive as that on the second segment and (viewed from behind) the fourth segment with a small median somewhat semi-circular spot on the upper margin; upper border of the fifth and sixth segments with the black design in the shape

of an elongate transverse spot or band occupying the middle third of the dorsum; seventh tergite black except the lateral margins only obscure reddish-brown with sparse minute black pubescence on the disc and with the coarse, comb-like bristly hairs on the hind margin all black. The pale glistening yellowish-white scales are extremely sparse and are totally absent on the seventh segment (possibly rubbed off); basal half of seventh sternite (part of the ovipositor) blackish, apical half reddish-yellow; ovipositor concealed, bearing erect reddish-brown bristly hairs at the tip. Distance between upper inner margins of eyes broader than in the male, being almost four times the breadth of the ocellar tubercle. The vestiture on the mesonotum, which consists of numerous pale yellow scales in addition to the very short hairs, is more dense than in the male and these scales form three ill-defined although evident longitudinal stripes.

Male and female length of body : 16-20.3 mm.; breadth (with wings expanded) : 33-40 mm.

The only five specimens of this handsome endemic species known (four males and one female, including the types) originate from Gebel Elba, South Eastern Desert, and were all collected between the middle of March to May 15th in 1928 and 1929.

Exoprosopa bisharensis nov. spec.
(fig. 117)

A large ~~b~~ dull black species with the squamosity on the upper half of the third abdominal segment whitish-yellow forming a single, rather evident, light coloured transverse band, at one distinguished by the almost dimidiate wings in which the boundary of the blackish-brown basal portion is very oblique and ~~is=divided~~ ~~by=a-transverse-vein=so=that~~ in which the 2nd R_3 cell is divided by a transverse vein so that four submarginal cells are present.

Female : Head blackish above and behind, obscure yellowish-brown in front and clothed with sparse ochraceous to Mars yellow scales and with short, erect black pubescence on frons and face; conical face moderately prominent and not obtuse; postvertical furrow not deep and feebly dilated behind; distance between upper inner eye margins almost three times the breadth of the ocellar tubercle; antennae with the two basal segments obscure reddish-brown and with erect black pubescence; third segment conical, black, about as long as the two first joints together and terminating in a narrow blackish style which is almost as long as the joint itself.

Thorax entirely dull black in ground colour except the post alar calli and scutellum obscure dark reddish brown, clothed on dorsum with very short depressed mixed black and yellow scaly hairs and hairs which gives them a rusty-black appearance; well developed collar ochraceous tawny; all the longer erect pubescence on the sides in front of the wing base coarse, black but ~~of~~ many of the softer long hairs on the lower portion of the mesonotum and scutellum are reddish; chaetotaxy well developed with all the strong but not long bristles black; pleurae dull black with long tufted black pubescence on the front and sides of the upper parts and much less dense, mixed reddish-yellow and black below (parallel with wing base).

Wings with a well marked brownish-black venation, almost dimidiate with the distal border of the blackish-brown area at the base very oblique and fairly sharply defined, the boundary of this deep infuscation extends over the proximal half of 2nd A cell and obliquely upwards on the basal two thirds of 1st A cell, the basal narrower portion of Cu_1 cell, almost the proximal half of 1st M_2 cell, the greater length of R_1 cell (except the expanded distal portion) and on the entire Sc cell where it terminates in a narrow streak at the tip of R_1 ; r-m cross-vein placed towards middle of

1st M_2 cell and a little after the rectangular base of R_{2+3} ; lower marginal R_3 cell, as stated in the diagnosis, divided by a transverse vein which forms a fourth sub-quadrate lower marginal cell, R_5 and 1st A cells open, but narrowed on the margin, the latter more so than the former; costal hook blackish; basal comb very well developed, black, with mixed yellow and black squamosity; alula and squamae blackish-brown with well developed dark brown scaly fringes; plumula ochraceous-brown; tufted screen in front of halteres black; halteres blackish with the knobs yellowish-brown about the apex.

Legs very dark brownish-black or blackish with very sparse reddish-yellow scales, at most on the middle and hind legs only and minute erect black pubescence which is found on the front tarsi; all the numerous spines and well developed rows of spicules (absent on front legs) black; claws black and apparently basal tooth obsolete.

Abdomen with parallel sides, truncate at end, not broader than thorax, entirely black in ground colour and clothed with an almost uniformly black vestiture except on the basal half or so of the third tergite where the depressed scales and scaly hairs are more or less pale whitish-yellow, and where they form a solitary rather conspicuous (when viewed in certain lights) pale transverse band and for some scattered similarly coloured scaly hairs on the sides and distal border of the apical segments; all the longer erect hairs on the sides of base, sides and lower margin of apical segments numerous, coarse and black; venter black with sparse uniformly black vestiture; ovipositor concealed, brownish-yellow apically but the lower margin of the sixth tergite (best seen from beneath) and dorsum of seventh (which apparently forms part of ovipositor) bear yellowish depressed scales.

Length of body : 14-15 mm.; breadth (with wings expanded): 32-33 mm.

Male : Unknown.

The only two females of this new species, belonging to the sub-genus Hyperalonia were collected in Wadi Edeib (Gebel Elba), 2.ii.1933. Such a record is not surprising owing to the fact that the above locality is on the extreme southern border of Egypt whose fauna contains a quantity of insects with characters which are transitional between the Palaearctic and Ethiopian faunas or even with solely Ethiopian characteristics.

Exoprosopa chalybea Von Roeder
(figs. 118-120)

A large handsome blackish violet species with the wings almost uniformly blackish except at the apex hyaline, cadmium or reddish-orange head, collar and side tufts of hair on the base of the abdomen, distinguished by the beautiful irrident metallic violet and bluish scales which cover the entire dorsum of the thorax, scutellum and abdomen.

The only two specimens known from Egypt, one male and one female, both in excellent condition, were captured on July 7th, 1943, in Wadi Itla near Rabba, close to St. Catherina Monastery, S.-E. Sinai, 1700 m. altitude.

Exoprosopa chrysogaster Bezzi

A large species with the colour of the head and thorax, as well as the wing design almost as in *chalybea*, but at once distinguished from it and by the beautiful metallic golden scales which uniformly cover the entire dorsum of the abdomen.

Male (novum): Head of the same reddish orange ground colour, of the same shape as and with a similar vestiture to that of chalybea but with a few scattered bluish-violet scales about the center

centre of the lower half or more of the face (where it is of a distinctly darker ground colour), in addition to the reddish-yellow pubescence; occiput with minute black hairs except for the more numerous yellowish-white scaly hairs and hairs behind, about the line of the eyes; antennae reddish-yellow with the equally reddish-yellow pubescence on the two basal segments mixed with a few black hairs dorsally.

Thorax and scutellum of the same blackish ground colour as in chalybea, except all the calli and dorsum of scutellum vestiture (apparently rubbed) obscure brownish-yellow and entirely covered with dense irridescent or shimmering metallic scales which, when seen from above and the light from in front are mostly dark violet with true purple scales about the centre forming three short but broad, ill-defined longitudinal stripes; moreover the scales on the side and lower margins and particularly on and in front of the post alar calli are of a true purple colour particularly so when examined in profile and the light coming from in front (in chalybea they are bright indigo blue); collar with the upper half reddish-orange but the lower portion, below the humeral calli black, like the notopleural tuft in front of the wing base; the black pubescence is short, extremely sparse, even on the sides and the few short chaeto tactic bristles are black and apparent at most on the post alar calli and on the margin of the scutellum; pleurae obscure reddish-brown, shining, with all the usual pubescence on the front half black except for a small tuft of white hairs on the upper front part of the mesopleura, immediately below the base of C (which is absent in chalybea); scutellum obscure brownish-yellow about the centre, darker (blackish) about the margins and probably bedecked with similarly coloured vestiture as the mesonotum but apparently often rubbed off; marginal scutellar bristles black.

Wings almost entirely infuscated blackish-brown with the apex hyaline, very much as in chalybea but of a less deep blackish colour and with a distinct brownish shade; a small sub-quadrate brownish-grey fenestra also occurs in the upper outer angle of 2nd M cell; cells R_5 and 1st A open and the latter more narrowed apically than the former; costal hook and comb black, the latter with dense shimmering purple scales and short scattered black pubescence; fringe of squamae, of alula and tufted screen in front of halteres, as well as the latter blackish.

Abdomen conical, brownish-black in ground colour as in chalybea but entirely clothed on the dorsum with beautiful depressed glistening metallic golden scales; basal segment with more or less pale orange-yellow long pubescence; second to fourth tergites with the usual pubescence on the sides (longer and more apparent on the second) black but the remaining segments mostly with reddish-yellow hairs on the sides and apically; venter more or less dark reddish-brown or somewhat paler about the centre and with sparse mixed blackish, grey and yellowish soft long and short pubescence; hypopygium retracted, bulbous apically and brownish-red.

Legs reddish-yellow with the apical tarsal segments only of the front legs and all the coxae darkened; the latter with longish black pubescence; front and middle femora almost without scales and only with short mixed yellow and black pubescence; front tibiae and tarsi smooth; middle tibiae with short yellow hairs some of which are black on the outer side; hind femora with mixed reddish-yellow and black scales and pubescence, the light coloured vestiture being concentrated on the dorsal portion about the apex; hind tibiae with long erect blackish-brown scales quite as long as one and a half times the diameter of the segment, which are concentrated only on the inner and outer sides giving the joint a feathery appearance and which are also shorter and less erect

at both extremities and with a few scattered reddish-yellow hairs dorsally; sparse rows of minute spicules on middle tibiae only, black; weak apical spurrs reddish-brown; claws black with a minute sharp basal spine.

Female very similar to the male, cells Cu_1 and 1st M_2 each with an oblong paler spot, in addition to the greyish fenestra in 2nd M cell which reminds one of the smaller but rather more apparent drop-shaped spots in chalybea and which are apparently absent in the male; distance between upper inner eye margin a little broader than in the other sex, being about twice the breadth of the ocellar tubercle; ovipositor retractor reddish-yellow apically and with similarly coloured spines.

Male and female length of body : 16 mm.; breadth (with wings expanded) : 31 mm.

Of the six specimens, three of each sex, known of this species, five (2 males and 3 females) were captured in Wadi Digla between July 25th to August 10th, 1926. The sixth (a male specimen) was obtained from Wadi Garariyat on 17.vi.1932.

Exoprosopa circeoides Param.

A medium sized cinnamon-buff fly with entirely hyaline wings which recalls Thyridanthrax circe Klug but distinguished at once from the latter by the presence of three submarginal cells (2nd R_3 , R_4 and R_5) and by the pale brownish-yellow hairs on the sides and lower margin of the abdominal segments.

Exoprosopa cercooides and its var. nigrofasciata appear to be rare and not very distinct, although after studying further richer material this presumption may be wrong. The only five specimens known so far, of this species and its variety, including the types (2 males and 2 females) were obtained from widely

different localities and in two different seasons. The male and female types were captured in Wadi Zohluga (S.-E. of Helwan) on 27th March 1925, the male type of variety nigrofasciata in Ezbet Nakhl (North of Cairo) on 11th August 1925, and the female type of the same variety was obtained from Faraskour (North of the Delta) on 20th September 1926. The fifth specimen, a male, which was collected at the Barrage on August 3rd 1922, appears to be an intermediary form between the two above types owing to the cinnamon-buff squamosity on the dorsum of the abdomen showing some black scales about the centre of the fore margin of the second and third tergites only. The two basal segments of the antennae are reddish yellow only in the type female from Faraskour, but black in the other four specimens.

Exoprosopa decrepita Wied.

A small to medium sized (or even comparatively large) whitish yellow species with entirely hyaline wings except the fore-border yellowish and with the vestiture of the abdomen bicoloured and forming variable but characteristic designs.

Exoprosopa aegyptiaca Param., the male type of which has been collected at Wadi Digla and the female type at Kassassine, is a synonyme of decrepita Wied.

Exoprosopa decrepita is not uncommon along the border of the western and eastern deserts, where most of the captures were obtained from Kerdassa, Kafr Hakim, Megadlah, Borgash, Mansouria, Dahshour, the Fayoum and Gebel Elba (South Eastern desert).

Eight specimens of both sexes, including the type of the male of albifacies Param. (a synonym of decrepita) were obtained from Ismailia. Four darker specimens, with numerous black hairs scattered on the frons and bicoloured antennae and which may be a distinct species, were captured in the Barrage. The records for this species extend between the end of May to the end of September, 1922 - 1950, with the exception of the single male specimen from Gebel Elba which was collected on 11th March, 1928.

Exoprosopa efflatouni Bezzi
(figs. 121-122)

A comparatively small to large species closely related to *minos* Meig., but at once distinguished by the design of the thorax and the yellow-ochre vestiture of the body.

Exoprosopa efflatouni is fairly common in the S.-E. Desert in Egypt. Samples were also obtained from many of the wadies East and South-East of Meadi and Helwan (Digla, Hoff, Um Elek, Rishrash), in Fayoum (Tamyia), at Marg (North of Cairo), El-Arish, Wadi Ein Gedeirat and Rafa in Northern Sinai. From Southern Sinai, a large female was collected at Farsh Gabal Moussa (altitude 2000 m.). Capture records occur during the hottest summer months and extend between the middle of May to the end of August 1921-1951.

Exoprosopa efflatoun-beyi Param.
(fig. 123)

A large blackish, stoutly-built fly distinguished by the long, exerted proboscis, the vivid reddish-orange collar, and similarly coloured tufted hairs on the notopleura and on the sides of the basal portion of abdomen and by the characteristic wing pattern which is mainly blackish except the apex hyaline, with the black area possessing a long and broad median hyaline indentation and a small pale "window" in the upper outer angle of 2nd M cell (predisoidal).

Female : Head shining black on the upper third of the frons, vertex and on the strongly developed occiput, and brownish-red elsewhere in front, although somewhat darker (blackish about the centre of the face and paler (reddish-yellow) on the sides of the mouth-opening, and again on the upper part around the deep post-vertical furrow; face very feebly protruding into a blunt cone and clothed with sparse silvery white scales and very short sparse

mixed yellowish and black hairs which extend upwards on the lower third of the frons; upper part of the latter almost bare, very shining with very sparse erect pubescence (possibly rubbed); proboscis blackish, long, extending forward (when viewed from beneath) for a distance which is almost twice the length of the mouth opening and seen from above twice the length of the head; distance between upper inner margin of eyes almost five times the breadth of the ocellar tubercle; antennae with the elongate cylindrical basal segment reddish-yellow and the short second joint darker and both with very short sparse erect black hairs; third segment missing.

Thorax and scutellum entirely black in ground colour, clothed on the dorsum with blackish scales which on the lower part appear grey or whitish when viewed from certain angles, and near the upper border behind the vivid reddish-orange collar as well as on the sides, accompanying the black chaetotactic bristles there are longish erect black hairs; the vestiture on the dorsum shows, also in certain lights, three obscure, faint longitudinal stripes which appear to be formed by the peculiar lustre of the scales on these areas; tuft of upturned hairs on the notopleura very coarse, bristly and vivid reddish-orange, like the screen in front of the halteres but the latter however are preceded with black hairs below the wing base; pleurae shining blackish with a characteristic broad oblique pale stripe, formed by very dense elongate glistening silvery white scales which cover the posterior half of the mesopleura and most of the notopleura where they are replaced, above, by a tuft of long yellowish hairs; a few erect black hairs occur mixed with the latter, above and on the lower border of the reddish-orange tuft; scutellum with a similar vestiture as that of the mesonotum and with the marginal bristles black.

Wings dark brownish-black with characteristic hyaline markings; veins black, blackish-brown about the apex; r-m cross-vein placed just before the middle of 1st M_2 cell and immediately after the hardly rectangular base of R_{2+3} , R_5 cell much narrowed apically and almost closed on the wing margin; 1st A cell open on the margin; basal hook narrow cone-shaped, acute, black; costal comb black squamose but the scales are mixed with numerous minute yellowish hairs which, when viewed in certain lights give the comb a distinct greyish sheen; plumula and screen in front of halteres blackish and reddish-yellow; fringe on base of 2nd A cell, on alula and squama blackish brown, that on the latter darker; halteres brownish-black with the knob hardly less dark about the apex.

Legs with the coxae and all the hind legs black but with the front and middle pair reddish-brown, the latter being more obscure, blackish; front legs robust and bare; middle and hind legs clothed sparsely with black scales except on the outer and inner sides of the posterior tibiae where many are whitish and accompanied by dense short black bristly hairs which are much more closely set and more crowded than on the dorsal and ventral sides and on the middle legs; rows of weak and short spicules and well developed tibial spurs on middle and hind legs black; claws black, obscure reddish-brown about the base and with a microscopic acute basal tooth.

Abdomen apparently entirely brownish-red in ground colour, less dark about the base but this colour (except on small rubbed surfaces) concealed by very dense mostly black and very sparse, scattered whitish scales (the latter only visible in certain lights and were numerous on the two or three basal segments); pubescence on sides of first and sides of upper third or half of second tergites vivid reddish-orange but black elsewhere (sides of distal half of

second and consequent segments as well as the lower borders of the apical tergites); venter reddish-yellow about the basal third and gradually darkening apically where it is blackish; ovipositor retracted and concealed.

Male : unknown.

Unfortunately, since the capture of the one female specimen of this species on August 6th., 1926, in Wadi Digla, no other specimens have been found again.

Exoprosopa elbayensis nov. spec.

A large species, closely allied to and somewhat resembling Exoprosopa minos Meig. in wing design, but distinguished from the latter by the much larger size, by the shape of the antennae and by the banded abdomen, in which the bands are formed by alternating more or less pale ochraceous-yellow and blackish scaly hairs.

Male : Head black in ground colour except about the mouth margin brownish-yellow; frons with glittering satiny yellow scales which are very sparse (almost absent) on the upper part (in front of the ocellar tubercle) and which increase in number downwards until they become rather dense on face; all the front parts bear short erect hairs which are mainly black except below, about the mouth margin where they are all shining yellowish; occiput bearing satiny whitish-yellow puberulence and scales; distance between upper inner eye-margins almost three times the breadth of the ocellar tubercle; antennae with the two basal segments black with short erect black pubescence; third segment entirely black or obscure dark reddish-brown, much less conical in shape than in minos (very gradually tapering to the apex), almost twice the length of the two first segments together and terminating in a minute stumpy style which is not more than one tenth the length of the joint itself.

Thorax of black ground colour but the ^Scutellum obscure brownish-yellow to reddish-brown except at the base more or less extensively blackish; all the longer erect hairs of the collar, prosternum and on the anterior half of the pleurae are ochraceous, -buff or ochraceous-orange; vestiture on mesonotum and scutellum consist of sparse yellowish-ocher scaly hairs and very short decumbent yellowish hairs which on the mesonotum are paler on three ill-defined longitudinal stripes and which are as usual more numerous longer, but often not paler on the sides of the disc and margins of the scutellum; all the bristles are black and usually very few of the erect hairs near the lower border of the mesonotum are also black; pleurae black with long tufted pubescence which is whitish yellow about the center and becoming gradually darker in front and towards to sides (in front of and below the wing base).

Wings hyaline with the design similar to that of minos but the brown suffusion is much darker and deeper, particularly on the anterior margin where it is of a warm sepia colour; r-m cross-vein placed only a little before the middle of 1st M_2 cell and usually immediately below (rarely a very little after or before) the base of R_{2+3} ; cells R_5 and 1st A always open on the margin; costal hook black; basal comb yellow-ocher squamose with the short erect hairs mixed, ocher and black, the latter being predominant over the former on the upper border and distal narrower portion; alula and squamae clay colour with a yellowish-brown fringe; plumula and hair-screen in front of halteres ochraceous-buff or antimony yellow; halteres dark reddish-brown with the knobs light buff.

Legs entirely black with at most a very few greyish scales on the dorsal side of the posterior tibiae only and with all the spines and spicules black (absent on the front tibiae); all the coxae with black bristles; claws black, obscure reddish-brown about the base, with a blackish, minute, pointed basal tooth.

Abdomen varying in ground colour from almost entirely black to blackish with more or less broad reddish-yellow to yellowish-brown lower and lateral margin to the tergites and sternites, this latter colour being often more extensive on the apical segments, so much so that the seventh (often the sixth as well) are entirely reddish-yellow; the arrangement of the colours of the vestiture

reminds that of minos but the paler squamae forming the lighter ~~tr~~ transverse bands on the tergites are rarely as whitish, being ochraceous-buff and paler only on the sides of the second to fourth segments and on the distal half (or more) of the second tergite the scales are blackish and accompanied on the sides by erect black pubescence; the outline or border of the ochraceous-buff and paler scales is very ill-defined the former being usually predominant on the middle two thirds of the third, fourth and sixth segments, much paler on the sides and with more numerous black scales on the fifth; the short erect black pubescence occurs on the sides of the distal half of the second sternite on the sides of the third to fifth sternites, as well as on the dorsum of the sixth where it is more scattered; seventh segment with reddish yellow pubescence, in addition to yellowish scales; venter brownish-yellow with the two or three proximal sclerites blackish about the base and clothed with fairly dense whitish scaly hairs and pubescence, but which are mainly black on the fifth and yellow on the two apical segments; hypopygium brownish-yellow with reddish-yellow pubescence apically.

Female : Very much like the male but the general ochraceous colour of the vestiture of the body is somewhat darker, and the short erect black pubescence on the sides of the tergites are much more numerous and extending on the entire lower margins of the two apical segments; ovipositor yellowish-brown with reddish-yellow spines and similarly coloured pubescence; distance between upper inner margins of eyes hardly broader than in the male.

Male and female length of body : 14-18 mm.; breadth (with wings expanded) : 26-35 mm.

Only five males and six females, including the types, have been collected at Gebel Elba (wadies Edeib and Kansisrob) between January 25th and February 5th, 1930.

Exoprosopa fayoumi nov. spec.
(figs. 124-125)

A median blackish and cinnamon species, closely allied to Pygmalion F. but at once distinguished by the uniformly infuscated wings in which the venation is more normal and the veins never marginal with deeper colour, by the shape of the short brownish-yellow stumpy style of the antennae and by the more pointed conical face.

Male : Head face entirely reddish-yellow bearing sparse short sub-erect pubescence which is glittering yellowish on the sides and mainly blackish about the centre and with very few scattered yellow scaly hairs; frons blackish with more numerous yellow scaly hairs and mainly black erect pubescence; occiput blackish with fairly dense ochraceous-yellow scales; proboscis black, not extending beyond the mouth opening; distance between upper inner margins of eyes quite twice breadth of ocellar tubercle; antennae with the two basal joints obscure reddish-brown and bearing mainly black erect pubescence and fewer reddish-yellow hairs on the sides and beneath; third narrow elongate-conical segment blackish, only a little longer than the two first segments together and terminating in a comparatively stout, stumpy, conical brownish-yellow style which is hardly one fifth the length of the joint itself.

Thorax of black ground colour with the portalar calli and margin of scutellum obscure dark reddish-brown and clothed with yellow-ocher or ochraceous-orange scaly hairs which is sparse on the disc and with the longer pubescence of the collar and on the sides of the upper half of the mesonotum similarly coloured; all the short weak bristles are reddish yellow; pleurae obscure dark reddish-brown, almost blackish with paler reddish-yellow scaly hairs and yellow pubescence.

Wings almost uniformly and evenly infuscated, practically without lighter coloured areas (neither about the centre of 1st M_2 cell nor on the distal portion), and also with the venation never margined with deeper colour, as is always the case in Pygmalion; r-m cross-vein placed well before the middle of 1st M_2 cell and a little before the base of R_{2+3} ; cells R_5 and 1st A open on the margin but narrowed apically and the latter much more so than the former; costal hook brownish-yellow; comparatively small basal comb ochraceous squamose with minute black erect hairs on the upper part; alula and squamae brownish-yellow with pale yellow scaly fringes; plumula and tufted screen in front of halteres cinnamon-buff; halteres brownish-yellow with paler knobs.

Legs testaceous with the apices of the tibiae and all the tarsi blackish; front legs with microscopic erect black pubescence and devoid of bristles; middle and hind legs with pale yellow scales and hairs in addition to short erect black pubescence and with all the spines and spicules black; claws blackish with microscopic acute basal hook.

Abdomen rather narrow, elongate, with parallel sides, obtuse at tip, blackish in ground colour with the side and lower margins of the first to sixth and the entire seventh tergites brownish to reddish-yellow (the apical tergite lighter coloured); the squamosity and pubescence on the dorsum is almost uniformly yellow ochre except on the lower border of the second to fifth segments where numerous black scales occur and where they are mixed with numerous black hairs which are longer on the sixth and mainly yellow on the seventh tergites; the above mentioned arrangement in the colour of the squamosity gives the abdomen a more regular transverse-banded appearance than in Pygmalion, pubescence on outer sides and squamosity on lower border of basal segment pale brownish yellow; venter entirely reddish-yellow with uniformly yellowish-white squamosity and very sparse (almost inexistant) pale yellow pubescence (which is evident mainly about the distal sternites); hypopygium brownish-yellow, concealed, with reddish-yellow erect hairs apically.

Male (type) length of body : 10.2 mm; breadth (with wings expanded) : 20 mm.

Female : Unknown.

The single male specimen of this species was collected in the Fayoum, 30.iv.1943.

Exoprosopa ferani nov. spec.
(figs. 126-127)

A medium sized blackish species, closely allied to intermedia nov. spec. and sinaiticus nov. spec., but readily distinguishable by the colour of the head, the whitish-yellow vestiture forming a broad transverse band mainly on the basal portion of the abdomen and by the blackish wings whose very rugged but sharply defined hyaline design on the lower half does not extend on the apical angle of cell R_3 .

Male : Head with the frons and occiput dull blackish, face and lower parts mainly testaceous in ground colour but the latter with an elongate oval dark brown spot or stripe on the genae, and clothed with shining ochraceous to pale yellow scales which are less numerous on the front parts (lower two thirds of frons and vertex) and mixed with short erect black pubescence; face rather prominent, with short depressed shining yellow hairs mixed with slightly longer black hairs extending over the dark stripe of the genae and covering the acute apex of the mouth opening, and where these black hairs are even stouter and somewhat coarse; proboscis not long but well exceeding length of buccal cavity; postvertical furrow well pronounced, moderately dilated behind; distance between upper inner eye-margins about two and a half times breadth of ocellar tubercle; antennae more or less obscure reddish-brown with the third segment or with the second as well, blackish; two basal joints with black pubescence; third short-conical joint hardly as long as the two basal segments together and terminating in a long, narrow-cylindrical style which is more than half the length of joint itself and which is feebly but distinctly spatulate at tip and ending in a microscopic sensory bristle.

Thorax dull black in ground colour clothed with sparse mixed pale yellow and ochraceous scaly hairs and pubescence which show a tendency to form three paler longitudinal stripes on the upper half of the mesonotum and which are paler and somewhat longer on the sides and lower border, with a few scattered erect black hairs; collar and almost as long, forwardly directed stiff hairs on sides, in front of wing base cinnamon-buff; chaetotactic bristles moderately developed, all black; scutellum dull blackish, more or less extensively reddish-brown about the margin and clothed with mainly ochraceous scaly hairs which are more dense about the base and mixed with a few whitish hairs; marginal scutellar bristles black; pleurae obscure dark reddish-brown, paler on the hypopleura, very thinly grey dusted and with a very sparse mixed brownish-yellow and black hairs, mainly about the front parts and sides.

Wings blackish-brown with the hyaline pattern reminding of that of sinaiticus but covering the apical halves of 2nd A and 1st A cells, the distal half of 2nd M_2 cell (extending over the middle of M_1 and upwards), in addition to forming a deep median indentation on the hind border with a very dilated base covering almost the apical half of Cu_1 cell, about the middle of 2nd M_2 cell and extending upwards and terminating in a bent oval prolongation which covers about the basal half of the distal portion of 1st M_2 cell where it is deeply inclined outwards; the distal hyaline portion which covers rather broadly the apical outer angle of M_1 cell, the distal third of R_5 cell, the distal fourth of 1st R_3 cell, with its upper border S-shaped or deeply undulated like R_{2+3} , covers the lower half of R_3 cell and almost the entire R_4 cell (except the distal upper angle); the boundary or border

between the blackish-brown and hyaline pattern is sharply defined and the former colouration is feebly although distinctly darkened towards these edges: r-m cross-vein placed a little before middle of 1st M_2 cell and beneath or a little before base of R_{2+3} ; R_5 and 1st A cells open but both narrowed apically, costal hook black; basal comb well developed ochraceous squamose with black pubescence; alula blackish brown with dark brown scaly fringe; squamae testaceous with pale brownish scaly fringe; plumula warm buff; screen in front of halteres yellowish-white; halteres more or less dark brown with the knob testaceous, paler about the apex.

Legs mainly testaceous, with the base and apex of most of segments as well as the apical tarsal joints darkened and obscured all over by the rather dense, short black pubescence, middle and hind femora and tibiae with pale yellow squamosity; apex of middle coxae blackish like the hind coxae and the trochanters and the former with a row of black bristles; coxae with ochraceous pubescence; all spines and spicules (absent on front legs) black like the claws which possess a minute acute basal tooth.

Abdomen in ground colour dull black with the lower border of the second to fifth tergites more or less extensively obscure reddish-brown and the two apical segments reddish-yellow; basal segment with erect soft brownish pubescence which is more tufted on the sides and warm buff and with a row of elongate whitish scales on the extreme lower margin; second segment with dense yellowish-white scales and scaly hairs on the proximal half which forms a broad transverse whitish band and which broadens out on the sides; latter segment with whitish longish erect hairs on sides of basal two thirds, black erect hairs below, and with black scales on lower half which are mixed with more or less numerous

ochraceous scales on the distal half; third tergite with the squamosity forming an ill-defined paler inconspicuous transverse band on the upper half owing to the scales being whitish-yellow on sides, darker about the centre (where they are usually rubbed), and which band is preceded above by a fairly broad stripe of black scales; fourth and fifth tergites with black scales which are bordered above and below by more or less pale ochraceous scales and scaly hairs; sixth segment with whitish squamosity, which are yellowish on sides; sparse erect black hairs occur on sides and lower margin of the three or four apical tergites and similar but fewer, shorter black hairs are found also on outer lower angles of second and third segments; venter testaceous, irregularly obscured brown at centre of second, more extensively so on third to fifth sternites, and clothed with uniformly yellow depressed scales and with a very few long soft yellowish hairs; hypopygium brownish-red with reddish-yellow pubescence.

Female : Very similar to the male; between upper inner eye margins hardly three times breadth of ocellar tubercle; ovipositor obscure reddish-brown with brown spines.

Male and female length of body : 9-10.6 mm.; breadth (with wings expanded): 21-24 mm.

Only three males and two females, including the types, of this new species are known. They were captured in Wadi Feiran (South-East Sinai) in the Monastery garden about half way up to St. Katherina Monastery, on 28th April, 1939.

Exoprosopa flava Param.

Male (novum): Head very much like that of decrepita in ground colour but the yellow portion of the lower third of frons and entire face is paler, particularly the lower part which protrudes into a short but not pointed cone above the mouth margin, the latter being almost yellowish-white; scales and hairs covering frons and face more or less pale whitish-yellow and the only pure white scales occurring only on the sides of the black occiput on which the scaling is yellow about the centre, above; proboscis and distance between inner upper margin of eyes as in decrepita; two basal segments of antennae reddish-yellow or brownish-red with whitish vestiture; third segment black, very feebly conical or almost cylindrical, being very slightly broader at base than at apex which ends almost abruptly by a minute microscopic sensory bristle.

Thorax and scutellum of black ground colour but that the latter may occasionally be obscure reddish brown apically; the entire vestiture is of a uniform antimony-yellow to yellow-ochre colour and at most some of the pubescence about the sides of the disc are a shade paler and never as white as in decrepita tufted screen in front of halteres also whitish; bristles as in the latter; pleurae entirely black with white or pale yellowish vestiture and occasionally the ground of the side and posterior parts is obscure dark reddish-brown.

Wings hyaline except the upper border to the tip of R_1 tinged yellow, with the veins equally yellow about the base (as well as the Sc and R_1) but soon becoming darker, brown towards the margin; venation as in decrepita but distinctly darker and better marked; costal hook yellow; comb at base of C as in decrepita;

plumula yellowish-white; screen in front of halteres white; alula and squamae whitish, the former with a dark brown margin, the latter a yellow margin and both with a white fringe; halteres more or less dark reddish brown with the knob much paler (often almost white) about the apex.

Legs more or less light reddish-yellow to reddish-brown with the extremities darkened (end of tibiae and all tarsi blackish) and clothed with whitish to yellowish scales and hairs; the sparse rows of minute spicules on middle and hind legs and claws black, although the latter sometimes reddish-brown at the base; basal tooth of claws obsolete.

Abdomen extensively reddish-yellow or ferruginous on the sides with median triangular mid-dorsal black markings in ground colour densely covered with more or less dark rich yellow-ochre depressed scales, which, in fresh well preserved specimens are so dense that they entirely conceal the bi-coloured background; the colour of this squamosity is uniform all over so that the abdomen appears unicolourous, without design, except at most for the usual paler, often whitish hairs on the sides of the basal portion; sparse erect hairs on apical segments yellowish or whitish; venter and overlapping sides of tergites densely and uniformly covered with yellowish-white scales and with the sparse pubescence of the same colour; hypopygium small, retracted, obscure dark reddish-brown at the apex.

Female : Almost identical to the male but somewhat larger; ovipositor retracted and entirely concealed.

Male and female length of body : 5.2-10.8 mm; breadth (with wings expanded): 9.8-18 mm.

Only the female of this species was described by Paramonow, rather briefly, the author having been undoubtedly handicaped by the absence of the male; however, he admits that his new female may represent the other sex of the male of his albifacies. That his flava and albifacies (with which I also include his aegyptiaca) no doubt belong to the little known group of decrepita Wied. The late Dr. Engel (1937, loc.cit.) to whom I had sent specimens of this group, including Dr. Paramonow's types of albifacies, aegyptiaca and flava and who had Wiedeman's type of decrepita from Egypt at his disposal, considers that albifacies and flava are identical with decrepita with which I do not agree for reasons given above. It appears evident that the group of the representatives of Wiedeman's old name are either extremely closely related species or varieties of decrepita.

Exoprosopa flava is quite common in Egypt, during the warmest summer months, but its distribution is hitherto restricted to the S.E. Desert. Forty males and twenty-three females in the various collections could be examined. All the specimens were caught in the wadies of the S-E desert (Digla, Hoff, Garawi, Um-Elek - Garariyat and Rishrash) from between the end of May to end of September, 1925-1940.

Exoprosopa intermedia nov. spec.)
(figs. 128-129)

A large dull greyish-black species with more or less light cinnamon-buff vestiture which is more evident on the distal sides of the abdominal segments (in addition to that of the collar and sides of thorax), at once distinguished by the blackish-brown wings in which the hyaline portion, which is by no means sharply defined extends fairly broadly on the almost entire lower border and covers the apical portion including the apical two thirds of

R₃ cell as well as the apex of R₁ cell.

Male : Head dull blackish except about the buccal cavity obscure reddish-brown in ground colour and densely clothed with a characteristic coarse vestiture formed on all the front parts of dark ochraceous-tawny scales and short erect black pubescence; the scales are almost absent on the upper portion of the frons and about the vertex but of a glistening yellowish-white colour on the occiput, particularly so behind the eye-margins; proboscis short, hardly exceeding length of buccal cavity; postvertical furrow moderately pronounced and not much dilated behind; distance between upper inner eye-margins about two and a half times breadth of ocellar tubercle; antennae obscure reddish-brown with the two basal segments lighter coloured and the two latter with black erect pubescence; short conical segment hardly as long as the two first joints together and terminating in a narrow cylindrical style which is a little shorter than the joint itself.

Thorax dull blackish with the postalar calli and apical portion of scutellum obscure reddish-brown and clothed with very sparse, insignificant vestiture on the dorsum, formed of very short mixed yellowish and a very few black scaly hairs and which are much more evident on the sides, above the wing base; collar and tufted erect hairs in front of wing base yellow-ochre to buckthorn brown and somewhat paler on the sides, below; chaetotactic bristles well developed, black; scutellum with a similar (but rather more dense) vestiture as that of the dorsum of the mesonotum and with black marginal bristles; pleurae, blackish, somewhat shining with very sparse long yellowish pubescence on the front and sides of upper half only.

Wings blackish-brown with almost the entire lower border and distal portion broadly hyaline; the infuscated area is of a deeper blackish colour above, all along the upper wing-margin to the tip of R_1 , than below and the boundary between the dark and hyaline pattern is not sharply defined; the hyaline area covers approximately the lower outer half of 2nd A cell, the outer third of 1st A cell, more than the distal half of Cu_1 cell, almost the entire 2nd M_2 cell where it expands outwardly over the apical two thirds of M_1 cell and upwards on the distal half of 1st M_2 cell forming towards the middle of the wing a broad bent indentation reminding that in ferani and in the female of sinaiticus; this rather broad somewhat rugged hyaline area extends outwardly and upwards over more than the apical portion of M_1 cell, the distal thirds of R_5 and 1st R_3 cells, the entire R_4 cell, almost all R_3 cell (except the base) and the rounded distal portion of R_1 cell; the black veins in this hyaline area show a tendency to being thinly bordered or edged with a feeble brownish tinge; 2nd M cell with a small rounded subhyaline spot in its upper outer angle; r-m cross-vein placed towards middle of 1st M_2 cell and immediately below base of R_{2+3} ; R_5 and 1st A cells open but both rather strongly narrowed apically; costal hook and basal comb black, the latter well developed with very sparse yellow scales and dense black pubescence; alula dark brown, squamae brownish-yellow, both with yellowish-brown long scaly fringes; plumula and tufted screen in front of halteres warm buff, somewhat paler than the collar; halteres dark brownish-yellow with the knobs light ochraceous-buff about the apex.

Legs entirely black with sparse yellowish-white scales mixed with dense black scales and black pubescence;; all spines and

spicules (absent on front legs) black; apical joints of front tarsi considerably shortened; middle and hind coxae with a row of black spines; claws black with an acute reddish-brown basal tooth.

Abdomen broader and less conical than in siniticus and ferani, dull black in ground colour and rather densely clothed with a vestiture which on the lateral portions of the upper half or more of the second to the sixth segments is warm buff to cinnamon buff, rather dense, forming large, uneven, although fairly conspicuous side spots; similar coloured scales occur scattered over the dorsum of these segments where they are mixed with more numerous black scales, but more evenly arranged over the upper borders (forming inconspicuous narrow stripes) except on the two apical (sixth and seventh) where they are again much more numerous and cover most of the segments; outer lower angles of second and third and sides of fourth to seventh, as well as their lower borders with longish erect black hairs which, on the two former tergites are more dense and form on either side a small dark tuft immediately below the yellow tuft of hairs of the pale side stripe or spot; basal segment with the long outstanding and tufted pubescence on the sides cinnamon-buff and much less dense on the dorsum where it is mixed yellowish and black and preceding a regular and even row of long, depressed, ochraceous scales which extends on the entire distal margin of the segment; venter very dark brownish-black, somewhat shining and with very sparse scattered yellowish scales and equally sparse mixed black and yellowish long hairs; hypopygium obscure reddish-brown apically with reddish pubescence.

Length of body : 15-17 mm.; breadth (with wings expanded): 32-37.2 mm.

Female : Unknown.

The only three specimens known of this species, all males including the type, were collected in Wadi Um-Sheihan, near St.-Catherina Monastery, on July 11th, 1938

Exoprosopa lacerata Engel
(figs. 130-131)

A large dark blackish-brown species distinguished by the characteristic mottled wing pattern, the glistening silvery-white squamosity covering the entire occiput and also the squamosity on the black abdomen which forms pale conspicuous transverse bands on each of the third to fifth or sixth segments.

This species has been collected in large series (34 males and 14 females, including the types) in Wadi Edeib and Wadi Kanssisrob (Gebel Elba in the S.-E. desert at the boundary of Egypt and the Sudan), during the months of January 1923 and February 1933, and between February 25th to March 7th, 1938. A couple has also been captured from the same locality on February 2nd, 1933.

Exoprosopa megerlei Meigen
(figs. 132-134)

A large to quite small black extremely variable species with the wings, except the distal extremities, practically uniformly blackish-brown or with the tip and hind border more or less broadly hyaline and with the tuft of erect hair on the notopleura in front of wing base varying from entirely black to yellow.

Exoprosopa megerlei and its numerous forms is very common, almost everywhere in Egypt, during the warmest months of the year. Over 100 specimens of each sex originating from the Western

Mediterranean Coast (Alexandria to Salloum) and from numerous localities in the neighbourhood of Cairo, as well as from the Eastern and South Eastern deserts, were examined. It is equally common in the Sinai Peninsula (from El-Arish to Tor) and the South Sinai mountains.

Exoprosopa minos Meigen

A medium sized species distinguished by the abdomen which is rather conspicuously banded (bands formed of alternating white or pale yellowish scales and of warm buff to antimony-yellow scales) and by the colouration of the wings whose fore margin is more or less extensively suffused with clay colour to deep snuff-brown.

This species, which is also typically arenicolous, is one of the commonest Exoprosopid in Egypt along the Western Mediterranean coast (from Alexandria to Sallum) and in the Nile Valley. It is less common in the Eastern Desert and in the Sinai Peninsula. More than fifty specimens of each sex were examined. They were captured in different localities in the above mentioned districts and the dates range from the middle of April to the end of August, 1915-1946.

Exoprosopa mucorea Klug

A medium sized to very large thick-set, light greyish-clay colour to light buff species, not unlike rivulosa Beck., which is smaller, darker and with a rather similar opaque milky yellow wings distinguished by the more or less distinct infuscated blotches on and bordering the veins of the lower border of 1st M_2 cell as well as on most of the cross-veins, often forming a broad, vague, oblique, ill-defined band.

Exoprosopa mucorea, which is a typically arenicolous element, is very common in Egypt in all the Nile Valley (from Assouan to Cairo), in the Delta, along the western coast of the Mediterranean Sea (from Alexandria to Solloum), in the Oasis of the Western Desert (Baharia, Kharga, Dakhla and Siwa), in all the Wadies of the Eastern and South-Eastern Desert (from Port-Said, Suez up to Gebel Elba), as well as in the Sinai Peninsula (from El-Arish, Wadi Ein Gedeirat, Abou Zeneima, Wadi Feiran, Wadi Isla and in the numerous wadies surrounding Ste Katherina Monastery at 1600-1800 m. altitude.

Numerous specimens were collected, from most of the above mentioned localities, during the warmest months of the summer. Capture records extend from April to the end of September.

Exoprosopa notabilis Macquart
(fig. 136)

A large handsome black species at once distinguished by the very characteristic wing design in which the deep brownish-black area extending over the entire surface except the distal extremity possesses a large conspicuous perfectly rounded hyaline spot in the upper outer angle of 2nd M cell, and by the almost entirely black vestiture of the body.

Exoprosopa notabilis Macq., described in 1840, is similar to E. tewfiki Param. described in 1931.

Four males and seven females of this very conspicuous species are known from Egypt. The four males and three of the females were collected in Wadi Feran, in the garden belonging to St. Katherina Monastery (alt. 700 m.), 25.6.1936, and wadies El Legaa and Garaguiya near the Monastery (alt. 1700 m.) in July and August, 1941 and 1942. The remaining four females were captured in Gebel Elba (Wadi Edeib) between February 25th and end of April, 1928-1938.

Exoprosopa pharaonis Param.
(figs. 137 and 138)

A large species, very closely allied to, and resembling *Exoprosopa minos* Meig. but distinguished from it, in addition to its much larger size, the feebly but distinctly milky-opaque wings in which the suffusion on the fore margin is much paler (yellowish or light ochraceous-buff), and by the denser squamosity of the body which is always of a deep ochraceous-tawny colour on the thorax and of almost uniformly whitish colour on the abdomen (giving the latter a felty or mildewy appearance) and entirely devoid of bands (in fresh unrubbed specimens).

Exoprosopa pharaonis cannot be considered common in Egypt. Only five males and six females are known so far. Three of the former, including the type, had been collected in Ismailia (14.8.1925) and in Wadi Digla (23.8.1926) and the other eight specimens (2 males and 6 females) were captured at Ismailia, Geneifa, in July and August, and in Gebel Elba (Wadies Ebeid and Akwamtri), between the middle of March to the end of April, 1928-1929.

Exoprosopa pygmalion F.
(fig. 139)

A rather large blackish-brown species, at once distinguished by the more or less deeply infuscated wings with the cross-veins and bifurcations broadly margined with fuscous-black and by venational characters.

Only two specimens (one male and one female) of this species were collected at Gebel Elba, between the middle of March to the end of April, 1928.

Exoprosopa rivulosa Beck.
(fig. 140)

A medium sized light to warm buff species very closely allied to mucorea Klug (of which it may prove to be a variety) distinguished from the latter only by the smaller size, the darker general colour of body and legs and by the rather darker infuscations on the wings which form a less distinct darker oblique band.

This species, of which I possess large series of more than fifty of each sex were examined), is very common and has a similar distribution as mucorea, in Egypt, although the majority of the darker specimens (agreeing with the descriptions of rivulosa) originate from the Southern border (Gebel Elba). Capture extends from beginning of March to the end of May.

Exoprosopa sinaitica nov. spec.
(figs. 141-143)

A medium sized blackish species, closely allied to Efflatoun-bei, ferapi and intermedia, but at once distinguished by the very shining black frons, the glistening satiny creamy-white scales scattered on the front parts of the head and by the black wings which possess in addition to the hyaline apex and an elongate oval hyaline spot (male) or an indentation on the hind border extending to the middle of 1st M_2 cell (female), as well as two or three small subhyaline spots on the blackish proximal half.

Male : Head very shining black on most front part of face, frons, vertex and occiput, bearing shining cream-white scales which are practically absent above but increasing in numbers downwards, almost covering lower half of frons, entire face as well as occiput, giving these parts a characteristic irridescent glistening satiny whitish appearance; frons and face with short, not dense black, erect pubescence which is very short and insignificant on the latter

except below; face moderately prominent, not acute; proboscis black, elongate, well exceeding length of buccal cavity; postvertical furrow not deep, moderately dilated behind; distance between upper inner eye-margins quite three times the breadth of ocellar tubercle, antennae with the two basal segments more or less obscure cinnamon-buff and short erect black pubescence; third conical joint black, about the length of the two basal joints together and terminating in a very short sub-cylindrical style which is hardly one fifth the length of the joint itself.

Thorax entirely black in ground colour, somewhat shining, bearing on dorsum a light, short decumbent vestiture of mixed black and glistening yellowish-white scaly hairs, the latter showing a weak tendency to form three longitudinal stripes, and a little more numerous on the sides of lower half as well as on basal portion of scutellum; collar and tuft of equally long forwardly directed stiff hairs on sides, in front of wing base antimony yellow, but a few of the erect hairs on the front portion of the humeral callus are black, like all the fairly numerous but not strong chaetotactic bristles; distal portion of mesonotum and scutellum with sparse long erect soft mainly black hairs; pleurae black with almost pure white long scaly hairs in front of the middle parts, forming a broad transverse stripe beneath the wing base and with sparse longish black hairs.

Wings blackish brown with hyaline markings as shown in the figures and as follows: in the dark area one small rounded or subquadrate subhyaline spot on the upper distal angle of 2nd M cell; one small oval subhyaline spot on the transverse vein separating the latter cell from Cu 1 cell; one larger and conspicuous elongate oblong somewhat oblique hyaline spot towards the middle of the lower

half of the wing whose fairly evenly rounded upper border ends on the upper three fourths of 1st M_2 cell and whose lower portion fades away towards the middle of the upper fourth of Cu 1 or even further down, showing a tendency to being extended to the lower wing margin and forming an indentation; one small rounded or oval small subhyaline spot on the r-m cross-vein and the hyaline apical portion which has a very irregularly undulated inner margin covering more or less broadly the distal portion of R_1 cell, most of R_3 cell (except the fourth or fifth), the apical portion of 1st R_3 cell, all R_4 cell, and the apical portions of R_5 and M_1 cells; the long and narrow R cell is less dark about the middle, being brownish-yellow or subhyaline; r-m cross-vein placed towards the middle of 1st M_2 cell and either below or a little before base of R_{2+3} ; R_5 and 1st A cells open, but both narrowed apically; costal hook and basal comb blackish, the latter well developed and with mixed yellowish scaly hairs and black pubescence; alula dark brown, squamae brownish black, both with well developed dark brown scaly fringe; plumula white; tufted screen in front of halteres of same ochraceous colour as that of the collar and similar to the tuft on the outer angles of the basal abdominal segments; halteres more or less dark brown with the knobs warm buff about the apex.

Legs entirely black, with more or less glistening yellowish-white scales which are more numerous and evident on the hind femora as usual, and with very short black pubescence; front legs with tibiae bare and much shortened apical tarsal segments; all the spines and short spicules black; claws black with the basal tooth acute.

Abdomen rather shining black in ground colour, clothed with a similar vestiture as that of the mesonotum but the very short decumbent yellowish-white scaly hairs are more or less

densely concentrated on the upper third or half of the second and third tergites, showing a tendency to form two paler transverse stripes; these stripes are by no means conspicuous and the one on the third tergite is usually the broadest and most apparent of the two owing also to the colour of the scaly hairs forming the upper band which is darker, being brownish-grey; the longer erect tufted pubescence on the sides of the segments is ochraceous-orange to antimony yellow on the two basal and all black elsewhere and those (scaly hairs) on the second are less pale, being of a soiled brownish-grey colour; venter shining blackish with very sparse yellowish-white scaly hairs mainly on the third sternite and equally sparse longish black pubescence; hypopygium obscure dark reddish-brown with black pubescence.

Female : Not unlike the male but somewhat larger and the larger elongate hyaline spot towards the middle of the lower half of the wing extends downward and is even broadened on the lower margin and where it forms a true hyaline indentation on the hind border; the hyaline apical portion of the wings is somewhat more extensive, extending over the apex of R_1 cell and the smaller subhyaline spots are somewhat larger and more apparent than in the male; the ochraceous colour of the longer erect tufted pubescence on the thorax and abdomen is paler; ovipositor concealed, brownish yellow apically with black spines and black pubescence.

Male and female length of body : 7.5-3 mm.; breadth (with wings expanded): 21-26.5 mm.

Only two males and three females, including the types, of this apparently new species, had been collected in Wadi El-Shallalah and Wadi Garagua, near St. Katherina Monastery (South Eastern Sinai, 1700 m. altitude), during June and July, 1943.

Exoprosopa spiloneura Bezzi
(figs. 144 and 145)

A small species distinguished by the entirely tawny olive to ochraceous vestiture on the dorsum of body and by the spotted wings which are faintly but distinctly tinged greyish or pale brownish with the spots light brownish-black.

Exoprosopa spiloneura Bez. is rare and appears to be endemic of Upper Egypt as the nine specimens known so far originate from the Fayoum Road (Giza), Mazghouna and Assiout. The dates for three males and two females from the first two localities (the more Northern of the three) extend between the end of March to the end of July, while the remaining specimens from Assiout, were all captured at the end of March.

Exoprosopa stupida Rossi
(fig. 146)

Small to medium sized species very distinct owing to the remarkably brilliantly metallic, glittering iridescent (almost rainbow coloured) scales largely concealing the shining black ground colour of the head and body and by the glossy, iridescent and transparent wings which are totally devoid of markings. Pleurae are almost uniformly tawny-olive to ochraceous and the latter (distal sides of upper half) are hardly paler; colour of bristles very variable usually mixed, some black (supra-alar) and some yellow (post-alar and marginal scutellar); pleurae blackish and obscure reddish-brown towards the outer lower parts and clothed with similarly coloured (but rather paler) depressed scaly hairs to those of the dorsum.

This species, in addition to its considerable variations in general appearance according to the condition of the specimen,

as the beautiful iridescent scales and pubescence rubs off very readily and often the denuded abdomen appears to be entirely shining black, the exact colour of the former (scales), is almost impossible to designate owing to the almost complete change which they may undergo according to the direction of the light and the angle at which the insect is examined, as stated previously.

Although Exprosopa stupida Rossi and its numerous varieties cannot be called common in Egypt, it has nevertheless a fairly wide distribution in the Eastern desert and in the mouth of the Delta. Both sexes were collected around Cairo, in the Fayoum district, the Barrage, Ismailia, Helwan and numerous wadies in the South-Eastern Desert, as well as from South Sinai. Capture records extend from the middle of May to the end of September.

Exoprosopa tamerlan-bezzii Param.
(fig. 116)

A large handsome dark reddish-brown fly, closely related to ammophila Param. but distinguished from it and from any of its congeners by the rather more extensive and pronounced wing pattern recalling that of aegina but in which the darkened area possesses an abbreviated median hyaline band and no yellowish fenestrae, by the black pubescence on the two basal antennal segments, and by the closed R_5 cell.

Exoprosopa tamerlan-bezzii, which is also typically arenicolous, is common during the warmest summer months and the numerous specimens (37 males and 40 females) examined were captured between the middle of June to the end of August mostly in Wadi Digla (S.-E. of Meadi). A few specimens were obtained from Kafr Hakim (West of the Gizeh Pyramids). Many other individuals of both sexes (which included two "gigantic" females with wing expanse of 50 mm) were collected in Wadi Ein Gedeirat (N.-E. Sinai). Was also captured in Wadi Feran and in Wadi Ithla (S-E Sinai), in July and August, 1937-1945.

Exoprosopa zanoni Bezzi
(figs. 147-149)

A medium sized to fairly large blackish and ochraceous-tawny species at once distinguished inter alia by the mottled Brussel's brown and hyaline wing design, with almost obsolete alula and by the dense long outstanding tufts of black hairs on the sides of the abdomen which gives the fly a very strange and characteristic jagged appearance.

Male (novum): Head dull black in ground colour except about the outer sides of the cheeks and the mouth margin brownish-to reddish-yellow, face and frons densely clothed with brownish golden-yellow scales except on a rectangular space on the upper part of the frons, on the sides and in front of the ocellar tubercle (which is small and not prominent) where they are absent and where occurs erect black hairs only; similar black hairs cover also the rest of the frons and face, and on the latter more or less numerous yellow hairs are intermixed especially on the sides, below; conical face moderately prominent, acute; proboscis short, hardly exceeding in length the buccal cavity; postvertical furrow (separating the vertex from the occiput) deep and rather dilated behind; occiput with rather dense yellowish-brown scales which are usually paler (whitish yellow) behind the eye borders and with very sparse, scattered short erect black hairs; distance between upper inner eye-margins somewhat broader than the ocellar tubercle; antennae blackish-brown but often the two basal segments obscure brownish-yellow and always clothed with erect black hairs; third joint bulbiform, somewhat shorter than the length of the two basal segments together and terminating in a long thin reddish-brown style which is quite the length of the joint itself.

Thorax obscure brownish-black in ground colour but appearing dull velvety black owing to being covered with black tomentum and bearing shining brownish-yellow or golden yellow scaly hairs which form three fairly evident longitudinal stripes on the dorsum and which are longer but scarcely paler on the sides and about the centre of the lower portion; in addition to the above vestiture there are more or less numerous long, fine upstanding black hairs which are somewhat longer on the broad, golden yellow tomentose scutellum; collar well developed, yellow ochre to buckthorn-brown about the centre but mixed, on the sides (as well as the equally long and tufted pubescence on the sides in front of the wing base) with more numerous black hairs; chaetotaxy very feebly developed, the one or two longest bristles being reduced to bristly hairs; pleurae obscure blackish-brown, covered with light greyish dust and with very sparse yellow scaly hairs and with long apparently grey pubescence owing to the hairs being mixed yellow and black, the former however being predominant about the centre and the latter much more so in front, on the distal borders.

Wings with a very characteristic venation and mottled Brussels- or blackish-brown and by a line design as shown in the figure; the venation is dark brown but appears much paler, owing to all the veins being very narrowly margined with whitish-yellow, particularly noticeable in the dark area; these dark patches or spots forming the pattern are very variable being either all broadly united together and confluent or one to several may be isolated, consequently their arrangement cannot afford a distinguishing character; r-m cross-vein placed well before middle of 1st M_2 cell and usually immediately below base of R_{2+3} ; R_5 cell open but narrowed apically; 1st A cell open and somewhat dilated at the apex; costal hook blackish or brown, basal comb blackish

with shining yellow scales and with very sparse minute erect black hairs; alula almost obsolete; squamae brown with a very slight pale yellow fringe; plumula and tufted screen in front of halteres more or less pale yellow, occasionally with two or three black hairs; halteres brown with the knob pale yellow about the apex.

Legs entirely reddish-yellow except the coxae blackish-brown and the three or four terminal tarsal joints blackish and clothed with whitish-yellow scales which are more evident on the middle and hind femora and tibiae, as usual; front legs with tibiae bare and shortened apical tarsal segments; all the numerous spines and spicules black; claws black with a minute pointed basal tooth.

Abdomen broad, flattened, almost discoidal, somewhat shining blackish-brown in ground colour and appearing much broader than the thorax owing to the characteristic lateral tufts of long black hairs on the posterior angles of the tergites; where they are often mixed with black scales and in front of which there are shorter pale yellow hairs and similarly coloured scales; the vestiture on the dorsum, consists of in addition to long thin, upstanding scattered black hairs, short depressed ochraceous scales which are darker on the lower portion of the segments; in addition the middle third of the second to fifth or sixth tergites, possesses each an almost median transverse black somewhat crescent shaped stripe formed of black scales, which stripe or band is interrupted in the centre by a small rounded tuft of erect pale yellow or whitish bristly hairs which appear like a mid dorsal longitudinal row of dots; venter brownish black with dense pale yellow scales and scaly hairs as well as some long shaggy hairs on the two or three basal sternites; hypopigium retracted, concealed but appearing brownish-red apically.

Female : Almost identical to the male except for the distance between the upper inner eye-margins which is about three times the breadth of the ocellar tubercle; ovipositor concealed,

with reddish-yellow spines.

Male and female length of body : 9-12 mm.; breadth (with wings expanded): 19-28 mm.

This species, whose male was unknown, was collected near the Western Mediterranean coast in Egypt. A series of four males, including the type, and thirteen females, were obtained only during the month of March 1925 to 1948, from Abou Mina in the close vicinity of the ruins of Roman temple in that locality (Mariut).

Genus THYRIDANTHRAX Osten-Sacken

Thyridanthrax afer F.

(fig. 150)

57 specimens collected on the Mediterranean coast (Mersa Matrouh, Mariout and Borg El-Arab) from February to August, 1921-1928; at Alexandria (Mex, Ramleh, Nouzha, Mandara), June to September, 1921-1926; Desert East of Cairo (2nd and 6th Towers on Suez Road), March and October, 1921-1936; Desert S.-E. of Cairo (Wadi Digla, Wadi Hoff, Wadi Um-Elek, Ogret El-Sheikh), March to October, 1921-1935; Gebel Elba (Wadi Edeib), January, 1929.

Thyridanthrax albosegmentatus Engel

4 specimens from the desert S.-E. of Cairo (Wadi Um Girfan), April, 1937, and from the Sinai (Wadi El-Arbacin), April, 1939.

Thyridanthrax angusteoculatus Beck.

A single specimen from the Mariout Mediterranean coast, September, 1921.

Thyridanthrax anus Wied.

9 specimens from the desert East of Cairo (5th Tower on Suez Road), July and August, 1922; Western desert (Fayoum Road (Kilom. 55) and Tamyia), June, 1947, and Siwa Oasis, August, 1927.

Thyridanthrax autumnalis Beck.

Desert S.-E. of Cairo (Wadi Hoff), April, 1934. A single specimen.

Thyridanthrax chionophorus Bezzi

Desert S.-E. of Cairo (Wadi Hoff); Desert East of Cairo (Geneifa and Ismailia), May to August, 1921-1928; Cairo N.-W. on desert border (Kafr Hakim, Kafr El-Dems, El-Mansouria, Bercash, Kerdassa, Abou Rawash), June to August, 1921-1928; Gebel Elba, April and May, 1929. 35 individuals collected.

Thyridanthrax circe Klug

Mediterranean coast (Mariout, Borg El-Arab), April and May, 1921; desert S.-E. of Cairo (Wadi Hoff and Wadi Gharba), April to July, 1921-1930. 20 individuals collected.

Thyridanthrax elegans Wied.

Mediterranean coast (Solloum, August, 1926; Mariout, April and May, 1923-1924; Alexandria (Ramleh), July, 1921; desert East of Cairo (3rd Tower on Suez Road, Ismailia, Geneifa, Kassassine), April to July, 1924-1925; desert S.-E. of Cairo (Wadi Hetaim), Wadi Dar Maskhara, Wadi Hoff, Wadi Garrawi, Wadi Um Elek), April to June, 1921-1930; Cairo N.-W. on desert border (Mansouria), June and September, 1925-1926.- 23 specimens examined.

Thyridanthrax fenestratus Fall.

(fig. 151)

Mediterranean coast (Solloum, August, 1926; Ikinghi Mariout, El Borg), May to July, 1924-1927; desert East of Cairo (5th to 7th Towers on Suez Road, Geneifa), March to October, 1922-1926; desert S.-E. of Cairo (Wadi Garrawi, Wadi Um Elek, Wadi Rishrash, Wadi Ibtadi, Wadi Gharba, Wadi Digla, Ogret El-Sheikh), March to October, 1923-1938; Fayoum, March, 1947-1950; Sinai (Wadi El-Lega, Wadi Feiran, Wadi Garaguyia, Wadi El-Arbaein, Wadi El-Rabba), April, August and September, 1939-1942; Gebel Elba (Wadi Edeib, Marsa Halaib), January to April, 1928-1938.- 66 specimens examined.

Thyridanthrax griseolus Klug

(figs. 152-153)

Mediterranean coast (Alexandria, Ramleh, Nouzha, Aboukir), June to August, 1921, 1926; Nile Delta (Ezbet El-Nakhl, El-Marg, Katta), April, May and August, 1921-1926; desert East of Cairo (Ismailia, Serapeum, Geneifa), July and September, 1925-1926; desert S.-E. of Cairo (Wadi Morrah), April, 1928; Cairo N.-W. on desert border (Kafr Hakim, Borgash, Mansouria), May, September and October, 1924 and 1926; desert border S.-W. of Cairo (Dachor), April, 1921-27 individuals examined.

Thyridanthrax incanus Klug

(fig. 154)

Mediterranean coast (Mersa Matrouh, May, 1930; Alexandria, Nouzha), July, 1924 and 1926; Sinai (Wadi Garaguyia, Wadi El-Arbaein, Wadi Feiran, Farsh Gebel Moussa, Wadi El-Lega, Wadi El-Rabba), April to September, 1936-1943.- 22 specimens examined.

Thyridanthrax irrorellus Klug

Mediterranean coast (Mariout, April, 1923); Nile Delta North of Cairo (Ezbet El-Nakhl, June, 1921); desert East of Cairo (6th Tower on Suez Road), April, 1927; Cairo N.-W. on desert border (Kafr Hakim, Abou Rawash, Kerdassa), March to May, 1924 to 1927; desert border S.-W. of Cairo (Mazgouna), April, 1923; desert S.-E. of Cairo (El-Mallaha, Wadi Morrah), April, 1925 and 1926; Western desert (Kharga Oasis), March, 1924.- 20 individuals examined.

Thyridanthrax latona Wied.

Desert East of Cairo (5th Tower on Suez Road, Ismailia, Geneifa, Serapeum), June to October, 1921 to 1926; desert S.-E. of Cairo (Wadi Digla), August and September, 1926; Cairo N.-W. on desert border (Borgash, Mansouria, Kafr Hakim, Abou Rawash), May to September, 1924-1926.- 23 specimens examined.

Thyridanthrax leucotaeniatum Engel

Sinai (Wadi Garaguyia), June, 1932; Gebel Elba, April-May, 1929.- Only two samples were collected.

Thyridanthrax lotus Loew

Nile Delta (Tisfa), June, 1925; Desert East of Cairo (Heliopolis, 2nd Tower on Suez Road, Geneifa), March and May, 1924-1925; desert S.-E. of Cairo (Wadi El-Gobo, Wadi Dar El-Maskhara, Wadi Rishrash, Wadi Um Elek, Wadi Morrah, Wadi Zogleiga, Wadi Garrawi), February to June, 1923-1932.- 21 specimens in the collection.

Thyridanthrax misellus Loew

Mediterranean coast (Solloum, Mariout, May and August-September, 1925-1926; Alexandria (Nouzha), August, 1926; desert S.-E. of Cairo (Wadi Um Elek), June, 1926.- 7 samples collected.

Thyridanthrax obliteratedus Loew

Mediterranean coast (Mariout, July and August, 1926; Alexandria (Ramleh, Nouzha, Mahmoudia), June and July, 1921-1926; desert S.-E. of Cairo (Wadi Morrah), April, 1925.- 14 individuals collected.

Thyridanthrax triradiatus Bezzi

Mediterranean coast (Mersa Matrouh), May, 1930; Kilom. 160 on Cairo-Alexandria Road (Western desert), April, 1950; desert East of Cairo (7th Tower on Suez Road, August, 1922; desert S.-E. of Cairo (Wadi Um Girfan, Wadi Ibtadi), April-May, 1925 and 1927;

Fayoum, March, 1947; Sinai (Wadi El-Rabba, Wadi El-Wash, Wadi El-Sheikh), April, 1939 and 1940; Gebel Elba (Wadi Edeib), March, 1938. ~~14~~ 14 specimens examined.

Thyridanthrax punctum Loew

Sinai (Wadi El-Rabba, Wadi El-Gedeirat), April to July, 1934-1940.- 9 individuals collected.

Thyridanthrax semifuscus Engel

A single specimen from Wadi Ibtadi (desert S.-E. of Cairo), May, 1925.

Thyridanthrax stigmulus Klug

Mediterranean coast (Ikinghi Mariout), May and July, 1924-1934; East of Cairo (5th Tower on Suez Road), April, 1927.- 4 individuals in the collection.

tabaninus Bezzi

Desert East of Cairo : Geneifa, May, 1925.- Desert S.-E. of Cairo : Wadi Zogleiga, Wadi Um Elek, Wadi Silly, Wadi Morrah, March and April, 1924-1926.- Sinai : Wadi Garaguiyia, August, 1942. 24 specimens in the collection.

unicolor Lw.

A single specimen from Wadi Dar El-Maskhara (desert S.-E. of Cairo), April, 1927.

Genus *OESTRANTHRAX* Bezzi

Oestranthrax brunnescens Loew

2 individuals from Mersa Matrouh (Mediterranean coast), May, 1930.

Oeastranthrax obesus alfierii Param.

Mediterranean coast (Mariout : Abou Sir), May, 1925; desert East of Cairo (6th Tower on Suez Road, Ismailia), March, April and September, 1925-1927; desert S.-E. of Cairo (Wadi Morrah), September, 1925; Sinai (Kilom. 4 on Ismailia- El-Arish Road).- 6 samples collected.

Genus *VILLA* Lioy

Villa albida aegyptiaca Engel

One specimen from Wadi Gharba (desert S.-E. of Cairo), April, 1927.

Villa albifacies Macq.

Mediterranean coast (Mariout : Abou Sir), May, 1925; Fayoum Road (Kilom. 55), June, 1947; Cairo N.-W. on desert border (Bercash), September, 1950.- Desert S.-E. of Cairo : Wadi Digla, October, 1926.- Western desert : Siwa Oasis, August, 1927; Sinai (El-Arish, Wadi El-Daiga, Wadi Garaguyia), August, 1942 and 1951.- 9 samples examined.

Villa haesitans Beck.

Mediterranean coast (Alexandria (Nouzha), September, 1925; Nile Delta: Tourah, Helwan, Barrage, Ezbet El-Nakhl, Badrechein, June to October, 1922 and 1926; Desert S.-E. of Cairo (Wadi Sayal) May, 1927.- 28 specimens examined.

Villa micra²gyra Walker

Mediterranean coast (Mariout), April and May, 1923 and 1925; desert East of Cairo (6th Tower on Suez Road, Serapeum), March and April, 1926.- 12 individuals in the collection.

Villa quinquefasciata Wied.

Mediterranean coast (Ikinghi Mariout), May, June and September, 1924-1934; Cairo N.-W. on desert border (Mansouria, Borgash), September and October, 1924-1925- 22 specimens examined.

Villa senicio Loew

Mediterranean coast (Mariout, April and May, 1923 and 1925; Alexandria (Nouzha), July, 1920; Nile Delta (Farascour), July, 1926; desert East of Cairo (7th Tower on Suez Road, Ismailia, Geneifa), June, September and October, 1921-1926.- 15 individuals in the collection.

Villa ventruosa Loew

Mediterranean coast (Alexandria : Ramleh, June, 1922 ; Nile Delta (Farascour, Barrage, Ezbet El-Nakhl, El-Marg, Gebel Asfar), April to November, 1922-1926; Cairo N.-W. on desert border: Mansouria, Kerdassa, Abou Rawash, Borgash, Kafr Hakim, September and October, 1924-1926; Western desert (Kharga Oasis), March, 1924.- 28 individuals in the collection.

- Fig. 1 : Antonia suavissima Loew, male head, dorsal view.
- Fig. 2 : Antonia suavissima Loew, male head, front view.
- Fig. 3 : Antonia suavissima Loew, male head, in profile.
- Fig. 4 : Antonia suavissima Loew, male antenna, dorsal view.
- Fig. 5 : Antonia suavissima Loew, male wing.
- Fig. 6 : Antonia suavissima Loew, female wing.
- Figs. 7-13 : Antonia suavissima Loew, male abdomen, dorsal view.
- Figs. 14-15 : Antonia suavissima Loew, male abdomen, side view.

- Fig. 16 : Antonia gabalensis nov. spec., male head, dorsal view.
Fig. 17 : Antonia gabalensis nov. spec., male head, in profile.
Fig. 18 : Antonia gabalensis nov. spec., male antenna, dorsal view.
Fig. 19 : Antonia gabalensis nov. spec., female wing.
Fig. 20 : Antonia gabalensis nov. spec., male abdomen, dorsal view.
Fig. 21 : Antonia gabalensis nov. spec., male abdomen, side view.
Fig. 22 : Antonia gabalensis nov. spec., male genitalia, front view.
Fig. 23 : Antonia gabalensis nov. spec., female genitalia, front view.
Fig. 24 : Anisotamia ruficornis Macq., male head, dorsal view.
Fig. 25 : Anisotamia ruficornis Macq., female head, dorsal view.
Fig. 26 : Anisotamia ruficornis Macq., male head, front view.
Fig. 27 : Anisotamia ruficornis Macq., male head, in profile.
Fig. 28 : Anisotamia ruficornis Macq., male antenna, dorsal view.
Fig. 29 : Anisotamia ruficornis Macq., female wing.
Fig. 30 : Anisotamia ruficornis Macq., ^{male}/abdomen, dorsal view.
Fig. 31 : Anisotamia ruficornis Macq., female abdomen, dorsal view.
Fig. 32 : Anisotamia ruficornis Macq., male genitalia, front view.
Fig. 33 : Plesiocera^e europa Loew, male head, dorsal view.
Fig. 34 : Plesiocera europa Loew, female head, dorsal view.
Fig. 35 : Plesiocera europa Loew, male head, in profile.
Fig. 36 : Plesiocera europa Loew, female head, in profile.
Fig. 37 : Aphoebantus dichromatopus Bez., male head, dorsal view.
Fig. 38 : Aphoebantus dichromatopus Bez., female head, dorsal view.
Fig. 39 : Aphoebantus dichromatopus Bez., Wing.

- Fig. 40 : Aphoebantus efflatouni Bez., male head, dorsal view.
- Fig. 41 : Aphoebantus efflatouni Bez., female head, dorsal view.
- Fig. 42 : Aphoebantus efflatouni Bez., male head, in profile.
- Fig. 43 : Aphoebantus efflatouni Bez., male wing.
- Fig. 44 : Aphoebantus efflatouni Bez., male genitalia, in profile.
- Fig. 45 : Aphoebantus efflatouni Bez., female genitalia, in profile.
- Fig. 46 : Aphoebantus escheri Bez., male head, dorsal view.
- Fig. 47 : Aphoebantus tewfiki nov. spec., male head, dorsal view.
- Fig. 48 : Aphoebantus tewfiki nov. spec., female head, dorsal view.
- Fig. 49 : Aphoebantus tewfiki nov. spec., male head, in profile.
- Fig. 50 : Aphoebantus tewfiki nov. spec., male antenna.
- Fig. 51 : Aphoebantus tewfiki nov. spec., male posterior leg.
- Fig. 52 : Aphoebantus tewfiki nov. spec., male genitalia, front view.
- Fig. 53 : Aphoebantus wadensis Bez., male head, dorsal view.
- Fig. 54 : Aphoebantus wadensis Bez., female head, dorsal view.
- Fig. 55 : Aphoebantus wadensis Bez., male head, in profile.
- Fig. 56 : Aphoebantus wadensis Bez., male wing.

- Fig. 57 : Pipunculopsis bivittata Bez., male head, dorsal view.
Fig. 58 : Pipunculopsis bivittata Bez., female head, dorsal view.
Fig. 59 : Pipunculopsis bivittata Bez., male head, in profile.
Fig. 60 : Pipunculopsis bivittata Bez., male wing
Fig. 61 : Pipunculopsis bivittata Bez., male thorax and abdomen, dorsal
view.
Fig. 62 : Pipunculopsis bivittata Bez., female abdomen, dorsal view.
Fig. 63 : Pipunculopsis bivittata Bez., female abdomen, dorsal view.
Fig. 64 : Pipunculopsis bivittata Bez., ^{male} ~~female~~ abdomen, side view.
Fig. 65 : Pipunculopsis bivittata Bez., Female abdomen, side view.
Fig. 66 : Pipunculopsis bivittata Bez., female abdomen, side view.
Fig. 67 : Petrorossia hesperus Rossi, male head, dorsal view;
Fig. 68 : Petrorossia hesperus Rossi, female head, dorsal view.
Fig. 69 : Petrorossia hesperus Rossi, male head in profile.
Fig. 70 : Petrorossia hesperus Rossi, female head in profile.
Fig. 71 : Petrorossia hesperus Rossi, male antenna, in profile (inner view).
Fig. 72 : Petrorossia hesperus Rossi, male wing.
Fig. 73 : Petrorossia hesperus Rossi, female wing.
Fig. 74 : Prothaplocnemis anthracina Beck, male head, dorsal view.
Fig. 75 : Prothaplocnemis anthracina Beck, female head, dorsal view.
Fig. 76 : Prothaplocnemis anthracina Beck, male head, front view.
Fig. 77 : Prothaplocnemis anthracina Beck, female head, front view.
Fig. 78 : Prothaplocnemis anthracina Beck, male head, in profile.
Fig. 79 : Prothaplocnemis anthracina Beck, male antenna, in profile.
Fig. 80 : Prothaplocnemis anthracina Beck, male wing.
Fig. 81 : Prothaplocnemis anthracina Beck., male genitalia, front view.
Fig. 82 : Chionamoeba nivea Rossi, male head, dorsal view.
Fig. 83 : Chionamoeba nivea Rossi, female head, dorsal view.
Fig. 84 : Chionamoeba nivea Rossi, male head, in profile.
Fig. 85 : Chionamoeba nivea Rossi, male antenna, in profile (inner view).
Fig. 86 : Chionamoeba nivea Rossi, female wing.

- Fig. 87 : Chiasmella sabulonis Beck., male (type) head, dorsal view.
Fig. 88 : Chiasmella sabulonis Beck., female head, dorsal view.
Fig. 89 : Chiasmella sabulonis Beck., male (type) head, in profile.
Fig. 90 : Chiasmella sabulonis Beck., male antenna, in profile.
Fig. 91 : Chiasmella sabulonis Beck., male wing.
Fig. 92 : Chiasmella sabulonis Beck., male genitalia, ventral view.
Fig. 93 : Anthrax aethiops Fabr., male wing.
Fig. 94 : Anthrax aygulus Fabr., male wing.
Fig. 95 : Anthrax elbayensis nov. spec., male wing.
Fig. 96 : Anthrax candidum Sack, antenna, inner view.
Fig. 97 : Anthrax candidum Sack : male wing.
Fig. 98 : Anthrax incisuralis Macq., male antenna, inner view.
Fig. 99 : Anthrax ineisuralis Macq., male wing.
Fig. 100 : Anthrax leucogaster Meigen, male antenna, inner view.
Fig. 101 : Anthrax leucogaster Meigen, male wing.
Fig. 102 : Anthrax ocyale Wied., male antenna.
Fig. 103 : Anthrax ocyale Wied., male wing.
Fig. 104 : Anthrax priesneri nov. spec., male head, front view.
Fig. 105 : Anthrax priesneri nov. spec., antenna.
Fig. 106 : Anthrax priesneri nov. spec., male wing.
Fig. 107 : Anthrax tripunctata Wied., female wing.
Fig. 108 : Anthrax zohrayensis nov. spec. : x wing.

- Fig. 109 : Exoprosopa aegina Wied., female head, dorsal view.
Fig. 110 : Exoprosopa aegina Wied., female head, in profile.
Fig. 111 : Exoprosopa aegina Wied., female wing.
Fig. 112 : Exoprosopa algira Fabr., male head, in profile.
Fig. 113 : Exoprosopa algira Fabr., male wing.
Fig. 114 : Exoprosopa ammophila Param., male head, in profile.
Fig. 115 : Exoprosopa ammophila Param., male wing.
Fig. 116 : Exoprosopa tamerlan-bezzii Param., wing.
Fig. 117 : Exoprosopa bisharensis nov. spec., female wing.
Fig. 118 : Exoprosopa chalybea v. Röder, ~~head~~ head, in profile.
Fig. 119 : Exoprosopa chalybea v. Röder, wing.
Fig. 120 : Exoprosopa chalybea v. Röder, leg.
Fig. 121 : Exoprosopa efflatouni Bez., head, in profile.
Fig. 122 : Exoprosopa efflatouni Bez., wing.

- Fig. 123 : Exoprosopa efflatoun-beyi Param., wing.
- Fig. 124 : Exoprosopa fayoumi nov. spec., head, dorsal view.
- Fig. 125 : Exoprosopa fayoumi nov. spec., male wing.
- Fig. 126 : Exoprosopa ferani nov. spec., head, in profile.
- Fig. 127 : Exoprosopa ferani nov. spec., wing.
- Fig. 128 : Exoprosopa intermedia nov. spec., head, dorsal view.
- Fig. 129 : Exoprosopa intermedia nov. spec., male wing.
- Fig. 130 : Exoprosopa lacerata Engel, male head, in profile.
- Fig. 131 : Exoprosopa lacerata Engel, male wing.
- Fig. 132 : Exoprosopa megerlei Meigen, head, dorsal view.
- Fig. 133 : Exoprosopa megerlei Meigen, head, in profile.
- Fig. 134 : Exoprosopa megerlei Meigen, wing.
- Fig. 135 : Exoprosopa mucorea Klug, wing.
- Fig. 136 : Exoprosopa notabilis Macq., wing.
- Fig. 137 : Exoprosopa pharaonis Param., head, dorsal view.
- Fig. 138 : Exoprosopa pharaonis Param., head, in profile.

- Fig. 139 : Exoprosopa pygmalion Fabr., wing.
- Fig. 140 : Exoprosopa rivulosa Beck., wing.
- Fig. 141 : Exoprosopa sinaitica nov. spec., female head, in profile.
- Fig. 142 : Exoprosopa sinaitica nov. spec., male wing.
- Fig. 143 : Exoprosopa sinaitica nov. spec., female wing.
- Fig. 144 : Exoprosopa spiloneura Bez., head, dorsal view.
- Fig. 145 : Exoprosopa spiloneura Bez., wing.
- Fig. 146 : Exoprosopa stupida Rossi, male head, in profile.
- Fig. 147 : Exoprosopa zanoni Bez., head, in profile.
- Fig. 148 : Exoprosopa zanoni Bez., abdomen, dorsal view.
- Fig. 149 : Exoprosopa zanoni Bez., wing.
- Fig. 150 : Thyridanthrax afer Fabr., wing.
- Fig. 151 : Thyridanthrax fenestratus Fallén, wing.
- Fig. 152 : Thyridanthrax griseolus Klug, head, in profile.
- Fig. 153 : Thyridanthrax griseolus Klug, wing.
- Fig. 154 : Thyridanthrax incanus Klug, wing.