

nets or opened a door communicating with an adjoining room having a similar aspect, when in the course of a few minutes three or four would enter, and singularly enough I found some difficulty in driving them out, as almost invariably they flew with violence against the upper panes, cautiously avoiding the net-work below, through which, had the free current of air been their guide, they might easily have escaped. Encouraged by this first attempt, I prepared a net of very fine pack-thread, with enlarged meshes of 1½ inch to the square, and to my great satisfaction found that it answered the purpose as effectually as the smaller worked coloured worsted nets. So fine and comparatively invisible was the pack-thread net, that there was no apparent diminution of either light or the distant view, and for the remainder of the summer and autumn I was enabled to enjoy the fresh air with open windows without fear of the annoyance I had heretofore experienced. I should also add that, though wasps occasionally came through, the number was very much diminished. I attribute this valuable effect of net-work to the highly magnifying power of the organ of vision, added to the small focal length of the lens of the eye; in consequence of which the enlargement of each thread in their rapid flight presents a succession of obstacles not discernible in the solid obstruction of the panes of clear glass, against which they strike with the full force of accelerated motion when endeavouring to avoid the attempts of those who would catch them.

X. *Observations on Succinic Insects.* By the Rev. F. W. Hope, M. A., F. R. S., &c.

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PART THE SECOND.

GUMS AND RESINS.

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[Read April 7, 1835.]

In commerce the term gum is indiscriminately applied to resins as well as to gums, and we not unfrequently meet with the following improper appellations, *Gum Copal*, *Gum Animé*, both of which are resins. It is true, indeed, that these substances have some properties in common which are not at first sight readily perceived;

they are, however, on analysis, sufficiently distinct, and it is desirable that we should apply the terms properly. The chief gums imported into England are those of Arabia and Senegal, besides various others of inferior qualities from different quarters of the globe. None of them which have come under my notice contain insects, nor can I learn, by investigation or inquiry, if they have been observed by others in like substances.\* Resins differ from gums in being insoluble in water; but, with some few exceptions, are soluble in alcohol, especially if assisted with heat. The only resins to which I wish to draw your attention, are those named *Copal* and *Animé*, as they are the only resins which are reported to contain insects.

#### COPAL.

*Copal* appears to be the Mexican term for gum, and is applied by the South Americans indiscriminately to all odorous gums as well as resins. It is said to be imported *partly* from South America, and *partly* from India, and the tree which produces it in New Spain, according to Pison, is the *Hymenoclea Courbaril*. It is probable also that other species of *Hymenoclea*† produce *Copal*, as it is obtained from various parts of South America, and varies greatly in colour and specific gravity. It is a matter of doubt with me if *Copal* is ever found in the East Indies, as I think invariably it has been confounded with *Animé*, a substance closely resembling it. *Copal* is found in rounded lumps of a moderate size, and is reported, like amber, to contain insects‡ imbedded in its substance; as far, however, as I have had any opportunity of examining it, (sometimes in large quantities,) I have never yet met with insects inclosed therein. In support of the above opinion, that *Copal* contains no insects, I add the testimony of Mr. Strong of Long-Acre, one of the first varnish-makers in London, whose attention has long been directed to insects contained in resins, and his unique and superb collection (the result of fifty years' labour) affords no

\* My friend Colonel Sykes certainly possesses a small snake entangled in gum arabic, which he removed from the tree (*Mimosa Arabica*) himself; and insects of course may be entangled in a similar manner; but it is probable they will rarely, if ever, be found in masses which fall to the earth, since, from the soluble nature of gum, they would necessarily be dissipated by successive showers.

† Hernandez describes eight species of trees producing *Copal*.

‡ Observe, I do not assert that South American *Copals* never contain insects. I think it probable they may; as to the present moment, however, I have not been able to prove it. Should they eventually be found in it, I have little doubt that the insects will indicate the American type, as those of *Animé* exemplify the Indian form.

specimen of *Copal* containing insects. If this opinion prove true or not, the analysis of *Copal* given by Berzelius probably belongs to *Animè*, and the insects described by Dalman, as found in *Copal*, belong to *Animè* also. In corroboration of this opinion I have only to add, that out of fourteen genera of *Copalic* insects described by Dalman, I have found nine in *Animè*, generally the same species, and particularly that singular insect, named *Paussus cruciatus*; the remaining five are very minute, and may have escaped my notice. I conclude, however, that the substance named *Animè* is the same as the *Copal* of Dalman, and in order to prevent further confusion, I restrict the term *Copal*, originally a South American word, to American resin.

#### ANIMÈ.

*Animè*, improperly denominated *Gum Animè*, is a resinous substance, which exudes from the *Fateria Indica*, a gigantic tree of Malabar. It is sold, according to a communication which I received from Dr. Royle, in the bazars of India, under the name of *Surticos*. In northern India it is said to be the produce of a tree of Manwar, one of the provinces of central India. Abundance of resin exudes from this tree in its native soil, and, when recently found, it varies from pale green to a deep amber, with all the intermediate shades. As there are various species of *Hydnæa* which produce *Copal*, so probably other genera of *Dipterocarpaceæ* yield *Animè*. The *Trachylobium Gerrucianum* of Heyne, a native tree of Madagascar,\* produces it in great abundance. The *Animè* which is usually exposed for sale in the lower provinces of Hindostan, is obtained in the vicinity of the mountains of Travancore, and the enormous forests of the Malabar coasts are said to yield it in great profusion. The term *Animè*, Piso informs us, was first used by the Portuguese, and it appears to be only another name for the resin of the *Jetaiba* tree, which they gave it in consequence of its close resemblance to the *Animè* of New Spain. The *Jetaiba* tree

\* I have received some specimens of *Animè* from Madagascar replete with insects of various orders; and, as very little is known respecting the Entomological character of that island, I scarcely dare hazard an opinion concerning it. From the few *Larvæ*, however, which have fallen under my inspection, I should say that the genera of Africa and Asia are greatly intermingled in this island, those of the former rather predominating. Asiatic types also are not uncommon. Several species of *Euterpe* from Madagascar appear closely to resemble those of Travancore. Should it hereafter appear that the botany of Madagascar and the southern parts of the Mysore is similar in character, we may naturally expect a proportionate accordance in their Entomology, at least in those groups which derive their food from vegetation.

is a species of *Hymenaea*, as is the *Animé* tree of New Spain. Here, I think, I can trace the origin of all the confusion respecting *Animé* and *Copal*. The Portuguese first gave the name of *Animé* to the resin of Malabar, probably from observing insects imbedded in its substance, calling it *Animé*, or "*animatal*," which is the signification of the Lusitanian word. The Portuguese, from their early acquaintance with the Malabar coast, which commenced in 1498, soon discovered the *Animé*, as it is scarcely possible one of its chief products should not have become early known to people of their keen commercial habits, more particularly so as they were at that period a flourishing trading people. This same people did not settle in South America till 1549, a period of fifty-one years having elapsed since their first intercourse began with India. The resin of New Spain, presenting a similar substance to that of the Malabar coast, had the same name applied to it, without any regard being paid to the tree which produced it; thinking this account not improbable, I would infer from it, first, that the name of *Animé* was misapplied to *Copal*, which is only found in America; and secondly, that the original term *Animé* was applied to the produce of Asia. In process of time *Animé* and *Copal* were considered as synonymous, and as the Spaniards and Portuguese traded with the East, they afterwards gave the name of *Copal* to the *Animé* of India, which is equally erroneous, *Copal* being only found in the New World, while *Animé* is the produce of the Old. *Animé* contains imbedded in its substance lizards, shells, insects and vegetables, and sometimes, like amber, it is found with drops of water. The lizards, on the authority of Mr. Bell, I state to belong to the genus *Hemidactylus*; they appear, however, to differ from any in his unrivalled collection. The only species of shell which I have seen belongs to the genus *Cyclostoma*; it has an elevated ridge round the centre, and it appears to be exceedingly rare, if not unknown. The lizards and shell are in Mr. Strong's collection. The number of genera of insects which have come under my notice amount to 155; there are also various others in all orders of very singular and undescribed forms, affording an ample field for the future researches of the entomologist,—a field where scarce a track is yet explored.

The plants which are found in *Animé* appear to belong to the following genera, viz. *Mimosa*, *Shorea*,\* and *Hemicyclia*. There are also various others which I willingly leave to the researches of the

\* Mr. Don is of opinion, that some leaves contained in *Animé* resemble those of *Shorea robusta*.

botanist, as it is properly his department. I cannot quit this part of my subject, however, without expressing a wish that some one may direct his attention to the investigation of the plants found in *Amber* and amber, as it may eventually lead us to the knowledge of the antediluvian tree which produced the latter. It may here perhaps not be amiss to hazard a conjecture how the insects became enveloped in the *Amber*, and I do so with the hope that my remarks may lead others to investigate a subject which can only satisfactorily be done by persons residing in the country where the resins are produced. The *Amber* in some cases appears to have exuded from the tree in considerable quantities and at different times. It trickled in drops on the ground, and is found in a mass sometimes of 7 lbs. weight. It is of various sizes and forms, not unfrequently assuming that of stalagmite: and I possess a stalagmite which contains a portion of the branch to which it was suspended. In some specimens lumina or layers are observable, appearing like flaws in minerals; where this is the case, the liquid resin probably fell on the previously indurated fluid, as they readily break in the direction of the flaws. The liquid *Amber* appears to have formed on the ground an heterogeneous mass with the mixture of earth, sand, and vegetable matter, sometimes enveloping pieces of stick, leaves, and blossoms of flowers, &c.; it remained some time concreting, and was at length hardened by the influence of the sun and air. While liquid the wandering lizard, probably in search of the very insects we find imbedded, became entangled in the viscid fluid; the kind *H-lis*, crawling over it, was arrested in its progress: and the fallen leaf, partly adhering to the mass below, became perfectly enveloped from successive drippings from above. Supposing the *Amber* to have flowed down the trunk of the tree, it would naturally embalm in its precious resin every thing in its progress. If such were the case, we should then expect to find *Lichens*, cortical and subcortical insects, embedded in it; in other words, the *Xylophaga*, as well as other *Xylobious* insects, in profusion. Such we do find, and *farther* in numbers far surpassing our expectations. How, however, are we to account for the presence of *Orthoptera*, *Lepidoptera*, various genera of *Hymenoptera*, and numerous *Diptera*? Whilst the *Amber* remained liquid, the locust, cricket, and *Cicada* may have alighted on the glutinous bark. The *Lepidoptera* and some of the *Hymenoptera* may have mistaken the *Amber* for honey, particularly if the resin yielded a fragrant and aromatic odour, as insects are endued with an extraordinary sense of smell, and are easily attracted by sweets:—finding *Apidæ* in great abundance, it is probable that an aromatic

odour attracted them. As to *Diptera*, clouds of gnats may have been driven by the wind against the Lark, and various genera of flies, seeking their usual evening resort, the sunny side of trees, may have settled on the resin, stuck fast, and perished in the same common grave. In many instances the *Animè* appears to have *in-durated almost instantaneously*, and from the perfect state in which we find the insects, we may conclude that they perished almost without a struggle. In proof of which, we find *Gryllus* in the attitude of springing, *Jacheta* arrested in its flight, the wings still expanded, and *Breventis* surprised almost in the act of copulation. In short, the attitude of life is admirably preserved even after death, and, like the figures in the *Sleeping Beauty*, they seem to have been suddenly arrested in their several avocations, and appear ready to awake from the cataleptic lethargy which entranced them, though a century had passed away.

In conclusion, I have only to add how vastly superior (in these instances also) the works of nature are to the operations of art, greatly as the latter are often extolled, almost at the expense of the former. Look at the insect in its amber shroud, and then at the most perfect specimen of Egyptian mummy. In the one, we see the beauty of the original preserved, and its colouring increased, whilst it is embalmed in a more durable and precious covering than has ever fallen to the most magnificent of monarchs. In the other, we see a body "once pregnant with celestial fire," retaining still the form and lineaments of man, though now a ghastly spectacle, loathsome to the eye, and offensive to the smell, and while we gaze on the distorted visage, the emaciated and collapsed body of the Egyptian, we can scarcely do otherwise than imagine—

"The pangs he suffered, and the death he died."<sup>\*</sup>

I hope I have shown from this imperfect sketch of Succinic Insects, that the Science of Entomology involves collateral considerations of a very high interest; and, although it will probably never attain to the brilliant renown which its sister sciences have reached, still it may be rendered eminently useful and instructive, which should ever be the chief end of all scientific pursuits.

\* Vide Boons's *Farnese Hercules*.

*Description of various New Species of Insects found in Gum Animè.*  
(Plate VII.)

Ordo COLEOPTERA.

Familia STAPHYLINIDÆ.

Sub-Familia OXYTELIDÆ.

*Osoius brevicornis*, Hope. Fig. 1.

Long. lin. 4½.

Niger, nitidus, tibiis anterioribus dilatatis, antennis pedibusque brunneis.

Corpus cylindricum, nitidum, nigrum.

Caput elongatum, mandibulis intus dentatis.

Antennæ brunneæ, pubescentes, capite longiores; 1ro articulo basi contracto, apice dilatato; 2do minori; 3tio precedenti longiori; septem sequentibus equalibus; extimo ovato, antice subconico. Fig. 1 a, 1 b, terminal joints of max. palpus.

Thorax fere quadratus, capite brevior, lævis.

Scutellum 3-angulare, magnum.

Elytra thorace longiora, parum latiora, nigra, nitida, marginibus posticis brunneis.

Pedes rufi-brunnei; tibiis anterioribus dilatatis, compressis, spinulosis.

E Resino Animè descriptus.

In Musæo Dom. Strong.

Familia PSELAPHIDÆ.

TEMNODERA.\*

Antennæ 11-articulate, articulo 1mo crasso, 2do paulo minori; 6 sequentibus fere equalibus, subtrigonis; binis proximis sensim magnitudine increnentibus, lunatis; ultimo elongato-ovato, apice conico.

Palpi 3-articulati? articulis duobus primis equalibus, tertio precedentibus vix duplo longiori, elongato-ovato, apice attenuato. Fig. 2 a.

Caput protensum, antice attenuatum, postice dilatatum, nodosum.

Thorax rotundatus, postice semicirculariter, forte impressus.

Elytra convexa, postice abrupte truncata.

Abdomen subovatum, gibbosum, longitudine elytris laud æquale.

Pedes longissimi, femoribus rectis subincrassatis, tibiis tarsisque gracilibus.

*Temnodera testacea*. Fig. 2.

Long. lin. 1.

Totum corpus supra et infra rubro-testaceum, thorace globoso,

\* From *σιμύρα*, sciedo, and *δίρα*, collum.

superne inciso; clytris ovatis, abrupte truncatis, pedibus longissimis.

Obs.—It is difficult to describe the above insect accurately, from the refraction of the resin. It differs in many respects from any known genera; and from the singular thorax, which appears as if it had been submitted to the knife of the anatomist, I have given it the name of *Ternodera*. The thorax resembles closely the ball and socket.

Familia ELATERIDÆ.

*Mecynocanthus unicolor*. Fig. 3.

Long. lin. 6.

Ruber, thoracis angulis anticis et posticis in spinas productis.

*Antennæ retractiles.*

*Thorax* punctatus, scutellum latum, postice rotundatum. Fig. 3 b.

*Elytra* punctato-striata, apicibus valdè scutis.

*Tarsi* articulo quarto subulata. Fig. 3 a.

Habitat in India Orientali.

Specimen unicum in Resina Animè inclusum.

Obs.—This remarkable insect is in Mr. Strong's superb collection. As it differs from all the *Elatere* in the singular form of the thorax, I have given it the name of *Mecynocanthus*, from *μηκρός*, and *κανθα*, from its thoracic angles being produced into spines.

*Ctenicerus ezinius*. Fig. 4.

Long. lin. 6.

Sanguineus, thorace linea media dorsali nigra, clytris bimaculatis apicibusque concoloribus.

Caput rubrum, antennis pectinatis, atris. Thorax sanguineus, linea media longitudinali nigra, ante oculos terminata. Regio scutelli nigra. *Elytra* punctato-striata, sanguinea, medio macula nigra, fere ovata, subobliqua notata, apicibusque concoloribus. Pedes nigri. Fig. 4 a, tarsus.

Femina adhuc latet; forsitan ad genus *Ctenicerus* amandandus.

Obs.—This insect approaches in its form *E. melanoccephalus*, Fab. which is found on the Coromandel coast. I have no doubt that eventually it will be discovered in a recent state. A species, closely allied to it, found in Madagascar, is described by Dr. Klug.

*Elater Wallisii*. Fig. 5.

Long. lin. 2½.

Niger, thorace punctato, clytris 6-maculatis, pedibusque rubris.

*Antennæ* nigrae, thorace antice lato, punctatissimo, angulis pos-



ticis flavis. Elytra punctato-striata, nigra, macula flava in singulis ad basin posita, binisque fasciis interruptis concoloribus, haud ad suturam extensis; pedibusque rubris.

Obs.—This elegant species of *Echtes* I have named in honour of Mr. Wallis, to whose liberality I am indebted for several *Coleoptera* found in Resin Animè. Fig. 5 a, represents the terminal joints of its antennæ.

Familia CLEBRIDÆ.

*Tillus 9-maculatus*. Fig. 6.

Long. lin. 3½

Niger, elytris albo-maculatis, pedibusque flavis.

*Antennæ* breves, (fig. 6 a,) capite thorace punctatis pubescentibus.

*Scutellum* n. veum.

*Elytra* basi parum latiora, apice rotundata, striato-punctata, octomaculata, quatuor maculis albis in singulis rotundatis, scutelloque concolori.

*Pedes* testacei. Tarsorum artus articuli fere æquales, subtrigoni, articulo ultimo subbilobo. Fig. 6 b.

È Resino Animè descriptus.

In Coll. D. Strong.

*Stigmatium 2-fasciatum*. Fig. 7.

Long. lin. 3½.

Rubro-flavus, antennis pubescentibus, elytrisque bifasciatis.

*Antennæ* rufo-testaceæ, pubescentes. Thorax fere orbicularis, medio incrassatus, elevatus, sparsim flavo-pilosus. Elytra thorace triplo longiora, apice rotundata, striato-punctata, fasciæ albæ fere mediæ, secunda concolori ante apicem locata. *Pedes* rubro-testacei. Tarsorum articulo primo, tertio fere æquali, secundo longissimo, quarto subbilobo. Fig. 7 c.

In Coll. D. Strong.

È Resino Animè descriptus.

Fig. 7 a, apex of the maxillary palpus; 7 b, labial palpus.

Familia BRETHIDÆ.

*Brethius nastis*, Hope. Fig. 8.

Long. lin. 5.

Rufo-cinnamomeus, antennis extrorsum crassioribus, elytris striato-punctatis.

*Antennæ* rufæ, ultimis articulis sensim incrassantibus.

*Caput* leve, mandibulis cultriformibus instructum.

*Thorax* cylindricus, glaber.

*Elytra* thorace longiora, striato-punctata.

*Pedes* rufo-picei, femoribus incrassatis.

E Regno Animè descriptus.

In Mus. Dom. Strong.

Obs.—This elegant species of *Brentus* is one of the most singular insects hitherto discovered in *Animè*. It does not accord with the description of any species mentioned by Schönberr. It approaches very closely some species which I have received from the Mysore.

Familia EKNOMYCHIDÆ.

*Emorphus castaneus*, Hope. Fig. 9.

Long. Lin.  $3\frac{1}{2}$ .

Castaneus, thorace quadrato, clytris concoloribus, macula irregulari flava notatis, pedibus nigricantibus.

Thorax ovatus, levissimus, castaneus.

Antennæ nigrae, capite thoraceque longiores, tribus ultimis articulis rufescentibus. Fig. 9 a, 9 b, mouth.

Thorax fere quadratus, anticè valdè sinuatus, marginibus pallidis.

Elytra castanea, basi thorace latiora, et fere triplo longiora, maculâ irregulari flavâ notata.

Pedes nigricantes, tarsi rufescentibus. Fig. 9 c.

E Regno Animè descripta.

In Museo Dom. Strong.

Ordo HYMENOPTERA.

Familia PROCTOTRUVIDÆ.

*Calotelia*, Westw. (*Teleadi* affine.)

Cepus rotundatum, ocellis distinctis instructum.

Antennæ 12-articulatæ, articulis 6 et 7 minutis, transversis, reliquis 5 clavam elongatam formantibus. Fig. 10 a.

Thorax ovatus.

Alæ longæ, ramulo stigmatali brevi, fere inconspicuo.

Abdomen plus minusve elongatum, articulis subæqualibus, anticè et posticè attenuatum, basi in uno sexu in cornu erecto, supra metathoracem protenso, interdum producto.

Pedes longi, femoribus paullo incrassatis, tarsi 5-articulatis simplicibus.

Obs.—In Mr. Strong's Collection of Resin Insects several of this species are preserved, together with other specimens agreeing with them in the colours of the body and wings, and the structure of the antennæ, but having the head larger, and the abdomen shorter and unarmed at the base. From analogy with the allied genera, the latter must be the females of another species, and not the opposite sex of the one here figured, (which is a female,) as might be inferred from the colouring and markings of the wings.

*Calotcha aurantia*, Hope. Fig. 10.

Luteo-subvescens, oculis, ocellis, antennarum clavá, maculis 4 abdominalibus lateralibus, apiceque abdominis nigricantibus. Alæ artice fasciá tenui medianá, secundá latiori, pone medianam, et apice fuscis.

Long. corp. lin. 1.

In Mus. Dom. Strong.

CALYOZA, Westw. (*Bethylo affinis*.)

Corpus elongatum, depressum. Caput magnum, planum (fig. 11 b). Ocelli postici. Antennæ prope os insertæ, ♂ 12-articulatæ, (inde inter *Hymenoptera* aculeata fossoria, hoc genus non locandæ,) ramo longo gracili ex articulis singulis 3—11 producto (fig. 11 a). Collare magnum, subquadratum. Alæ sat breves (in specimine viso contortæ), stigmatate magno, areolâ unicâ marginali ad apicem nervo tenuiori terminatâ; areolis 2 basilibus elongatis, subcostalibus, quarum superior nervo obliquo, et interior transverso inclusæ sunt (fig. 11 c). Femora subincrassata, genitalia mascula in specimine exserta.

*Calyza staphylinoidea*, Hope. Fig. 11.

Nigra; antennis, segmentis duobus apicalibus abdominalis genitalibusque lætè rubris, alis pallidâ, nervis fuscis, stigmatateque nigro, pedibus nigris, geniculis tarsisque piceis.

Long. corp. lin. 2½.

In Mus. D. Strong.

## Ordo HEMIPTERA.\*

## Familia REDUVIIDÆ.

*Enicocephalus nasalis*, Hope.

Vide Art. IV. p. 22, for the description of this species.

## Ordo HOMOPTERA.

## Familia CERCOPIIDÆ.

*Cercopis Strongii*. Fig. 12.

Long. lin. 5.

Subaurantis, capite et scutelle nigris, elytris ad latera, postice nigro, et aurantio colore variegatis.

Caput nigrum.

Thorax antice rotundatus, postice emarginatus.

Scutellum aratum.

\* Read 6th May 1834.

*Elytra* antice aurantia, postice nigra, binisque maculis ovalibus flavis ornata.

*Pedes* axi, tibiis externis apiceque spinosis.

In Coll. Don. Strong.

Habitat in India Orientali.

Obs.—This beautiful *Crocepis* approaches in form some species from Bengal and China. It is named in honour of — Strong, Esq. F.Z.S., J.S., whose cabinet contains an invaluable collection of reminous insects, the result of forty years' assiduity, and certainly unrivalled.

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XI. Description of *Cucullia Solidaginis*, together with its Larva. By JAMES FRANCIS STEPHENS, Esq., P. E. S., F. L. S., &c.

*Cuc. Solidaginis*. Plate III. fig. 7.

*Alis* anticis fuscocinereis, albida-rariis; stigmatibus ordinariis distinctis, margine interiore vittisque ad angulum ani nigris.

Expansio alarum 1 unc. 9—10 lin.

*Cuc. Solidaginis*.—*Stephens's Illust. Brit. Ent. (Hautstellat.)* v. iv. p. 190.—No description.

*Head* and *thorax* greyish-ash or brownish: the *forehead* paler, with darker edges: the *thorax* with an angulated transverse streak, and a large triangular dorsal blotch, deep fuscous: *anterior wings* pale ashy-brown, prettily varied with whitish-ash: the *costa* at its apex marked with alternate deep brown and whitish streaks, placed obliquely: *stigmata* very distinct, with a double blackish margin; between the anterior one and the shoulder is a pale space, terminated close to the stigma by a double waved streak, deepest in colour towards the costa and vanishing towards the inner margin; near the anal angle on the inner margin is a short slightly flexuous hoary streak edged with fuscous, and on the anal angle is a brown patch bearing a short black dash; the hinder margin bears a waved whitish streak, and a faint interrupted black line; on the inner margin is a slender black line: *cilia* pale fuscous, with the base darker: *posterior wings* fuscous, with the base palest, and on the disc a very faint dusky lunule; *nervures* fuscous;