

by the feathers, as in the Velvet Scoter\*.” The highly arched form of the bill above the nostrils requires however especial notice†. In the absence of a figure, some idea may perhaps be given by the following two notes of its depth:—

	in.	lin.
Depth of bill at base of ridge where plumage terminates—	0	10½
16 lines from tip .....		
Depth of bill at 10 lines from tip.....	0	3
Length of bill above (not following curve) .....	1	4
Length of bill to rictus .....	2	6
Length of bill to base of lateral protuberances .....	2	4
Breadth of bill between the lateral protuberances .....	1	4

The specimen which has furnished the subject of this communication was in course of being preserved for Dr. Charles Cupples of Lisburn, who on being informed of its rarity most liberally presented it to the Belfast Museum.

The Surf Scoter is known only as a British species from its having been obtained at the Orkney and Shetland Islands, with the exception of one individual, recorded by Mr. Gould as obtained in the Firth of Forth, and “a recently shot one sent to Mr. Bartlett for preservation,” as noticed in Yarrell’s work, vol. iii. p. 322, 2nd edit., but the locality where it was killed is not mentioned—the “Naturalist, vol. iii. p. 420,” is referred to for the original notice of this specimen.

Wilson (briefly) and Audubon (very fully) give interesting descriptions of the habits, &c. of this species, which is common on the North American coast, increasing in numbers northward.

XLI.—*Descriptions of new or imperfectly described Diurnal Lepidoptera*. By EDWARD DOUBLEDAY, Esq., Assistant in the Zoological Department of the British Museum, F.L.S. &c.

[Continued from vol. xvii. p. 26.]

Fam. PAPILIONIDÆ.

Genus PAPILIO.

*Pap. Anticrates*. Pap. alis anticis trigonis, posticis caudatis, omnibus albis, marginibus externis nigris, anticarum linea transversa, interrupta alba, posticarum lunulis sex albis notatis, anticis fasciis quinque, posticis duabus nigris. Exp. alar. 3 unc. vel 75 mill.

*Hab.* Silhet.

Above, wings white, with a broad black border along the outer

\* Illust. Brit. Orn. vol. ii. p. 335.

† Yarrell’s figure of this species is admirable, with the single exception of the peculiar form of the bill not being represented. The arched profile of the upper mandible in the specimen under consideration (probably from its being a very old male) is still more strongly marked than in Mr. Selby’s figure, representing a male bird of life size.



margin, this border divided on the anterior wings by a white line interrupted by the nervules, commencing below the second median nervule and extending nearly to the anal angle; on the posterior by a series of six lunules; anterior wings black at the base, crossed immediately beyond the base by a transverse band, followed by another directed rather more outwardly; another broader band crosses the cell about its middle, sometimes extending beyond the median nervule; a fourth band crosses the cell between this and its termination, where there is a fifth; neither of these extends below the median nervule. Posterior wings tailed, with two transverse bands near the base, of which one is nearly continuous with the first band of the anterior wings; the second, often almost macular, sometimes nearly wanting, commences a little within the second band of the anterior wing, its outer edge being nearly continuous with the inner edge of the band of the anterior wings, traverses the wing outside the cell, and at its termination curves round so as to reach the end of the first fascia, and is here marked with two grayish lunules; on the abdominal margin, near the anal angle, is a small pale spot, and the black border is here powdered with gray. Tails black, edged with white.

Below, all the markings nearly as above, but of a pale brown; the white lunules of the posterior wings are edged with black; the second band composed first of a brown fascia, then a series of seven or eight red spots, bordered with black.

Head black, with two white lines in front; antennæ black.

Thorax black above, with two pale lateral lines; below gray.

Abdomen black above, gray below, the sides with the margins of the segments pale.

In the collections of the British Museum and W. W. Saunders, Esq.

This species is closely allied to *P. Nomius* of Esper, but may be known by its smaller size, the line in the black border of the anterior wings instead of a series of dots, and some other characters.

*Pap. Leosthenes.* Pap. alis anticis trigonis, posticis caudatis, omnibus albidis, marginibus externis nigris, anticarum lineâ, posticarum lunulis sex albidis notatis; anticis fasciis transversis quatuor, posticis duabus nigris. Exp. alar.  $2\frac{1}{2}$  unc. vel 64 mill.

*Hab.* Australia.

Above, anterior wings whitish, slightly tinged at the base with greenish, the outer margin broadly fuscous black, divided by a whitish line extending from the second median nervule nearly to the anal angle; near the base are two transverse fuscous bands, continued across the posterior wings beyond the middle; a third



band crosses the middle of the cell, extending beyond the median nervure; a fourth covers the end of the cell, nearly touching the black border. Posterior wings tailed, with a broad fuscous black margin marked with a series of whitish lunules between the nervules, less defined towards the anal angle, where they are margined with bluish, the abdominal margin black; the terminations of the two transverse bands marked by four yellowish lunules, bordered with black, of which two are placed outside the second band, two between these and the abdominal margin; tails black, bordered with whitish.

Below, all the wings with the markings nearly as above, but there is an indication of a second pale line in the dark margin of the anterior wings, and on the posterior wings two additional red lunules outside the second band near the costa.

Head brown, white anteriorly; antennæ black.

Thorax brown above, with two white lines anteriorly, below grayish white.

Abdomen fuscous above, grayish white below.

In the collections of the British Museum, H. G. Harrington, Esq. and W. W. Saunders, Esq.

This species represents in Australia *P. Nomius*, *P. Podalirius*, and their allies.

*Pap. Branchus.* Pap. antennis brevibus, alis omnibus nigris, anticis supra macula discoidali albida, posticis fascia rufa, subtus posticis maculis quatuor basalibus, lineaque marginis interni coccineis. ♀

Exp. alar.  $3\frac{1}{2}$  unc. vel 85 mill.

*Hab.* Honduras.

Above, anterior wings black, the disc with a large whitish spot divided by the median nervure, below which is a spot composed of scattered whitish scales, outer edge with indistinct whitish spots between the nervules. Posterior wings dentate, crossed beyond the cell by a broad band composed of six spots of a dull crimson, externally paler and tinged with buff, the first roundish, the second, third, fourth and fifth somewhat wedge-shaped, the sixth nearly square; outer margin dentate, cilia between the teeth whitish.

Below, anterior wings as above; the posterior wings with four spots at the base and a line along the abdominal margin bright crimson; the transverse band paler than above.

Head black, with two red spots behind; antennæ short, black.

Thorax black, spotted with red below; prothorax with two red spots above.

Abdomen black, with two lateral red spots at the base.

In the collection of the British Museum.

This species is closely allied in form to *P. Ilus*, but is at once



known by the different position and form of the white spot on the anterior wings and the broader, differently coloured band of the posterior. Its short antennæ also are a good distinguishing character, giving somewhat the appearance of a *Parnassius*.

*Pap. Harmodius.* Pap. alis anticis subelongatis, posticis dentatis, caudatis; omnibus supra nigro, olivaceo-nitentibus, macula magna marginis interni alba, posticis maculis quinque chermesinis. ♀  
Exp. alar.  $3\frac{1}{2}$  unc. vel 90 mill.

*Hab.* Bolivia (Mr. Bridges).

Above, anterior wings fuscous black, with bright olive-green reflections, marked with a large white spot below the cell, divided into two unequal parts by the first median nervule, and slightly crossing the radial nervure, not extending either to the cell or the inner margin. Cilia white, except at the apex and the ends of the nervules, where they are black. Posterior wings black, with olivaceous reflections, crossed considerably beyond the middle by a band composed of five crimson spots, the first rounded, the second smaller, somewhat oval; third oval, much larger, rather truncate externally; fourth oval, rather smaller than the third; fifth quadrate; between this band and the margin one or two small faint whitish clouds. Cilia white, except at the end of the teeth.

Below, all the wings paler than above, without any olive lustre; the spots of the posterior wings pale, darker externally; the base of the anterior wings marked on the costa with a brilliant carmine spot, the cell with four black longitudinal vittæ, the white spot as above; base of posterior wings with three crimson spots, one on the costa, one in the cell, the third below the median nervure. Cell with three black longitudinal vittæ.

Head black, with two whitish lines in front and two spots of the same colour on the vertex.

Thorax black, spotted with white above.

Abdomen black, the sides spotted with white.

In the cabinet of the British Museum.

Closely allied to *P. Ilus*, but easily distinguished by the different position and form of the white markings on the anterior wings, the want of the crimson in the discoidal cell below, and other less obvious characters.

*Pap. Pharnaces.* Pap. alis omnibus nigris, purpureo-nitentibus, posticis dentatis, caudatis; serie duplici macularum rubrarum, margine ipso albo notato. Exp. alar.  $4\frac{3}{4}$  unc. vel 120 mill.

*Hab.* America Merid.

Above, anterior wings fuscous black, paler beyond the middle, with slight purple reflections, the outer margin sinuate, slightly edged with white in the sinuosities. Posterior wings dentate,



with a short obtuse tail, black, with bright purple reflections, marked beyond the middle with three somewhat cuneiform roseate spots, one in face of the cell, two between the median nervules, between these and the margin four sub-lunulate spots; anal angle with a spot of a more rufous hue, above which are three small groups of rosy atoms. Below, browner than above, the posterior wings with a series of rufous lunules beyond the middle, all resting on a black cloud, the one on the costa white externally, the next very faint; a second series between these and the outer margin all edged with white, the white spots on the edge larger than above.

Head and thorax black, spotted with red.

Abdomen black, with a red spot at the base.

In the collection of Conrad Loddiges, Esq.

*Pap. Isidorus*. *Pap.* alis anticis elongatis nigris, posticis dentatis subcaudatis, maculis quatuor rufis, margine ipso albo maculato.

Exp. alar.  $3\frac{3}{4}$  unc. vel 95 mill.

*Hab.* Bolivia (Mr. Bridges).

Above, anterior fuscous black, inclining to brown, the cilia spotted with white; posterior wings dentate, subcaudate, darker than the anterior, marked with two large red spots between the median nervules, preceded and followed by a smaller one; margin itself and cilia between the nervules white.

Below, paler than above; the anterior wings with a large white spot, divided by the median nervure and its nervules; posterior wings with two rather large pinkish white spots between the median nervules, preceded by a series of four red smaller ones, surmounted each by a faint red cloud and followed by two round spots on the abdominal margin; margin and cilia as above.

Head black, with two white lines in front and two white spots on the vertex.

Thorax black, with four red spots above and six below.

Abdomen brownish, with a red spot on each side at the base.

In the collection of the British Museum.

Allied to *P. Anchisiades*, but the anterior wings are entirely of a black brown above, and below have the white spot placed much nearer the middle of the wing. The posterior wings have far less red than those of *P. Anchisiades* and *Idæus*, which they somewhat resemble, especially below; they are moreover much more acutely dentate.

*Pap. Madyes*. *Pap.* alis omnibus supra cupreo-virescentibus, anticis fascia maculari, posticis lunulis quinque pallidis, subtus anticis nigris, æneo-nitentibus, apice late flavido, posticis flavidis nervis nervulisque nigris; fascia pone medium nigra, maculis argenteo-



albis notata; serieque marginali lunularum argenteo-albarum.

Exp. alar. 4 unc. vel 102 mill

Hab. Bolivia (Mr. Bridges).

Above, all the wings coppery-green, inclining to olivaceous; the anterior with a transverse curved macular yellowish band, commencing a little below the costa, beyond the cell, and terminating near the anal angle; between it and the apex three rounded spots of the same colour, and the faint indication of two similar spots within it, between the median nervules. Cilia spotted with white. Posterior wings with a series of greenish yellow lunules near the hinder margin. Cilia between the teeth white.

Below, the anterior wings are black, with green reflection; the apex and outer margin occupied by a broad band of a dull greenish yellow, narrower and macular towards the anal angle; the outer margin very narrowly fuscous, except at the anal angle, where the margin is broader; the cell with two slender whitish lines towards the base. Posterior wings dull greenish yellow; the nervules and a Y-shaped vitta in the cell black; a black band traverses the wing beyond the cell, marked with a series of silvery-white spots between the nervules, all of which are geminate except the first and last. On the margin itself a series of white lunules, bordered internally with black, shading to purplish and green, the black prolonged nearly to the transverse band. Cilia between the teeth white.

Head black, spotted with white.

Thorax bronzy black above; sides yellowish.

Abdomen bronzy green above, yellow at the sides, black, spotted with white below.

In the collection of the British Museum.

Allied to *P. Archidamus*, but easily distinguished by the character given above.

XLII.—*On the Wound of the Ferret, with Observations on the Instincts of Animals.* By ANDREW BUCHANAN, M.D., Professor of the Institutes of Medicine, University of Glasgow\*.

HAVING often heard of the remarkable way in which the Ferret destroys its victims, I willingly availed myself of an opportunity presented to me on the 26th of August last (1845), of seeing two rats killed by this animal. I found the common account quite correct, that the Ferret kills by means of a small wound in the neck; but the explanation usually annexed I found quite erroneous, that the Ferret aims at the jugular vein, and destroys life

\* Read before the Philosophical Society of Glasgow, and communicated by the Author.





Doubleday, Edward. 1846. "Descriptions of new or imperfectly described diurnal Lepidoptera." *The Annals and magazine of natural history; zoology, botany, and geology* 18, 371–376. <https://doi.org/10.1080/037454809494438>.

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**DOI:** <https://doi.org/10.1080/037454809494438>

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