



SOME INSECTS OF HISTORIC INTEREST IN THE 'DALE'
COLLECTION OF EXOTIC LEPIDOPTERA AT OXFORD.

BY JAMES J. WALKER, M.A., R.N., F.L.S.

S. 10

Reprinted from 'The Entomologist's Monthly Magazine,' Vol. lxxiii.

The late Edward Robert Dale, at the time of his tragic death in August, 1903, was in possession of his father's collection of exotic Lepidoptera; and in his obituary notice (*Ent. Mo. Mag.* xxxix, pp. 225-6) his brother, Charles W. Dale, wrote as follows: 'The ultimate destination of (this) collection is unknown, but it may be mentioned that it contains some arctic insects taken by Capt. Ross and figured by Curtis in the Appendix of Ross's work.' Later on (*l.c.* p. 300) he writes: 'I am glad to say that I have secured my father's collection of foreign insects and my late brother's own collection of British, and that they are at Glanvilles Wootton.' On his decease in 1906 this exotic collection passed with the Dalean insects to the Oxford University Museum, where it now stands in the 'Hope Department' in exactly the same state as when received.

This series of exotic Lepidoptera, which is contained in three medium-sized cabinets, is not a very large one, and many of the specimens are very 'aged' and otherwise in indifferent condition. But it includes a fair number of species that are still rare and difficult to come by, and the Arctic insects alluded to above are of special value as souvenirs of more than one of the great expeditions of the early nineteenth century for the discovery of the North-West Passage, and of those engaged in the prolonged search for Sir John Franklin and his gallant companions. In particular the specimens collected by Commander, afterwards Rear-Admiral Sir James Clark Ross, the second in command of the ill-fated expedition of the 'Victory' to Prince Regent's Inlet (1829-1833), are of the highest interest, as they were preserved and brought home under conditions of hardship and danger almost without parallel in the whole history of Arctic exploration.

Some interesting bionomic notes on certain of the species by Commander Ross may be worth disinterring from the ponderous and not very accessible volumes in which they are entombed,

As this voyage was not under Government auspices, the specimens of Natural History which eventually reached England were not claimed for the nation, but were evidently dispersed, and very few of them can now be traced. The insects of the expedition were described by John Curtis in the Appendix to the 'Narrative of a Second Voyage in Search of a North-West Passage,' by Captain Sir John Ross (pp. lix-lxxx), and were illustrated by a coloured plate fully worthy of his great reputation as an entomological artist. It would appear that the Ross specimens now at Oxford, which are probably almost the only ones now extant in England, were given by Curtis himself to his lifelong friend, James Charles Dale.

The species now under notice are referred to under the names and in the sequence in which they stand in the Dale Collection.

1. *Colias Chione* Curtis, Appendix, Ross Narrative, p. lxvi, Plate A, fig. 6. A male in rather worn condition, labelled 'Chione, Curt. Ross Appen.' This specimen agrees in all respects with Curtis's figure, except in having a very narrow and faintly indicated blackish border to all the wings. The greenish tint towards the margins of the wings in this and the following species is somewhat over-emphasised by the artist.

2. *C. Boothii* Curtis, Appendix, Ross Narrative, pp. lxvi-lxvii. Four specimens standing under this name; the general label for these is 'Arctic America, Capt. Sir J. C. Ross, R.N.' Three of these, in somewhat worn condition, correspond very well with figs. 3, 4 and 5 of Curtis's plate, but none of them have the orange suffusion of the fore-wings shown by the specimens of this butterfly collected by Mr. D. Hanbury in a somewhat lower latitude on the coast of Arctic America, and beautifully figured by Horace Knight (*cf.* Elwes, *Trans. Ent. Soc. Lond.*, 1903, pp. 242-3, pl. ix, figs. 1, 4, 5). The effect of the rich dark moss-green of the under-side of the hind wings of the Ross specimens, with its crimson-bordered central spot and fringes, is really charming. The fourth specimen, a rather worn female set to show the under side, is undoubtedly *C. nastes* Boisd., apparently unrecognised as such by Curtis, who writes as follows (*l.c.* p. lxvi): 'Knowing how variable some species of the genus *Colias* are, I have great doubts if this (*C. Chione*) be any more than a variety of *C. Boothii*. There are other specimens, which I believe are varieties of the female occasioned by age or other circumstances, being much paler, with the black of the nervures very much suffused, so much so in one specimen as to render nearly the whole of the superior wings of the same colour

as the fimbria.' These specimens were in all probability *C. nastes*. Curtis quotes Commander Ross as follows (*l.c.*, pp. lxvi-lxvii): 'These butterflies generally appear about the middle of July, as well as the two following species (*Hipparchia Rossii* Curt. and *H. subhyalina* Curt.); they are chiefly found upon the *Oxytropis Campestris* and *O. Arctica*, two papilionaceous plants; they were captured from the 14th of July to the 13th of August, 1830, and on the 19th were in a very wasted state; on the 14th of July, in the following year, only one *Colias* was taken.'

3. *Melitaea Tarquinius* Curtis, Appendix, Ross Narrative, p. lxviii. Two specimens standing under this name, both females in fairly good condition; the larger one is labelled 'Tarquinius Curt.' and 'Capt. Ross'; the smaller, set for the under side, 'No. Pole' (!!) 'Capt. Ross' in the handwriting of James Charles Dale; both are labelled below 'Arctic America, Tarquinius.' The first of these is *Brenthis freija* Thunb., the characteristic pattern of the under side of the hind wings being very well marked; the second is probably a form of the very variable *B. chariclea* Schneid. Of these butterflies Commander Ross remarks (Curtis, *l.c.* p. lxxix): '*M. Tarquinius* was an abundant species, and like the *Coliades* was found feeding on the flowers of *Oxytropis Campestris* and *O. Arctica*: specimens were captured on the 10th of June, and between the 2nd and 14th of July, 1830, they were most abundant; in 1831 the first butterfly seen was one of this species; this was on the 10th of July, and on the 14th two more were taken.'

'Commander Ross was so fortunate as to discover the caterpillar, apparently of this species.' He gives a brief description of a larva of the usual Argynnid type, and further states: 'One that was found under a stone in the middle of March, and of course perfectly hard frozen, showed symptoms of life in half-an-hour after being brought into the cabin, and in less than an hour it was walking about the table.'

4. *Argynnis (Brenthis) Polaris* Boisd. A worn specimen of a small Fritillary (apparently a ♀, but the abdomen is missing), is probably referable to this species. It has two labels on its pin, besides 'Polaris B.' at side; the first is 'Tullia(?), Whale Island, Capt. Parry, fr. Miller, Bristol 18—,' in J. C. Dale's handwriting; and 'Tarquinius(?), Whale Island.' Another label below the specimen reads 'n.s. in Mus. Br. (sevl.).' The locality 'Whale Island' is almost certainly the 'Whale Fish Islands' in Baffin's Bay (lat. 69° 0' N., long. 53° 13' W.), where H.M. ships 'Hecla' and 'Fury,' under Captain Parry, on his third expedition for the dis-

covery of a North-West Passage, anchored during the outward voyage on June 26th, 1824. Lieut. James Clark Ross, of the 'Fury,' writes (Parry's Third Voyage, Appendix, Zoology, p. 113): 'Melitaea Tullia Fab., Faun. Groen., p. 192. Taken very abundantly at Port Bowen' (lat. $73^{\circ} 14'$ N., long. $88^{\circ} 55'$ W.) 'and found in all parts visited by the late Expeditions.' It is probable that this note refers to more than one species of the small Arctic Fritillaries.

5. *Dasychira Rossii* Curtis. The two insects standing under this name are of two distinct species. The first, which is in surprisingly good condition considering its probable age of well over a century, is a ♂ *D. (Gynaephora) groenlandica* Wocke. It is labelled 'Taken in Melville Island in the Arctic Sea by Mr. Fisher. Jas. Wilson, Esq.' Dr. Alexander Fisher was Assistant Surgeon, H.M.S. 'Hecla,' in Parry's memorable first voyage in search of a North-West Passage in 1819-20, when the expedition discovered Melville Island and wintered there. The few insects brought home were described by the Rev. William Kirby in the Appendix to Capt. Parry's narrative of the voyage (pp. 44xv-ccxvi); he there says: 'Two or three specimens of a caterpillar were obtained in Melville Island, one of which was brought to England. They were found wandering in the neighbourhood of *Salix arctica* and *Saxifraga oppositifolia* . . . It is of that tribe of caterpillars which Reaumur calls *Chenilles à brosses*, the perfect insects of which constitute the genus *Laria* of Schrank, for instance *Bombyx fascelina* Fab. etc.' He makes no mention, however, of the imago. The range of this moth extends farther northward than that of any other of its tribe, as Capt. Fielden, the naturalist of H.M.S. 'Alert,' found numerous larvae in lat. $82^{\circ} 30'$ N., besides a ♂ imago, now in the National Collection, on July 6th, 1876 (cf. McLachlan, Journ. Linn. Soc., Zoology, Vol. xiv, p. 112).

The second example is a very worn and faded ♂ of *D. (Gynaephora) rossii* Curtis, in which the clearly defined markings of the beautiful figure (*l.c.* Plate A, fig. 10) are scarcely to be traced. In the Oxford University Museum there are two fine ♂ specimens of this species from 'Prince of Wales Sound, Hudson's Strait, lat. $62^{\circ} 35'$ N., long. $77^{\circ} 22'$ W.,' which agree very well with Curtis's figure. The Dale insect is labelled '1. ROSSII' and '16. *Rossii* Curt. ♂, Capt. Jas. Ross.' Of this species Curtis writes under the name *Laria Rossii* (*l.c.* pp. lxxi-lxxii): 'It is a very abundant species, especially in the caterpillar state, for about a hundred were collected on the 16th June, 1832, near Fury Beach (lat. $72^{\circ} 40'$ N.,

long. $91^{\circ} 53'$ W.); the first that was seen in the previous year (at the Victory's winter quarters in a somewhat lower latitude) was on the 19th June, and several more on the 23rd. The caterpillar is large and hairy, of a beautiful shiny velvety black, the hairs being somewhat ochreous; there are two tufts of black hair on the back, followed by two of orange. A great number of them are destroyed by various flies and ichneumons, one of which is represented at fig. 1' (*Ichneumon lariae* Curtis, a fine large red species, 'not very numerous'), 'but those which arrive at maturity spin a close web, about the size of a silkworm's and covered outside with its hairs, the pupa is piceous and shining and the back thickly covered with long brownish-ochre hairs its whole length; the moth appears about the beginning of August. The following interesting experiments I have transcribed from Commander Ross's MSS.—About thirty of these caterpillars were put into a box in the middle of September, and after being exposed to the severe winter temperature of the next three months, they were brought into a warm cabin, where in less than two hours every one of them returned to life and continued for a whole day walking about; they were again exposed to the air at a temperature of about 40° below zero, and became immediately hard frozen; in this state they remained a week, and on being brought again into the cabin only twenty-three came to life; these were, at the end of four hours, put once more into the air, and again hard frozen; after another week they were brought in, when only eleven were restored to life; a fourth time they were exposed to the winter temperature, and only two returned to life on being again brought into the cabin; these two survived the winter, and in May an imperfect *Laria* was produced from one and six flies from the other; both of them formed cocoons, but that which produced the flies was not so perfect as the other.—The caterpillar feeds mostly on the *Saxifraga Tricuspidata* and *S. Oppositifolia*.'

6. *Anarta Richardsoni* Curtis. Two specimens, one in good condition labelled '*Hadena Richardsoni* Curt. 18, Capt. Jas. Ross.' This corresponds most accurately in every point of detail with figure 11 of Curtis's plate, and may well be the insect from which he made his beautiful drawing. The second example is somewhat worn, and is labelled '*Lat.* $76^{\circ} 1' 10''$, *long.* 109° , *Aug.* 14th, 1850. *C. Ede, Esq.* From *F. Smith* of *Brit. Mus.* from *A. White*, April 1864.' The position given is on the shore of Liddon Gulf in the North of Melville Island; *Dr. Charles Ede* was surgeon of *H.M.S. 'Assistance,'* one of the squadron under *Commodore Austin* in the

Franklin Search Expedition of 1850-1, which wintered off the south coast of Melville Island. The moth is a widely distributed circumpolar species.

7. *Psychophora Sabini* Curtis. Two specimens, in one of which the hind wings and abdomen are missing. This is labelled '*Psychophora sabini* Curt. Ross's Appen.'; the second bears no label, but is in quite good condition. This little Geometrid moth is very briefly described by the Rev. W. Kirby (Parry's First Voyage, Appendix, p. ccxv) under the name of '*Bombyx Sabini*' and noted as 'Found in a swampy part of Melville Island.' The Dale specimens are not as definitely marked as Curtis's figure of the ♂ (*l.c.* Plate A, fig. 12), both being nearly unicolorous fuscous-brown with faintly indicated darker central band and hind-margin of forewings; from the antennae they are evidently females.

It may be added that Curtis described three other butterflies from the Ross expedition, *Hipparchia (Erebia) rossii*, H. (*Oeneis*) *subhyalina* and *Lycaena franklini (orbitulus* Esp. var.). The *Oeneis*, with others of the Ross insects, apparently passed in the first instance into the collection of the eminent French entomologist, Mons. Achille Guenée (*cf.* Elwes, Trans. Ent. Soc. London, 1893, p. 475). In the series of *Colias boothii* in the National Collection is a specimen bearing the following labels: 'Boothia Felix exp. Ross. Paratype ex coll. Gr. Grshm.; ex Mus. Oberthurium; ex Mus. Ach. Guenée; M. Doubleday exp. Ross. Boothia Felix (Cotype). Per Elwes.' It is possible that other Ross specimens still exist in the 'Curtis' cabinet of exotic insects, which since 1863 has been in the Victorian National Museum at Melbourne.

Aorangi, Lonsdale Road,
Summertown, Oxford.

May 3rd, 1927.



