

Fam. LIBYTHEIDÆ*.

LIBYTHEA.

Libythea, Fabricius, Mag. f. Insekt. vi. p. 284 (1807); Westw. Gen. Diurn. Lep. p. 412.

This is a very widely distributed genus, occurring in temperate and tropical countries nearly all over the world, except Australia and the islands of the Pacific. In continental America we have one wide-ranging species in *L. carinenta*, which extends from the southern frontier of the United States to the Argentine Republic. North-east of this a closely-allied form exists in *L. bachmani*, which is, perhaps, hardly separable from *L. carinenta*. The islands of Cuba and Haiti have each a distinct species, raising the total of the American species to three or four. In Europe and North Asia with Japan we find one species; in India and the islands of Java, Borneo, &c. two or three closely allied forms; in New Guinea, the adjoining islands, the Philippines, &c. other species occur; and in West Africa we also find one allied to the European form.

The early stages of *Libythea bachmani* of North America have been carefully described and drawn by Mr. W. H. Edwards, and the transformations were long given by Boisduval and Leconte.

The subcostal nervure of the primaries emits two branches before the end of the cell, the upper radial and the middle discocellular start from the same point of the subcostal, there being no upper discocellular (or if present it is extremely short), the middle and lower discocellulars form one curve, the lower being slightly the longer, and both being atrophied towards the middle, where the lower radial joins them. The lower discocellular meets the median some way beyond the origin of the second branch. There is a slender internal nervure proceeding from the submedian to the base of the wing. The secondaries have atrophied discocellulars, the lower one of which meets the median close to the origin of the second branch. The front legs of the male have a rather

* The systematic position of the genus *Libythea* has long been a matter of discussion. Prof. Westwood (Gen. Diurn. Lep. p. 412) places it in a distinct Family, and we here follow him. Mr. Bates, on the other hand, includes the genus as a separate subfamily of Erycinidæ (Journ. Ent. ii. p. 176). There can be little doubt that *Libythea* occupies a somewhat intermediate position between the great families of the Nymphalidæ and Erycinidæ. As in the former the pupa is suspended freely by the tail, whilst that of the Erycinidæ is either rigidly attached by the extremity or secured with a girdle across the middle. The structure of the fore legs of the female is as in the Erycinidæ, these legs being perfect and not more or less atrophied as in the Nymphalidæ. In the extraordinary development of the palpi *Libythea* stands alone, and its general appearance and extensive distribution also indicate an isolated position. The construction of the male secondary organs follows in main the same general plan as in the genera of the Nymphalidæ, whereas, so far as we can see at present, the Erycinidæ diverge widely. Another point remains to be noticed, and that is the presence in the primaries of *Libythea* of an internal nervure. This nervure is always found in the Danainæ, in *Hetera* and its allies of the Satyrinæ, and, so far as we have seen at present, in the Erycinidæ. In the Nymphalidæ it is absent altogether.