

lor, with a broad, deep blackish brown margin, a little indented internally with the nervures which are finely but distinctly marked with yellow, and divide the black band, the fringe rose-colour; a black oblong spot marks the disk nearer the cost. than the inner margin; costa, paler than the rest of the wing. Posterior wings shaded with green, and on each a round deep orange discoidal spot: the margin is also deep blackish brown, the brown colour terminating in a point short of the anal angle, which is paler than the rest of the wing. Under side; anterior wings paler than on the upper upper side, and all that part of the wing corresponding to the border, greenish yellow, separated from the ground colour by a row of minute spots about six in number, increasing in size as they approach the inner margin, and placed parallel to the hind margin, the three first very indistinct and ferruginous, the other three black. The black discoidal sub-marginal spot has a minute white pupil and there are also two small ferruginous spots on the costa near the tip. Posterior wings, entirely pale yellow, in the centre is a compound eyelet, the exterior circle of which is composed of ferruginous scattered scales, which to form the iris are more condensed, and the two pupils, of which the outer one is the largest, are silvery. They have also a curved row of indistinct ferruginous spots placed parallel to the hind margin, and at the base a spot of rose-colour; the abdomen is greenish yellow, with the back black: thorax covered with rosy hairs; expansion of the wings 2 to 2½ inches. The female differs from the male in having the black marginal band of the anterior wings broader, more deeply dentated internally, and divided by a series of large greenish yellow spots.

Some varieties of the male have only one pupil to the eyelet on the posterior wings, and are smaller than that described. Examples of the female sometimes occur, in which the parts usually yellow are greenish white, a circumstance which has led some authors to describe it as distinct under the name of *Helice*. American specimens differ but slightly from European, but are not of quite so deep a tint as the latter.

The caterpillar is green, with a lateral stripe varied with white and yellow, and with an orange dot on each segment. It feeds (in Europe) on *medicago lupulina*, *cytiscus austriacus*, various species of *trifolium* and other leguminous plants.

The chrysalis is green, with a lateral yellow line, and several ferruginous dots.

This handsome species appears in spring, and a second time in autumn. It is not a common species in this country. We took a very fine female on Montreal Mountain, September 10th, 1856. It was flying in a very sluggish manner, and we caught it under a hat. Boisduval says it is found in Europe, Egypt, the coast of Barbary, Nepal, Cachemere, Siberia and North America. In England, it occurs in the southern counties in considerable plenty, in certain years, while in others, scarcely an example is to be met with. It seems to prefer the vicinity of the sea, having been found more copiously along the south-eastern coast, particularly in the neighbourhood of Dover than elsewhere.

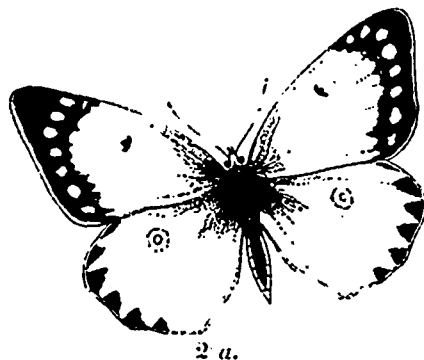
Species 2.—*Colias Chrysotheme*. The small clouded yellow.

This species resembles *Edusa* a little, but it is much paler, with the margin brown, divided on the anterior wings by fine yellow as in *Edusa* and the allied species, except that the discoidal spot of the fore wings has the centre rather pupilled with silver. The female nerves: the fore wings have, moreover, the co. a broadly yellow. The discoidal spot is narrower, transverse, slightly marked, and edged with a little red. The under side of the anterior wings nearly is much paler than the female of *Edusa*, and the yellow orange colour only occupies the disk of the fore wings, the yellow spots which divide the dark margin are larger, more marked, and of a much paler yellow colour.

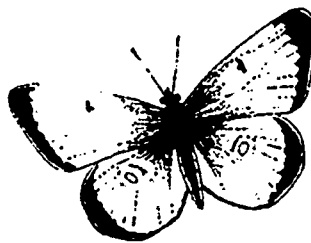
In Europe this pretty *Colias* is always smaller than *Edusa*, it is the contrary in North America, where it is rather larger than the latter. Boisduval says that this genus is divisible into two groups, *C. Edusa* belonging to the first, in which the males are provided

with a glandular space or sac at the anterior edge of the hind wings near the base, whilst in the second group, to which *C. Edusa Chrysotheme* belongs, they are destitute of this sac. This species is found in Hungary, Styria, and Southern Russia. According to Boisduval it is more numerous about New York than *Edusa*; it appears in spring and in autumn, the second brood being most numerous. We have never met with a description of the larva or pupa.

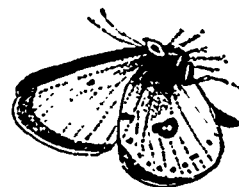
Species 3.—*Colias Philodice*. The clouded sulphur.



2 a.



2 b



2 c

*Papilio Anthiale*, Pap. cyot., &c. Augsburg, 1806, &c.

Male, the upper side of the wings sulphur yellow, with a rather broad black border, situated internally and drawn to a point on the posterior wings, a little before the anal angle. The anterior wings have besides this an oblong black discoidal spot, and the posterior a pale orange spot about the centre of the wing. Under side, anterior wings fine yellow, very pale on the inner margin, and powdered with black scales on the costa. The black discoidal sub-marginal spot has a white pupil, and there is a row of indistinct black spots parallel to the hind margin; posterior wings of a deeper tint than the anterior, with two coalescing, central ocelli having a ferruginous iris and silvery pupil; they have also a curved row of ferruginous spots parallel to the hind margin, a ferruginous spot at the basal angle, and another in the middle of the costal edge; all the wings strongly fringed with rosy; the body, antennae, &c., as in other species of the genus. The female differs from the male in the following manner:—General colour slightly paler; the black band of the fore wings is not so well defined, brownier, and interrupted by a series of yellow spots; the corresponding band on the hind wings is almost obsolete, and underneath these wings are of a dirty yellow colour instead of being of fine orange as in the male.



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1 *Papilio Troilus*.—2 a *Colias Philodice*, (female).

2 b " " (male).

2 c " " (underside).