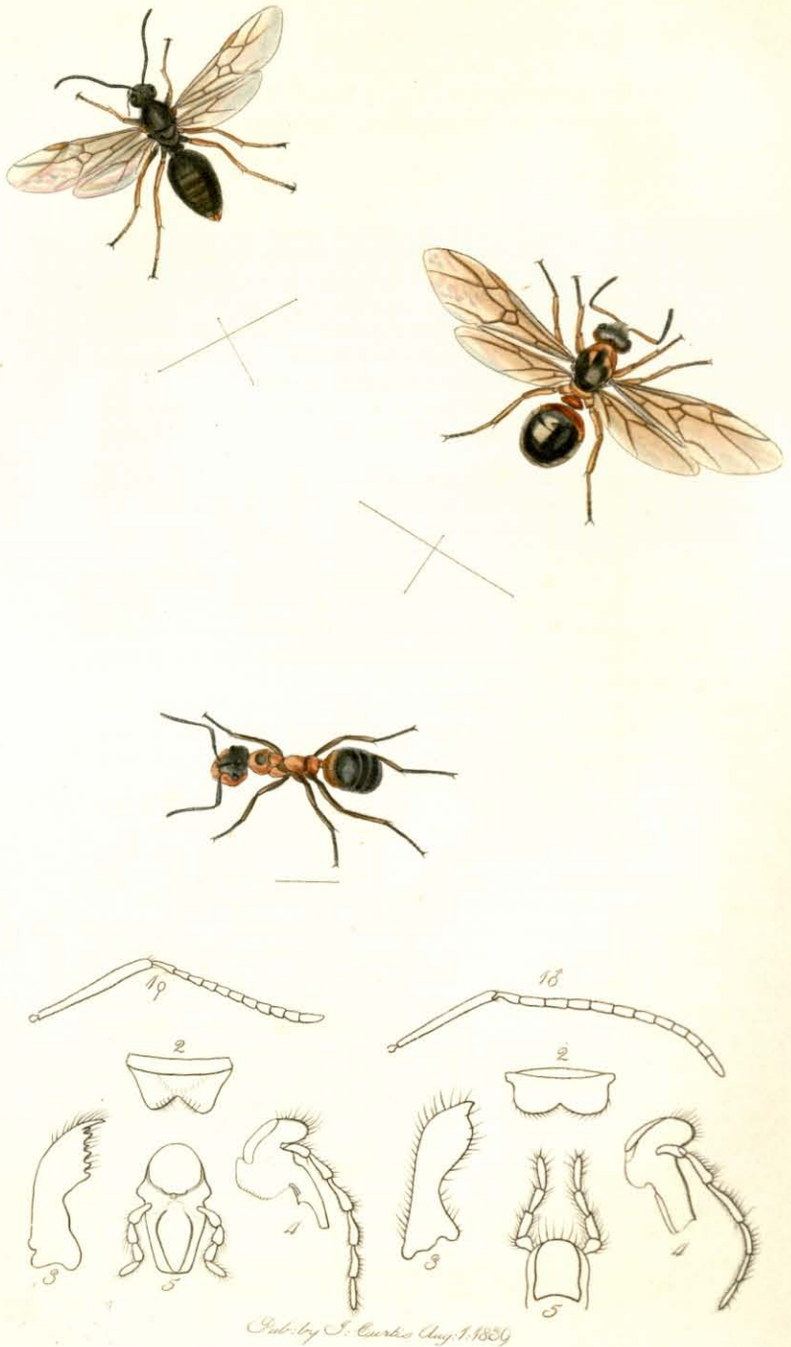

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752.

FORMICA RUFA.

The red, hill, or horse Ant, or Pismire.

ORDER Hymenoptera. FAM. Formicidæ.

Type of the Genus, Formica rufa *Linn.*

FORMICA *Linn., &c.*

Antennæ longer than the thorax in the male (1 ♂)*, filiform, slender, geniculated, 13-jointed, basal joint very long, 2nd slender at the base, nearly as long as the following, which slightly decrease in length, apical joint as long as the 3rd; the tip attenuated: rather shorter in the female, slightly clavate, 12-jointed: scarcely so long as the thorax in the neuter (1 ♀), 12-jointed, 2nd joint longer than the 3rd; the following obovate-truncate, increasing in diameter, but decreasing in length, the apical joint as long as the 2nd, elongate-ovate.

Labrum transverse, ciliated, notched and broad in front in the male (2), attenuated, with a large triangular notch in the neuter (2).

Mandibles rather small in the male and gaping (3), hairy, constricted below the middle, dilated above, with a trigonate apex; forming a beak in the neuter, truncated obliquely and serrated, the apex elongated (3).

Maxillæ short, the apex rounded, slightly hairy. *Palpi* 6-jointed, hairy, 3 basal joints the stoutest in the male, 1st the shortest, 2nd longer clavate, 3rd the longest, remainder slender, nearly as long as the 2nd (4): stouter in the neuter, the joints nearly of equal length, apical joint slender (4).

Mentum short: *Lip* concealed in the male, large and fleshy in the neuter. *Palpi* inserted on each side, hairy and 4-jointed, basal joint pyriform, 2nd and 3rd oblong or obovate, 4th a little the longest in the male, the apex ovate-conic (5).

Trophi *of the female similar to those of the neuter.* Head *rather small in the male, ovate-trigonate:* ocelli 3 *in triangle on the crown:* eyes *moderate, lateral.* Head *more quadrate-ovate in the female and neuter:* ocelli *minute:* eyes *small.* Thorax *ovate in the male and female; narrow, elongated and constricted in the middle in the neuter:* petiole *short, producing a thick vertical scale.* Abdomen *elongate-ovate in the male, large and globose-ovate in the female and neuter:* sexual organs *large and exposed in the male:* sting *not punctorius.* Wings *ample, superior with* 1 *marginal,* 2 *submarginal and a discoidal cell or areolet:* neuter *apterous.* Legs *moderate and slender:* thighs *simple:* tibiæ *with one slender acute spine at the apex of each, dilated in the anterior:* tarsi 5*-jointed, basal joint long, curved at the base in the anterior,* 4*th small, subcordate:* claws *strong:* pulvilli *distinct.*

F. RUFA *Linn.—Curt. Guide. Gen.,* 661. 3.

Male piceous-black: scale rather large, thick and orbicular, the apex slightly concave: legs and apex of abdomen bright-ochreous: coxæ, base

* The 5 figures on the right of the plate are dissections of the male, those on the left of the neuter; the coloured figures represent the male, female and neuter.

of thighs, and tips of tarsi, pale piceous: wings with a slight yellowish-brown tinge, nervures and stigma darker.

Female ferruginous, top of head and disc of thorax and scutel subpiceous, hinder part of thorax flat and oblique; scale somewhat obtrigonate, with the angles rounded: abdomen very glossy, bright pitchy-æneous, margin of the base and bands beneath ferruginous: wings ochreous-brown, lighter towards the tips.

Neuter dull pitchy: head thorax and scale ferruginous: crown channeled, the whole dull pitchy, clypeus and sides bright ferruginous, a purplish brown spot on the disc of the thorax, and a smaller one on the scutel: base of abdomen sometimes ochreous: legs often inclining to castaneous, trochanters ferruginous.

The history of the industrious and provident ant has been familiar to every one from the earliest ages, and the more recent researches of Huber on this subject are highly interesting. I am sorry that a summary of their œconomy is the utmost that my space will afford, but the amusing account given by Kirby and Spence will supply the deficiency.

Each species of ant comprises three different sorts, namely, the males, females, and neuters: there are sometimes two varieties of these last, varying in size: they form nests in the earth or under stones, and their sagacity, their unceasing industry, their perseverance in overcoming difficulties, and the care they evince for their progeny, are wonderful, and well deserving the attention of man.

The female ant lays from 4000 to 5000 eggs; those of the neuters are the smallest; they produce maggots that live a twelvemonth or upwards; these become pupæ, in which state the males and neuters remain 4 and the females 6 weeks; they are inclosed in oval whitish cocoons, which are erroneously called ants' eggs, and it is these we see them carrying off to a place of security when they are disturbed; the ants also bring them to the surface for warmth, or heap them up in the nests. The males and females are generally few in number compared to the workers, yet they are occasionally found in myriads; the latter are often deprived of their wings, being pulled off either by themselves or by the neuters, in order that they may not depart from the nest, and they then work like neuters. Gould says this does not happen till they become mothers. Ants are chiefly nourished by the saccharine fluid from Aphides (pl. 576 and 577), and they remain in their nests through the winter in a torpid state. The males and females swarm from Midsummer to Michaelmas, and the neuters bite with their serrated jaws, but none of the British species sting. Of these, eleven have been recorded in the Guide, but I have only seen indigenous examples of 5 of them. The species figured forms a large nest of straws, sticks, leaves, and other convenient materials: they are very partial to oak-woods and fir-groves, the leaves of the coniferæ supplying them with admirable and very portable building materials: they seem to be at work day and night from March to the end of October: the males and females are commonly found in June and July.