

XXIII. *On the Genus Myrmica, and other indigenous Ants.*

By JOHN CURTIS, Esq., F.L.S. &c.

Read March 21, 1854.

NOTWITHSTANDING the valuable volume published by Latreille in 1802* upon the Ants, the species inhabiting our island were but imperfectly known until very recently. That talented naturalist divided the *Formicidæ* into several families or sections, which he subsequently named; and he found simple and admirable characters for dividing the European forms into two groups.

It is one of the characteristics of the *Hymenoptera*, that the abdomen is attached to the trunk by a neck or petiole, more or less attenuated †. Every one is familiar with the structure of the Wasp, which is a good example of the petiolated *Hymenoptera*. In the Ants, however, this connecting portion or petiole is very peculiar in its form, being furnished on the upper surface with scales or nodules ‡. This forms the basis of Latreille's subdivision of the Ants, one section having a single scale, the other two nodules on the petiole.

It is true that the valuable monographs of Nylander § and Foerster || have lately cleared the way and placed us in a better position, but owing to the fact that each species of Ant exhibits three phases, the study of the family becomes complicated, and unless one can detect and examine a nest, when the Ants begin to swarm, it is not easy to decide with certainty upon the relationship of individuals; consequently there are many species whose history is not complete, and many points remain unsettled. The workers, or neuters as they are called, of most species are abundant enough, and the females of some families resemble them, but the males are generally very different, whilst the females are often deprived of their wings; and even amongst the workers there are two kinds varying in size if not in other respects; so that to an unpractised eye a nest might appear to be inhabited by five different kinds of Ant.

With such a complication of materials it is not surprising that errors in our nomenclature should exist, and I present this Essay to the Linnean Society more with the hope of inducing young and zealous entomologists to study this interesting family, than with any great expectation of producing much myself that is new, or of rendering the nomenclature perfect.

* Histoire naturelle des Fourmis.

† In some instances this neck is so short that the connecting portion is invisible, and the Saw-flies (*Tenthredinidæ*) are altogether an exception, the abdomen being sessile; but it is remarkable that the larvæ in that family resemble caterpillars, and have not only feet, but a greater number than any other larvæ of insects, amounting in some species to twenty-two, whilst in *Lepidoptera* the maximum is sixteen feet.

‡ Vide the plates to Mr. Smith's Monograph of the Genus *Cryptocerus* in the Trans. Ent. Soc. N. S. vol. ii. p. 213.

§ Adnotaciones in Monogr. Formic. Borealiæ Europæ, 1846.

|| Hymenopt. Studien, 1tes Heft, 1850.

On comparing the species of *Myrmica* in my cabinet with the Collection in the British Museum, which has been arranged by Mr. Smith, who has paid particular attention to the Ants, I was enabled to make some notes, and I hope clear up some doubts by the investigation, having had thereby the advantage of examining the typical specimens presented by M. Nylander to our national museum.

I therefore propose to describe and figure some English *Myrmicæ*, which are either new, or so little known, that it appears to me impossible to identify the species. I trust that the figures will at all events render a few species no longer doubtful; and as no dissections, that I am aware of, have been given of *Myrmica*, nor any very elaborate characters exhibited, I shall endeavour to supply the deficiencies.

The British *Formicidæ* may be thus divided :---

A. with a single scale upon the petiole.

Palpi 6- and 4-jointed.

Mandibles of female elongated..... 1. *Formica*, Linn.

Mandibles of female triangular 2. *Ponera*, Latr.

B. with two nodules on the petiole.

Superior wings with the apical cell elongate and open.

Palpi 6- and 4-jointed 3. *Myrmica*, Latr.

Palpi 4- and 3-jointed* 4. *Stenamma*, Westw.

Superior wings with the terminal cell closed, oval and pedicled... 5. *Myrmecina*, Curt.

MYRMICA, Latreille.

Male. Head smaller than the thorax, rhomboidal (fig. 11): eyes globose and prominent: ocelli very distinct, in triangle behind the eyes. Antennæ inserted in cavities in front of the face, approximating, not long, geniculated, slightly clavate, hairy and 13-jointed; basal joint generally one-third of the entire length †, second obconic, the six following more or less ovate, the remainder forming a slightly enlarged club of obovate joints, the last being the longest, stoutest and conical (fig. 1). The trophi are small: Mandibles meeting in front, hairy, narrowed towards the base, dilated anteriorly and truncated obliquely, the margin forming but few teeth (2). Maxillæ producing longish drooping Palpi, pilose and 6-jointed, three basal joints the stoutest, fifth the shortest, sixth the longest, elliptic-conic (3). Mentum obtrigonal, with a small semicircular labium: Palpi remote, not long, but slender and 4-jointed, second joint the longest (4). Thorax attached to the head by a distinct neck, elongate-ovate, scutell semicircular, postscutell produced into a short spine at each angle. Petiole stoutish, composed of two knots, the basal one somewhat pear-shaped, second broader and globose: abdomen larger than the thorax, ovate-conic, the basal segment covering more than half the surface. Wings ample, especially the superior, which exhibit a longish stigma with two discoidal cells, the upper one large and partially divided by a short nervure; the posterior cells incomplete (fig. 13). Legs not long but slender; anterior tibiæ furnished with a longish spine at the apex, slenderer in the others: tarsi 5-jointed, basal joint of first pair very rigid and arched at the base, much longer in the hinder pair; terminal joint dilated at the apex, with distinct pulvilli and sharp claws.

* This character I take on the authority of Mr. Westwood, not having dissected *Stenamma*.

† In *M. rubra*, from which species all these generic characters are taken, the scape is scarcely longer than the terminal joint in the male.

Female stouter. Head much larger: eyes small: ocelli very minute. Antennæ less elongated than in the male, and 12-jointed; basal joint always elongated, second longer than the six following, and the club more robust (5). Mandibles large and prominent, concavo-convex, forming serrated spoons, the teeth more numerous than in the males (6). Palpi similar to those of the neuter. Thorax rather short, broad in front and obtuse, postscutel producing two longish slender spines. Petiole and abdomen similar to the male, but furnished with a concealed sting. Wings as in the male. Legs stouter, the thighs and tibiæ being incrassated; tarsi similar, but shorter and stouter.

Neuter resembles the female, but is much smaller; the Antennæ are longer in proportion, and 12-jointed (7). Ocelli none. The trophi are very minute, excepting the Mandibles, which are comparatively large, crossing, very dilated at the extremity, truncated obliquely and producing 5 or 6 teeth (8). Labrum undiscovered. Maxillæ terminated by an oblique subovate very hairy lobe, and furnished with a slender drooping Palpus of 6 joints (9). Mentum chalice-shaped or obconic, with two remote Palpi of 4 joints (10). Thorax much narrower than the head, contracted at the middle; postscutel with 2 slender spines. Wings none. Sting concealed.

1. *M. RUBRA*, Linn. Faun. Suec. 1725; De Geer, vol. ii. p. 1093. pl. 43. figs. 1-14. *M. scabrinosus*, Nyl. var.

This is a most abundant insect, forming colonies, in meadows, on heaths and banks. The different species of *Myrmicæ* live principally under stones and clods, but they secrete themselves beneath the bark of trees and in moss. It should be observed that the pupæ are not enclosed in cocoons, in which they differ from the true *Formicæ*. The males fly in the evening, and the females are frequently found deprived of their wings, after pairing.

2. *M. LÆVINODIS*, Nyl. Mon. 927. 1.

Taken in the middle of July at Folkestone by Mr. J. S. Baly, and towards the end of August I captured the male in Caen-wood.

3. *M. VAGANS*, Fabr. Ent. Syst. ii. 358. 37. *M. ruginodis*, Nyl. Mon. 929. 2.

As this is undoubtedly the Fabrician species, I have restored the original name. It has been taken in the middle of July, at Sandown, in the Isle of Wight, by Mr. F. Smith.

4. *M. LONGISCAPUS*, Curt.

This species resembles *M. lævinodis*, but the males are much smaller, the antennæ are much longer, and instead of the scape being only as long as the two basal joints of the flagellum, as in *M. lævinodis* and *M. rubra* (fig. 1), it is equal in length to the eight following joints (fig. 12). The head is less convex, there is no channel down the forehead, and the clypeus is testaceous (fig. 11). There is a fovea on the hinder margin of the second nodule; the wings do not differ (fig. 13). The females, of which I have no winged specimen, are very similar to those of *M. lævinodis*, but they are darker, and the basal nodule is shorter and stouter (fig. 14). The neuters are smaller and different in colour from those of *M. lævinodis*, being entirely ochreous, excepting the black eyes and a brownish cloud on the back of the abdomen.—Male $2\frac{1}{3}$ lines; female 3 lines; neuter $1\frac{3}{4}$ to 2 lines long.

I am aware that the length of the scape is supposed to vary in the males, but

as the species under consideration was taken in abundance, from the same nest in Scotland in 1825, all having long scapes, it seems to me to be distinct from *M. rubra* or the allied species: moreover, if this extraordinary disparity of the scape were merely a variation, how is it that the same difference is not observable in the other species?

I possess four males, two females and four neuters, found in July in Perthshire, and I have received males and females taken out of one nest in the neighbourhood of Manchester by Mr. R. Wood.

5. *M. PERELEGANS*, Curt.

The *male* (fig. 15) is pitchy, shining: head finely striated, with a faint channel down the face: mandibles ochreous: antennæ longish, slender and ochreous; scape scarcely one-third the entire length, pitchy, except at the extremities: fore part of thorax smooth, with a few comma-shaped impressions and two longitudinal channels in front, hinder portion striated; scutel roughish punctate-striate; postscutel regularly and distinctly striated, abrupt and concave behind, the angles not produced. Petiole stoutish, first nodule punctured, second very smooth and shining, as well as the abdomen, which is tawny, and a little pubescent towards the extremity. Stigma and nervures nearly colourless. Legs ochreous; thighs and tibiæ pitchy, excepting at the extremities: length $2\frac{3}{4}$ lines.

Female (fig. 16) clear ochreous-red: upper side of head, excepting the margin, black, more rugose-striate than in the male; the clypeus striated, with a band of very fine striæ between the antennæ, which are fulvous; mandibles bright ochreous, the teeth pitchy. Thorax similarly sculptured to the male, but the scutel is striated, and the angles of the postscutel form two long, slender, incurved spines: first nodule with a circular cavity on the back, leaving an elevation in the centre; second pilose: abdomen entirely glossy black, with scattered pale hairs. Legs fulvous, the middle of hinder thighs and tibiæ brown. Stigma and nervures visible, pale fulvous: length 3 lines.

The *neuter* (fig. 17) resembles the female in form, and is exactly similar in the disposition of the colours, only that the thorax and petiole are of a deeper brick-red, with the legs reddish, and all the thighs and legs are darker. The thorax is contracted in the middle and striate-punctate, forming ridges in front: the pit on the first nodule forms a circular margin with an island in the centre: length $2\frac{1}{3}$ lines.

This species seems to approach the *Formica subterranea* of Latreille, but the neuter has the upper surface of the head black, and the first nodule has not a long petiole, as described and represented in all Latreille's figures. The male has not very pale yellow legs; nor the female a brown, very shining thorax, with a brown petiole. It may be related to Fabricius's *F. acervorum*, but he describes that species as having the back of the thorax black.

This new and elegant species I found in July 1850, under a stone, on a heath near Bournemouth in Hampshire. The males were scarce, the females more abundant; the workers were in considerable numbers, and on being disturbed they ran away with the pupæ, hiding themselves in holes and amongst the grass.

6. *M. ACERVORUM*, Fabr. Ent. Syst. vol. ii. p. 358. *M. lacteipennis*, Zett. Ins. Lap. ♂.

I have never met with this species, but Mr. Smith has taken the male, flying in abundance in a fir-grove in Hants, in September, and also under bark of trees in the same county.

7. *M. DENTICORNIS*, Curt.

Male (fig. 18) pale dull castaneous, sparingly hairy: head with indistinct irregular striæ; eyes black; mandibles pale straw colour. Antennæ fulvous. Thorax smooth, shining, indistinctly sculptured; the scutel with an ochreous margin, finely striated, as well as the postscutel, which is concave behind, the angles forming short acute spreading spines. Petiole with ochreous articulations; basal nodule a little elongated and irregularly striated, second nodule smooth and shining: abdomen very glossy, often darker, the margins of the segments paler. Wings slightly tinted, the stigma and nervures pale fulvous. Legs fulvous; coxæ, tips of thighs and tarsi pale ochreous: $2\frac{1}{2}$ lines long.

Female undiscovered.

Neuter (fig. 19) castaneous-black: head finely striated, clypeus with fewer but stronger striæ; mandibles ochreous, the teeth and base pitchy. Antennæ fulvous, stoutish, considerably clavate (fig. 20), the scape angulated at the base and producing a minute dark tooth (fig. 20*f*). Thorax very rugose, being irregularly sculptured all over, the angles of the postscutel forming two long divaricating spines, pale at the tips. Petiole stoutish, basal nodule ovate, truncated behind, second globose, both very rugose: abdomen very smooth and shining, with short pale scattered hairs, and subferruginous at the apex. Legs entirely fulvous; thighs and tibiæ clavate: length 2 lines.

By the peculiar contour of the scape at the base, which forms a knee producing a minute tooth in the neuter, and probably is similar in the female, this very distinct species is no doubt allied to the *M. lobicornis* of Nylander; but as this tooth is much less developed than in his *Myrmica**, and he says, "*capite, thorace nodisque segmenti primi longitudinaliter striatim profundè rugosis* †," our insects must be different, for the head of mine is merely finely striated, and the thorax and both nodules are exceedingly rugose, but not longitudinally striated.

I secured three males and four neuters from a nest in Scotland in July 1825; but I did not observe any females.

8. *M. CÆSPITUM*, Linn. Faun. Suec. 1726; De Geer, vol. ii. p. 1105. pl. 43. figs. 15 & 16 ♂, figs. 21 & 22 ♂. *M. fuscula*, Nylander, p. 935, & pl. 18. fig. 34 ♀, & p. 1053 ♀. *M. impura*, Foerster. var. teste D. Nylander, and possibly *M. modesta*, Foerster., also.

I only know the male of *M. cæspitum* by De Geer's memoir and figures, and until we possess that sex, together with undoubted females, I shall not be satisfied regarding our members of this species, for our neuters do not altogether accord with Nylander's and Foerster's descriptions. In the British examples, the tibiæ, as well as the thighs, are pitchy, the head is finely striated, not rugulose, neither will the sculpture of the thorax

* Adn. Mon. Form. pl. 18. f. 32.

† *Ibid.* p. 932. 4.

bear that construction, excepting the postscutel: the profile of the petiole and the spines given in Nylander's plate* agree, however, very well with our insect.

It is strange that the males of this species should not have been detected in England, as the neuters are not uncommon, and the females, if such they be?, have also been found. These females are so distinct from any other species, that I had given them the name of *maculipes*. The form of the head, thorax and nodules is very peculiar.

In the middle of April 1829 I collected some of the neuters at Southend: I found them at the roots of plants at the base of the cliff, and subsequently in June I met with a small variety at Darent in Kent. Mr. Smith has found them not uncommon at Sandown Bay in the Isle of Wight, and also at Folkestone. The two females alluded to, agreeing with M. Nylander's *M. fuscula*, were discovered by Mr. Dale, under a stone at Charmouth in July, and they had lost their wings.

9. *M. TUBERUM*, Fabr. Ent. Syst. ii. 358. 36; Latr. Hist. Fourm. p. 74♀. *F. tuberosa*, Latr. p. 259♀.

This species requires investigation. I have a pale neuter, which agrees with one of Nylander's specimens; I believe it came from Dorsetshire: Mr. Smith has taken others on Shirley Common, Surrey; and Mr. Wing met with several under the bark of an oak-tree at Brixton the beginning of April. They were all neuters.

10. *M. SIMILLIMA*, Nyl. MSS.; Smith's List Brit. Mus. part 6. p. 118.

The neuters of this insect were taken I believe by Mr. Dale in Dorsetshire.

11. *M. GRAMINICOLA*, Latr. Hist. Fourm. p. 255.

On the 20th of May I took a neuter on a bank at Dinton near Wilton, and I believe it is abundant under stones on the Downs there. Mr. Smith finds it under stones at Weybridge, Surrey.

Latreille's descriptions are too vague to enable me, without seeing his examples, to decide regarding this species. When I published the Genus *Myrmecina* in 1829, I thought it possible my species might be the one indicated in the 'Histoire naturelle des Fourmis,' as the wings of the male *F. graminicola* are described as entirely blackish, and at that time I only possessed that sex; but Latreille compares his insect to the *F. rubra*, and makes no mention of the difference in the neuration of the wings, which would scarcely have escaped so acute an observer, especially as he remarks that the nervures are black; and as our *females* agree in no respect with Latreille's description, I cannot think that our insects are identical. M. Foerster seems to be unacquainted with the neuters and females of *M. graminicola*, and the male which he describes is undoubtedly my *Myrmecina Latreillii*.

12. *M. UNIFASCIATA*, Latr. Hist. Fourm. p. 257.

This pretty species is recorded by Mr. Smith as inhabiting moss in Coomb-wood, Surrey. The only specimens I possess are apterous females and neuters. I found them under the

* Adn. Mon. Form. pl. 18. f. 34.

bark of felled trees and in moss at the base of poplars near Pau, Basses Pyrénées, in January 1853. I am unacquainted with the male, unless it be a *Stenammas*.

13. *M. DOMESTICA*, Shuck. ; Smith's List of Brit. Mus. p. 119*.

This, the smallest of the Ants, is the greatest of all pests, when it establishes itself in a house, as from its minuteness and activity it insinuates itself into every crevice. My attention was called to this mischievous creature many years since. It was first discovered in London in a bakehouse, and my impression at the time was, that it had been introduced with foreign maize into this country, which is supported by the fact that it cannot endure cold†.

There is no difficulty in obtaining the workers, but the males and females are less abundant, and not always to be found. My specimens of these are not sufficiently perfect to ascertain if the neuration of the wings differs materially from the typical species, but from Mr. Westwood's figures I am disposed to think that *M. domestica* is a species connecting the *Myrmicæ* and *Stenammas*.

STENAMMA, Westwood.

14. *S. WESTWOODII*, Steph. ; Westw. Intr. Class. Ins. vol. i. p. 83, & vol. ii. p. 226. fig. 86. 11.

Male slender, pitchy-black, shining; head somewhat ovate, not smooth, eyes prominent: three distinct ocelli on the crown: mouth ochreous, mandibles large: antennæ tawny, approximating, very slender and 13-jointed; scape one-fourth the entire length, second and following joints somewhat elongated, the five last being thickened, the apical joint the longest and conical. Thorax rather broader than the head and indistinctly striated; scutel semicircular and rugose; postscutel with the angles acute. Petiole elongated, basal joint long, slender and pear-shaped, second broader and subglobose: abdomen ovate-conic, edges of the segments and apex ochreous. Wings slightly tinted, stigma and nervures very pale tawny; submarginal cell very long, discoidal, rather small and rhomboidal, apical cell elongate and open (fig. 21) ‡. Legs long and very slender, especially the hinder pair, ochreous; thighs and tibiæ pitchy, except at their extremities: length $1\frac{2}{3}$, expanse $4\frac{1}{4}$ lines.

The males only of this insect are known. I first took one at Black Gang Chine, in the Isle of Wight, in the middle of October 1829. As this species, I believe, has not been yet described, I have sketched its characters.

* *Vide* Annals and Mag. Nat. Hist., New Ser., vol. ii. p. 628; Trans. Ent. Soc. ii. 65; Gardeners' Chron. vol. x. p. 340, and an interesting detail of the economy of *M. domestica* (the House Ant) by Mr. Daniell, in the Proceedings of the Linnean Society, vol. ii. p. 172.

† There are many beetles thus introduced into granaries and mills, and from the sacks lying there carried with the flour into our bake-offices, and thus introduced living and dead into our private dwellings.

‡ Mr. Westwood's figure of the superior wing does not quite agree with mine; in his wing the apical cell is sub-triangular and closed, and the second marginal cell is also extended to the edge, so as to form a closed space.

15. *S. ALBIPENNIS*, Curtis.

Male very black and shining; head dull, indistinctly punctured; mouth ferruginous: antennæ tawny, dusky at their tips, the scape and second joint ferruginous, the latter stouter than the third; and elongate obconic. Thorax indistinctly and irregularly striated; scutel large and glossy; postscutel convex, delicately punctured, with the angles scarcely visible. Petiole elongated, basal joint clavate, second subglobose: abdomen small, ovate-conic, the tip ochreous. Wings with a pale fuscous-yellow stigma, the nervures almost invisible. Legs long and slender, ochreous-white; the coxæ, thighs and tibiæ pitchy, except at their extremities: length $1\frac{1}{3}$, expanse 3 lines.

Female undiscovered.

Neuter smooth pale reddish ochre: head large, oblong, convex, finely striated, the margin and clypeus more or less fuscous; mandibles ochreous. Antennæ stout, and ochreous, scape long, second joint stoutish, elongated, third and six following very short, transverse and increasing in diameter, the three last joints forming a stout fuscous club. Thorax much narrower than the head, indistinctly striate-punctate, oblong, narrowed at the middle; postscutel producing two distinct acute divaricating dark spines. Petiole stoutish, with a few hairs, basal joint elongate-clavate, subrugose, second globose: abdomen small, very polished, with a few short scattered hairs, ochreous, brown beyond the middle, the apex ochreous. Legs short, stout, and ochreous: length 1 to $1\frac{1}{4}$ line.

The male of this species greatly resembles that of *S. Westwoodii*, but independently of its smaller size and somewhat different sculpture, the postscutel has only two minute points, which are scarcely visible; the tarsi, especially the hinder, are white in some lights, and the nervures of the wings are difficult to discern.

The only evidence I have of the above insects being the males and neuters of one species is my having discovered them together. I beat two males and two neuters out of a Privet hedge, the 31st July 1852, on the Folkestone road near Dover. At first I considered the neuters to be small varieties of *Myrmica unifasciata*, but on obtaining typical specimens at Pau, the difference was manifest; the dark band on the body of that species covering more than half the basal segment, whilst the antennæ are entirely fulvous. This strong resemblance however leads me to think that its male may be similar to the same sex of our species, and consequently that it may be a *Stenammas*, as previously intimated.

MYRMECINA, Curtis.

16. *M. LATREILLII*, Curt. Brit. Ent. fol. and pl. 265 ♂; *graminicola*, Foerst. Hymen. Stud. p. 58 ♂.

Male smooth shining pitchy black, slightly hairy. Head broad, ocelli very prominent, the anterior one with a little fovea in front: mouth ochreous: antennæ longish, geniculated, 13-jointed, tawny, and slightly thickened towards the apex. Thorax gibbose, the sutures forming large deep channels; scutel prominent; postscutel finely striated and producing two short sharp divaricating spines. Petiole stoutish, basal nodule elongated, second subglobose: abdomen ovate-conic. Wings entirely fuscous, stigma and nervures

brown. Legs tawny, thighs and tibiæ pitchy, except at the extremities: length $1\frac{1}{2}$, expanse $3\frac{1}{2}$ lines.

Female (fig. 22) black: head suborbicular-quadrate irregularly striated, clypeus bidentate (fig. 23); eyes and ocelli minute, mouth ferruginous: mandibles large and prominent, with many minute teeth; neck distinct, ferruginous: antennæ remote, not long, stoutish, geniculated, 12-jointed and clavate, scape long, second joint cup-shaped, seven following transverse, the third being very short, the ninth much longer, the remainder forming a club, the apical joint being long and conical (fig. 24). Thorax not so large as the head, obovate, hollowed and striated before; the scutel, which is smooth, has the suture at the base ferruginous; postscutel very short, punctate, with two short but distinct spines (figs. 25 and 26 *b*). Petiole ferruginous, elongated, hairy, basal nodule subquadrate or ovate, second broader, transverse, and partially striated (figs. 25 and 26 *i*): abdomen very smooth and shining, rather broad, slightly depressed and oval, the apex ferruginous. Wings fuscous, exactly like the male. Legs ferruginous, stoutish, especially the anterior, which are rather short: length $1\frac{2}{3}$, expanse nearly 4 lines.

Neuter undiscovered.

This species, which I dedicated to my esteemed friend Mons. P. A. Latreille, is quite distinct from any other type of the *Formicidæ* that has fallen under my observation. It is now twenty-five years at least since I discovered the males near that romantic spot, Black Gang Chine in the Isle of Wight, but I have since found others near Greenwich, towards the end of August; and at Sandgate in Kent, in October. It was not till August 1836 that I had the satisfaction of taking, what I consider to be, the female of this insect, at Lulworth Cove. It is remarkable that Mr. F. Smith should have caught a female also in Camden Town, on the wing, and as he has also found the male at Colney Hatch, it seems to be generally distributed in the southern counties. It appears to affect swampy localities, for all the males I have taken were flying about and settling upon rushes, and my female was captured close to a spot where rushes and reeds were growing.

As it is inconvenient to retain useless names, it is advisable to state that *Myrmica binodis* must be expunged from our British lists, and of the eleven *Formicæ* recorded in my Guide*, there are only eight which are ascertained to inhabit Great Britain. No. 1. *F. pubescens*, Latr. and No. 8. *F. emarginata*, Oliv. were admitted on doubtful authority, and No. 11. *F. cognata*, Steph., is not to be found in the British Museum, where Mr. Stephens's collections are deposited.

* Curtis's Guide to an Arrangement of British Insects, 2nd Edition; Genus 661.

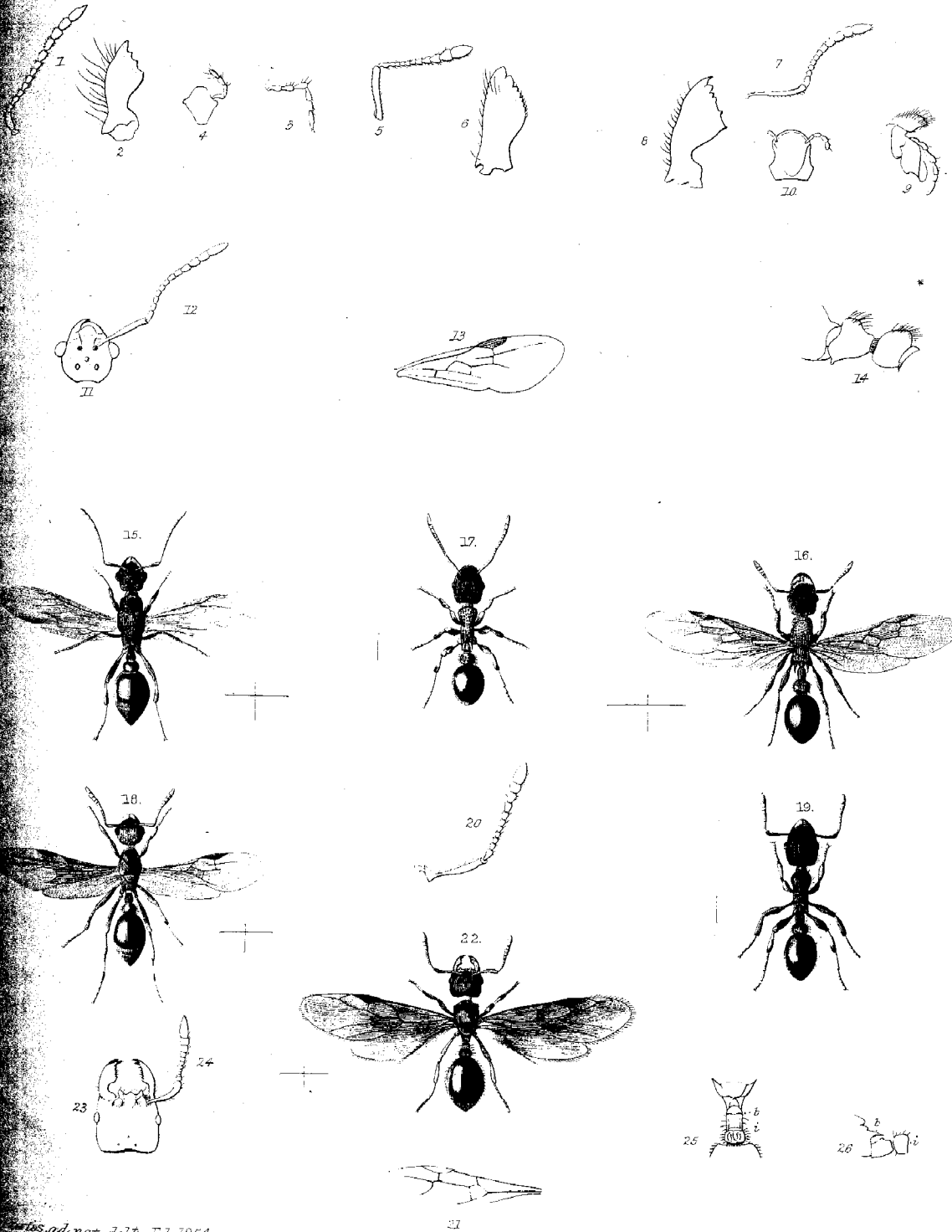
EXPLANATION OF THE PLATE.

TAB. XXIII.

- Fig. 1. Antenna of *Myrmica rubra*, Linn. ♂.
 Fig. 2. Mandible of ditto.
 Fig. 3. Maxillary Palpus of ditto.
 Fig. 4. Mentum and labial Palpus of ditto.
 Fig. 5. Antenna of *Myrmica rubra*, Linn. ♀.
 Fig. 6. Mandible of ditto.
 Fig. 7. Antenna of *Myrmica rubra*, Linn. ♀.
 Fig. 8. Mandible of ditto.
 Fig. 9. Maxilla and Palpus of ditto.
 Fig. 10. Mentum and Palpus of ditto.
 Fig. 11. Head of *Myrmica longiscapus*, Curt. ♂.
 Fig. 12. Antenna of ditto.
 Fig. 13. Superior wing of ditto.
 Fig. 14. The petiole and postscutel of ditto in profile.
 Fig. 15. *Myrmica perelegans*, Curt. ♂.
 Fig. 16. Ditto ♀.
 Fig. 17. Ditto ♀.
 Fig. 18. *Myrmica denticornis*, Curt. ♂.
 Fig. 19. Ditto ♀.
 Fig. 20. Antenna of ditto.
 Fig. 21. Wing of *Stenamma Westwoodii*, ♂.
 Fig. 22. *Myrmecina Latreillii*, Curt. ♀.
 Fig. 23. Head of ditto.
 Fig. 24. The antenna.
 Fig. 25. The scutel, postscutel, and base of abdomen.
 Fig. 26. The same in profile.

Obs. The lines and cross lines show the natural dimensions of the different species represented.

Belitha Villas, Barnsbury Park,
 7th March, 1854.



artus, ad nat. del. Feb. 1854.

Fraz. Smith. Sculp.