

**CATALOGUE OF BRITISH  
FOSSORIAL HYMENOPTERA,  
FORMICIDÆ, AND VESPIDÆ, IN  
THE COLLECTION OF THE BRITISH  
MUSEUM**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649413751

Catalogue of British Fossorial Hymenoptera, Formicidæ, and Vespidæ, in the Collection of the British Museum by Frederick Smith

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Cover @ 2017

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**FREDERICK SMITH**

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*British museum. (Nat. hist.) Dept. of zoology*  
CATALOGUE

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IN

THE COLLECTION

OF THE

BRITISH MUSEUM.

BY

FREDERICK SMITH, V.P.E.S.

LONDON:

PRINTED BY ORDER OF THE TRUSTEES.

1858.

PRINTED BY TAYLOR AND FRANCIS,  
RED LION COURT, FLEET STREET.

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P R E F A C E .



Revised 4-25-39 MJD

THIS Catalogue contains descriptions of all the known species of Fossorial Hymenoptera, Formicidæ, and Vespidæ, which have been discovered in Great Britain. The habits of the genera and the peculiar œconomy of individual species are given, as far as the observations of several years have enabled the Author to record them. Great attention has been paid to the synonymy, in the hope of rendering it as perfect as possible; and almost every species has been carefully compared with continental specimens obtained from the best authorities.

JOHN EDWARD GRAY.

Dec. 15th, 1858.

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CATALOGUE  
OF  
BRITISH  
ACULEATE HYMENOPTERA.

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Tribe I. HETEROGYNA, *Latr.*

The economy of this tribe is greatly varied: some are excavators, which tunnel and burrow in the ground, while others do so in decaying trees or timber; a considerable number construct nests suspended in trees. All the societies consist of males, females, and workers; the latter are by some considered to be abortive females. The males are always winged, the females temporarily so.

Amongst the solitary species, the females are apterous.

Div. II. HYMENOPTERA ACULEATA, *Latr.*

The species social or solitary; the social communities consisting of males, females, and workers; the latter individuals are barren.

*Females*: their antennæ 12-jointed; their abdomen consisting of six segments, and furnished with a sting. *Males*: their an-

tennæ 13-jointed; their abdomen composed of seven segments, not furnished with a sting. Males, females and workers having four wings, which are always traversed by nervures, forming cells. Larva apodal; fed by the workers in social species, and upon food stored up by the female in solitary ones. Some of the solitary species parasitic.

### Fam. 1. Formicidæ, Leach.

(SOCIAL ANTS.)

This family consists of the various species of Ants, with the number of which we are probably but slightly acquainted, although we have recorded 690 species. The metropolis of the group undoubtedly lies in the tropics; and when we reflect upon the observation of Mr. Bates, who has collected for some years in Brazil—"I think," says that observant naturalist, "the number in the valley of the Amazons alone cannot be less than 400 species"—if this prove to be the case, how limited must our present knowledge of the group be! The imagination is unable even to guess at the probable amount of species, when we remember that Mr. Bates is speaking of a single valley in Brazil; and were the vast expanse of South America, North America, Africa, Australia and its adjacent islands, India, and the other parts of Asia, searched by diligent naturalists, there can be little doubt that the *Formicidæ* would equal in number, if not exceed, that of any other tribe of insects.

The economy of the Ants, imperfectly as it is now recorded, has furnished some of the most interesting and wonderful histories to be met with in the natural history of insects. The industry of the ant is a household proverb: when their habitations are by any means injured or destroyed, no time is lost in useless despair—one spirit animates each individual—simultaneously they set to work to repair their misfortune—unceasingly they labour—nothing damps their ardour or abates their industry—until, as if by a magic hand, their habitation again rises to its former height and beauty, and all trace of ruin has disappeared.

It is not our province here to enter upon the wide field of economy as displayed in the exotic species of ants; but it appears necessary to mention one or two particular accounts, in order to give some faint idea of the important part which these creatures perform in the great scheme of nature. We may mention the "Driver or Visiting Ants of Africa:" these ants march in vast

armies, and their approach is welcomed by the negroes, who quit their dwellings for a time, the ants entering and destroying every species of vermin with which they may be infested, thus rendering incalculable service to the inhabitants.

The number of species at present discovered in this country is twenty-five, and as new ones are still being occasionally added, there is no doubt that the number will yet be considerably increased. With two exceptions, *F. rufa* and *F. congerens*, all the British species belong to the division of Mining Ants—one, *F. fuliginosa*, usually selecting decaying trunks of trees, posts, &c.: but this insect will in rare instances be found mining in banks or mud-walls; such occurrences are, however, seldom observed. The *F. flava* appears to differ in one point of its economy from all our native species—the last brood of workers are carried down into the deepest recesses of their subterranean dwelling, and there pass the winter months in a state of torpidity. I have found numbers in this situation in the depth of winter; and such larvæ are much more pubescent than we find them during the summer months. We have frequently inspected the dwellings of other species, *F. nigra*, *fusca*, and *cunicularia*, in winter, but never found either eggs or larvæ. The males and females of *F. flava* in a winged state are also found in the nest much later than any other species; we have found males as late as the 5th of November.

The *Formicoidæ* may be divided into two great sections—those possessing a single scale or node at the base of the abdomen, and those in which the petiole is divided into two nodes. Of the former group only a single species, *Ponera contracta*, is furnished with a sting; whilst in the latter division the females and workers all possess that organ. This mode of subdivision, it must be remembered, is only applicable to the British species. As regards the species armed with stings, amongst the exotic group, several other genera having a single node in the petiole, are aculeate; and amongst the division possessing two nodes, the exotic genera *Ecodoma*, *Cryptocerus*, and some others, are stingless.

### Genus 1. FORMICA.

Formica, pt., *Linn. Faun. Suec.* p. 426 (1761).

Lasius, pt., *Fabr. Syst. Piez.* p. 415 (1804).

The maxillary palpi 6-jointed; the labial palpi 4-jointed. Antennæ geniculated, 12-jointed in the females and workers, 13-jointed in the males. Ocelli three, placed in a triangle on the vertex; the eyes lateral and ovate. The superior wings