

OBSERVATIONS ON THE TAXONOMY OF THE ANTS *MYRMICA*
RUBRA L. AND *M. LAEVINODIS* NYLANDER.
 (HYMENOPTERA: FORMICIDAE.)

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With 3 Text-figures.

1. DISTINCTION BETWEEN *Myrmica rubra* L. and *M. laevinodis* Nylander.

THE species *Myrmica rubra* L. was divided by Nylander (1846) into three forms; of the two with curved scapes, one having workers with longer epinotal spines and a wrinkled area between was called *M. ruginodis*, and the other having smaller epinotal spines and a smooth area between was called *M. laevinodis* Nylander¹. Numerous ants which would not fit into either type were classed as intermediates by Forel (1874) under the title *M. laevinodis* Nylander var. *ruginodo-laevinodis* Forel.

Nylander's distinction is satisfactory only if spine-length is assessed relative to head-width and a sample of the workers of a colony examined. These precautions are necessary for two reasons: first, because within each species colony mean spine-length increases with colony mean head-width, and *laevinodis* colonies of large workers² may have spines as long as *rubra* colonies of small workers. This means that by taking head-width into account in assessing spine-length, colonies which would have been classed as intermediate solely on a basis of spine-length fall definitely into one or other species group, being *laevinodis* if they have large heads, and *rubra* if they have small heads. The second precaution is necessary since individual workers from colonies of distinct species may be indistinguishable.

A sample of 25 workers was taken from each colony examined. Head-width was measured immediately behind the eyes, and spine-length as in fig. 1. When the average values of these for each nest were plotted graphically (fig. 2), they formed two distinct groups each showing internal regression of one character on the other. Details are set out in Table I.

Care has been taken to include in this survey specimens which Mr. Donisthorpe³ considered typical and specimens which he said would fall into Forel's intermediate category. After measurement the former proved to be, in relation to our collection, extreme in type, the *rubra* having large spines for its head-width (which was large), and the *laevinodis* small spines for its head-width (which was small). The intermediates fell in the *laevinodis* group. We also sent Mr. Donisthorpe samples of the nests marked with circles in

¹ Santschi (1931) has maintained that Linnaeus was describing *M. ruginodis* Nyl. when he formed the species *M. rubra* L., and that the latter name has precedence. Santschi's nomenclature is used in this paper.

² Mean head-width (y) regresses on mean weight (x): for *rubra*, $y = .0840x + .8301$ where the standard error of the regression coefficient = .0245 millimetres per milligram.

³ We wish to acknowledge the help which Mr. Donisthorpe kindly gave by both lending specimens from his collection and examining a number of our own.