

evolution, by displaying a progressive series of minute gradations of pattern; a fourth plate might be devoted to an accessory suite of specimens illustrating subordinate lines of variation; and on the final plate an interesting series of aberrant examples could be presented in an order suggestive of their systematic relationship. Five plates, so managed, would furnish a pictorial analysis of the pattern-building method of *Petrosa* more instructive than a laborious essay.

Limited to twenty figures, I found it advisable to select a set of examples suitable for a merely synthetic plate, indicating the leading results of the pattern development rather than its progressive details. The plate contains figures of eleven *Petrosa* males, and seven females. A somewhat fuller series of variations could have been shown by figuring only males. By selecting partly females, however, a distinct advantage was gained, as I have included four appropriate examples bred from one lot of eggs, and incidentally a direct proof is thereby supplied that the plate represents in its local specimens a single valid species. Numbers 1 to 9, inclusive, also 11 and 16, are males. Numbers 12, 13, 14, and 17 to 20, inclusive, are females. For comparison, two instances of *Nemophila plantaginis* are included, numbers 10 and 15. The former is a male, form *Hospita*, from northern Finland; the latter a female, from the Amour region in eastern Siberia.

My analysis of *Petrosa* is based on examination of 199 males and 160 females. The series is as complete as can be desired, comprising all specialties and stages of pattern caught or bred during seven collecting seasons. The entire material was first assorted in an order expressing the gradual modification of pattern, beginning with initial "*Scudderi*," and progressing to ultimate "*Petrosa*." In order to estimate in numerical terms the prevailing tendency or present attitude of the moth as to pattern, the extended column of variation has been sectioned into separate masses, thus distributing into convenient sections the pattern-distance between the two extremes of variation.

One hundred and seven flown males are first considered. Section 1 contains 14 of these specimens, which, as to upper surface at least, are formal *Scudderi*. Fig. 1 of the plate differs from the specimens of section 1 merely in having the light coloured spur (which extends from base of f. w. and is a rudiment of the longitudinal stripe of *Petrosa*) extended to greater length; in other respects it is *Scudderi*. Fig. 7 has this basal spur as in *Scudderi*.