On the Organogeny of the Irregular Corollas. By F. Barnéoud.

In the memoir which I have the honour of submitting to the Academy, I have described the results of further researches on the organogeny of the irregular corollas. I shall briefly indicate the principle in this abstract. In the monocotyledons the study of the development of the flower of the *Canneæ* afforded direct proof that it is the stamina only metamorphosed into petals in a more or less complete manner from their first appearance, which impart to the corolla its irregular aspect. The two outer ternary verticils are always developed *one after the other*, precisely as the calyx and corolla of dicotyledons. This law, which I have verified in more than ten families, appears to be very general among monocotyledonous plants. In the dicotyledons the adult corolla of the *Acanthaceæ*, *Globulariæ*, *Gesneriaceæ*, *Bignoniaceæ* and *Goodeniaceæ*, which is frequently far from regular, presents itself on its first appearance in the form of a small cupule with five very equal and rounded teeth at the border, but this state is more or less ephemeral according to the genera and species. Very soon the unequal elongation of the divisions of the corolla, their different degrees of adhesion or their partial atrophy, determine a very marked irregularity. The same applies with respect to the flower of *Centranthus* in the *Valerianeæ*, to that of the *Lobeliaceæ* and of the *Scrophulariaceæ*. In this last family the corolla of the *Calceolariæ*, one of the most anomalous of the vegetable kingdom, is reduced at its origin to a scooped-out cupola, which is very regular and furnished with four equal minute teeth; the nascent calyx likewise presents but four divisions.

The highly remarkable floral envelope of *Begoniaceæ* likewise appears at the period of its formation, as regards both male and female flowers, in the form of a continuous ring, and exhibits at its circumference five very equal small segments; but there are some of them, especially in the male flowers, which disappear entirely or which become in part atrophied, so as to give to the coloured envelope that peculiar structure which forms its principal character.

From the facts detailed in my two memoirs and derived from the study of genera with irregular flowers from twenty-five natural families, I feel justified in deducing the following consequences:—

1. The simple theory announced by DeCandolle as early as 1813, according to which the irregular flowers should be referred to regular types from which they appear to have degenerated, must be admitted as true, although conceived *à priori*, and solely from the attentive examination of some cases of peloria, or of flowers which have become regular at the adult age. But if in the actual state of science, organogeny affords us a direct demonstration of this important principle of botanical philosophy, I must add, that the symmetry of an irregular flower even at its very origin does not always strictly exist; it is fre-

translation appeared in the 'Annals of Natural History,' vol. xi. 1843. The memoir chiefly details the mode in which the leaf is fastened into a spiral coil by the larva. The author was unaware to what species or genus it belonged.

quently merely indicated by empty places where the absent organs are never developed, as is very readily seen with respect to the stamina of those plants. We may therefore infer among the ordinary causes of disturbance in the floral symmetry, such as abortion, multiplication, degenerescence and adhesion, likewise that of the non-development of organs.

2. With respect to the origin of the union of the stamina called monadelphous, diadelphous, polyadelphous and synantherous, their adhesion is always subsequent to their first formation. The family of the *Stylidiæ* (*Stylidium adnatum*) alone appears to me to furnish a remarkable exception to this rule as regards the adhesion of the styles.

I shall here enumerate three principal kinds of irregularity among all the irregular corollas which I have examined:—

1. Irregularity by simple inequality of development among the several segments of the corolla, with complication of adhesion or complete atrophy or arrest of growth; this is the most common.

2. Irregularity by deviation, where the segments although equal turn all of the same side; for instance, the corolla of *Scævola lævigata* (*Goodeniaceæ*), and the genera with ligulate florets of the *Compositæ*.

3. Irregularity by simple metamorphosis of the stamina, as in the family of the *Canneæ*, and probably that of the *Zingiberaceæ*.—*Comptes Rendus, Aug.* 16, 1847.

Chamæa, *a new genus of Birds allied to* Parus. By Wm. Gambel.

Bill short, tapering to the point, acute and compressed. Both mandibles entire, ridge of upper elevated, and curving nearly from the base; the depression for the nostrils large, oval and exposed; the nostrils opening beneath a membrane in the depression. Wings very short and much rounded. Tail very long and graduated. Tarsus long.

Chamæa fasciata, nobis. Ground Tit.

Parus fasciatus, nobis, Proceed. Acad. Nat. Sci. vol. ii. p. 265.

This interesting bird, placed provisionally among the Titmice, I have now made the type of a new genus, not being able as yet to find a suitable place for it among those already described.

For several months before discovering the bird, I chased among the fields of dead mustard stalks, the weedy margins of streams, low thickets and bushy places, a continued, loud, crepitant, grating scold, which I took for that of some species of wren, but at last found to proceed from this wren-tit, if it might so be called. It is always difficult to be seen, and keeps in such places as I have described, close to the ground; eluding pursuit by diving into the thickest bunches of weeds and tall grass, or tangling bushes, uttering its grating wren-like note whenever an approach is made towards it.

But if quietly watched, it may be seen, when searching for insects, to mount the twigs and dried stalks of grass sideways, jerking its long tail, and keeping it erect like a wren, which, with its short wings, in such a position it so much resembles; at the same time uttering