## 日本産ツツジ属植物雑報(九): サツキツツジの混芽

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## Masahide Kurita\*: Some Notes on the Rhododendron Plants from Japan

IX. Winter Mixed Bud of Rh. indicum (L.) SWEET

栗田正秀\*:日本産ツツジ属植物雑報(九) サツキツツジの混芽

Rh. indicum is well known to have a mixed bud in which a flower bud is usually one or very rarely 2 in number. A question is whether the flower bud is terminal or axillary. If the bud is axillary, there arises another question which part (e.g. middle or lower part) of a mixed bud axis the bud projects from. Then, an observation was made on the mixed bud of the species.

Materials and Method The materials for Rh. indicum were individuals cultivated in Yokkaichi city. An observation was carried out in the early part of March. All the drawings of transverse section of mixed bud were made as viewed from the tip of the bud. In them, the scales of

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Fig. 1-4. Transverse section of flower bud in mixed bud of Rh. indicum. 1, Section through upper part of lobes of corolla. 2, through ovary. 3, through receptacle. 4, through lower part of lobes of corolla. L, Lobe of corolla. uL, Upper lobe of corolla. S, Mixed bud scale covering a flower bud at the scale axilla. St, Mixed bud scale from tip of mixed bud axis. C, Corolla. OV. Ovary. F. Filament of stamen. R, Receptacle. Circle in L, uL, C and S, Main vascular bundle.

Fig. 1-4,  $\times$  ca. 18. Fig. 4,  $\times$  ca. 11.

bud as well as the lobes of corolla are drawn as separated slightly from each other, in order to make overlapping clear.

Observation Each of 40 mixed buds used has one fairly developed flower bud, a mixed bud with 2 flower buds being not discovered. The flower is green with the exception of stamen which is light yellow green.

As shown in Fig. 1-4, there are found one to 3 scales (Fig. 1-4, St) besides the flower bud within each mixed bud. The scales are all yellow brown, they being folded in all cases. In the case where 2 scales are found, a narrow scale is enveloped in the other broad scale as shown in Fig. 1. In the case where 3 scales exist,

the broad scale is at outside, the narrow scale at center, and the remaining medium scale between them, as shown in Fig. 4. Both margins of an inner enveloped scale are inclined to be opposite to the crease of a just outer scale (Fig. 4). Being based on Fig. 1-4, the position of each scale to the axis of flower bud (ab. to AFB here) is as follows: 1) the scale whose main vascular bundle (ab. to MVB) appears always at the upper right of AFB is the scale in the case of one scale (Fig. 2, 3), the broad scale in the case of 2 scales (Fig. 1) and the broad scale in the case of 3 scales (Fig. 4), 2) the scale whose appears always at the upper left of AFB is the narrow scale in the case of 2 scales (Fig. 1) and the case of 3 scales (Fig. 4), and 3) the scale whose MVB appears

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always over AFB is the narrow scale is the case of 3 scales (Fig. 4).

The flower bud and all the scales mentioned above are enclosed with one mixed bud scale (Fig. 1-4, S) which is common to all of them. The flower bud is situated at the inside of the part including the main vascular bundle of the common scale, directing its 2 lower petals to the bundle. All the enclosed scales are situated between the overlapping margins of the mixed bud scale and the upper petal of corolla. The reciprocal position among the flower bud and all the scales mentioned hitherto is constant, being not varied with the mixed buds.

In the longitudinal section of mixed bud, there is found one bud rudiment(Fig. 5, T) at the base of the flower bud. The rudiment has one to 3 slightly undulated yellow brown scales (Fig. 5, St) which are peculiar to it and are about 4.5 mm in length. Some of their tips reach usually to the tip of mixed bud. The rudiment shows no young leaf. As shown in Fig. 5, the flower bud, the rudiment and its peculiar scales are all enveloped in one common scale (Fig. 5, S) at the axilla of which the flower bud had been borne. Discussion The one to 3 scales on the rudiment seen in the longitudinal section of mixed bud are the same as the always folded scales seen in the transverse section of the bud. As mentioned already, the scales are very large, being about 4.5mm in length, and some of their tips reach to the tip of the mixed bud. On the contrary, the scales of an axillary leaf bud are small even in the fully developed leaf bud, being about 1.0mm in length. Judging from the observation on the transverse section, the arrangement of the flower bud (or the common scale enclosing both the flower bud and the rudiment) and all the scales on the rudiment shows nearly the 2/5 position of leaf in this species. Then, the rudiment with one to 3 scales is considered to be a terminal bud including the tip of the mixed bud axis, and the flower bud to be an axillary bud borne at a just lower node.

In this species, twigs have always been elongated from the lower part of a group of bud scale scars. A very small trace of twig is often found, contacting with the base of fruit-stalk

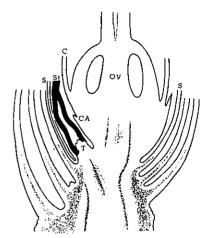


Fig. 5. Longitudinal section of mixed bud of Rh. indicum. S, Mixed bud scale covering a flower bud at the scale axilla. St. Mixed bud scale from tip of mixed bud axis. T, Tip of mixed bud axis. CA, Calyx. C, Corolla. OV, Ovary.

×ca.26.

Therefore, the terminal bud is not considered to grow into at least a well developed twig. It is certain that the twigs are originated from the axillary leaf buds on the lower part within the mixed bud.

## References

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## 摘 要

サツキツツジの混芽の軸の頂部には、ふつう花芽1個と幼芽( $1\sim3$ 枚のりん片をもつ)1個があり、両芽は、混芽に属する1枚の共通のりん片で、完全につつまれている。花芽は共通りん片の主維管束の内側に、花冠の下2枚の花弁をむけて接しており、幼芽は共通りん片の両縁がかさなる部分と花冠の上弁側との間に位置し、これらの相互の位置関係は一定している。花芽(または共通りん片)と幼芽のりん片との相互の位置関係も一定しており、本種の開度 $\frac{2}{5}$ をほぼしめしている。ふつうの葉芽のりん片にくらべ、幼芽のりん片はたいへん長い。

上述から, 混芽軸の頂部の幼芽は, 混芽軸の最先端を ふくむ項生芽であり, 花芽は, その下方の節から生じた 側生芽とかんがえられる。

1年生枝となるのは頂生芽ではなく, 混芽内で比較的 下部にある側生葉芽である。