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Masahide KURITA*: Some Notes on the *Rhododendron* Plants from Japan XXIV. The Hairs of *R. camtschaticum* PALLAS

栗田正秀*：日本産ツツジ属植物雑報（二十四）エゾツツジの毛

It is well known that hairs play an important role in the classification of the genus *Rhododendron*. Some studies were made on the hairs found in the genus by the present author (1977, 1984, 1986). This paper reports the result of observations on the hairs of *R. camtschaticum* PALLAS which shows scarcely any petiole. The observed hairs were obtained from some different types of leaves and stems of plants which grew wild on Mt. Furano, Hokkaido.

Observations

Rhododendron camtschaticum has three different types of hairs, as follows: unicellular hairs, multicellular common hairs and multicellular glandular hairs.

I. The morphology of the hairs

1. Unicellular hairs (Fig. 1.)

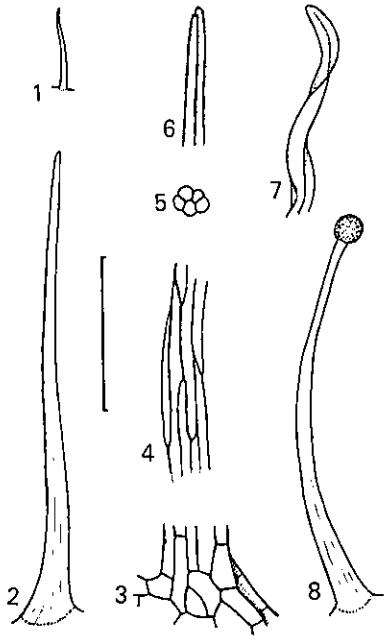
These hairs are mostly 0.17 mm long and usually have many minute wens on the outer surface of cell wall. The wens exhibit a tendency to be slightly elongated in the direction of the long axis of the hair.

2. Multicellular common hairs (Figs. 2-7.)

These hairs vary considerably in length, being from 0.9 mm to 1.4 mm. Hair bases are about 0.09 mm wide.

The hair bases do not reach full development, so they are not distinguishable from the hair proper (Fig. 3.). As seen in side view, the middle parts of the hairs consist of cells which are considerably elongated in the direction of the long axis of the hair and which are distinguishable from one another (Fig. 4.). The middle parts are not flattened at the level of the hair and of the cell as shown in Fig. 5. The upper parts of the hairs usually show wens on the outer surface of the cell wall. A few unusual hairs from a one- year-old stem show their upper parts of which the cells are slightly flattened as shown in Fig. 7.

3. Multicellular glandular hairs (Fig. 8.)



Figs. 1-8. Hairs of *Rhododendron camtschaticum*. 1, Unicellular hair. 2-7, Multicellular common hair. 2, Whole shape. 3, Base. 4, Middle part. 5, Cross section of middle part. 6, Tip. 7, Tip with flattened cells. 8, Multicellular glandular hair. Scale bar: 30μm for Figs. 1, 2 and 8; 15μm for the others.

Each of these hairs is composed of a glandular body and a stalk. The former is spherical or nearly so, being about 0.06 mm in diameter.

The latter is closely similar to the multicellular common hair without the slightly flattened cells in its upper part.

II. The whereabouts of the hairs

1. Leaf blade

On the adaxial surface, the basal parts of the midrib (about a third of the whole length) and of the thick lateral vein have sparse unicellular hairs, and the narrow area along a blade margin has somewhat dense multicellular common hairs

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in many cases. No hair is found on the adaxial surface except as mentioned above. On the abaxial surface including the midrib, only the multicellular common hairs are scattered and the other types of hairs are not found. The blade margin has only multicellular common hairs over its whole length. The hairs on the basal part of the margin are longer than those on the remaining part.

As can be seen from the above description, the leaf blades have no multicellular glandular hairs.

2. Bract

This is similar in the hairs and in their whereabouts to the above mentioned leaf blade, with the exception that the adaxial surface shows no multicellular common hairs in all cases and that the basal parts of the thick veins on the abaxial surface have unicellular hairs in some cases.

3. Bracteole

The basal part of the midrib on the adaxial surface has a few unicellular hairs. No hair is found on the whole surface except for the basal part. On the abaxial surface, multicellular common hairs occur somewhat densely over the whole surface. Furthermore, the basal area of the abaxial surface shows some unicellular hairs and a few multicellular glandular hairs. The density of the latter hairs is about 30 hairs per 8 square millimeters. The margin of the bracteole has a few multicellular glandular hairs plus many multicellular common hairs.

4. Sepal

A few unicellular hairs are found along the veins on the adaxial surface. On the whole of the abaxial surface, there occur closely unicellular hairs and multidcellular glandular hairs. The margin of the sepal also has both the hairs, and the multicellular glandular hairs are much more plentiful than the unicellular hairs. No multicellular common hair is found in the sepal.

5. The stem between the lowest leaf and the just upper one in one-year-old stem

Unicellular hairs and multicellular common hairs are found, with many more of the former than the latter. No multicellular glandular hair is observed.

6. The lower part of peduncle

This part has unicellular hairs, multicellular common hairs and multicellular glandular hairs. The unicellular hairs are greatest in number. The multicellular glandular hairs are fewest, being about 12 hairs per two square millimeters and they are not found on this part of the peduncle in some cases.

7. Pedicel between calyx and bracteole

There occur unicellular hairs, multicellular glandular hairs and multicellular common hairs in order of a large number. The multicellular common hairs are much fewer than the multicellular glandular hairs.

Discussion

The multicellular glandular hairs of *Rhododendron* plants have been reported by several researchers (SEITHE, 1978; HEDEGAARD, 1980; KURITA, 1986, etc.). Some glandular hairs have a small, that is, short and thin stalk which consists of 2 to 4 cell-files, each of the files having usually only 5 to 8 cells. The single species showing the small stalk does not have a large stalk (KURITA, 1986) which will be noted just latter. The other glandular hairs (SEITHE, 1978; HEDEGAARD, 1980) have large, that is, long and thick stalks consisting of a large number of cells which are too numerous to count. As noted above, the multicellular glandular hairs of *R. camtschaticum* described in this paper have large stalks, and HEDEGAARD (1980) also observed glandular hairs with large stalks on the fruit of the same species. On the other hand, the present author did not recognize glandular hairs with the typically small stalks in *R. camtschaticum*. Thus, whether the multicellular glandular hair has the large or the small stalk may be due to the characteristics of the species.

In one-year-old shoots, the lowest parts with the multicellular glandular hairs are the bracteole and the lower part of the peduncle, and the uppermost parts with the hairs are sepals. Judging from the above result, the multicellular glandular hairs seem to have a tendency to occur readily only in a calyx and below it within the one- year-old shoot.

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エゾツツジで3種類の毛：単細胞毛，多細胞普通毛および多細胞腺毛がみとめられた。

単細胞毛は表面に小さい疣状の突起をもつ。多細胞普通毛の基盤はあまり発達せず，毛の本体の細胞は縦に細長くのびているが，各個の区別はできる。この毛は扁圧されていないが，まれに先端部のみが扁圧されたものもあった。多細胞腺毛の柄はよく発達し，多細胞普通毛と同じ形態をしており，腺体は球形が普通である。

3種類の毛の所在が明らかにされたが，このうち多細胞腺毛は萼，小包葉，小花柄および花柄でみとめられ，これ以外の一年生苗条の部分では存在しなかった。この腺毛は花およびその附近でよく出現する傾向があるのであろう。

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摘　要

○ **カノコゴヨウツツジ**—新品種—(米澤信道) Nobumichi YONEZAWA: A New Form of *Rhododendron quinquefolium*

比良山の山稜部には，ゴヨウツツジが多産するが，その一地点に本品種が数本まとまって生えている（産地の詳しい記述は，保護のためひかえたい)。

花冠には，上部の内面にある緑色の斑点（範型にもある）とは別に，全体に紅紫色の斑点があり，華やかで美しいものである。「自然を探る会」の一行と比良山に登った際，発見したものであり，立命館高校の堀井篤先生をはじめ，会の皆さんに，深く感謝致します。

Rhododendron quinquefolium BISSET et MOORE form. *Speciosum* YONEZAWA, form. nov.

Corollae totaliter purpureo-maculatae.

Nom. Jap. Kanoko-goyo-tsutsuji nov.

Hab. Honshu: Pref. Shiga: Mt. Hira, alt. ca. 1020 m (N. YONEZAWA, May 24, 1987; Holotype in KANA no. *121504*).

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○ 林　弥栄監修　**春の山野草と樹木512種・夏の山野草と樹木550種・秋の山野草と樹木505種**　講談社，昭和62年4月1日・7月1日・10月10日発行。25.5×20.5 cm，各冊254頁。定価各冊2,200円。

監修者等は，野外の観察会で，似た植物相互の違いが何処にあるかと聞かれるが，それに対して答えたのが本書で，身近かな春・夏・秋の山野草と樹木計1,500種の他，時に栽培種をも加えて，写真で対比させるばかりでなく，図とともに解説している。(里見信生)