Construction of Key for the genus Nothofagus

The genus Nothofagus was chosen for keying because the New Zealand species form a small and compact group and when no flowers or fruit are available leaf characters suffice for the identification of true species.

Unfortunately, one species was not available at our afternoon. Consequently it seems better to give members an opportunity for making their own keys to all five species, providing them with material based on the very fine and detailed studies of the New Zealand members of the genus carried out by Mr. A.L. Poole (Botany Division) and published in the Transactions of the Royal Society of New Zealand (Vol.78, Parts 2 and 3 p.368, and Vol.78 Part 4 p.502).

Red Beech

N.fusca
Veins 3-4 prs.
Teeth 6-8
Domatia
3-4 cm. long
± 2 cm. wide

Clinker Beech

N.truncata
Veins 5-6 prs.
Teeth 8-12
2·5 - 3·5 cm. long
± 2 cm. wide.

Black Beech

N.solandri
Veins distinct
1.2 - 1.5 cm. long
± 2 cm. wide

Mountain Beech

N.cliffortioides
Veins obscure
1 - 1.5 cm. long
0.7 - 1 cm. wide

Silver Beech

Domatia
1-1.2 cm.lng.
1 cm. wide.

A glance at the above sketches taken from Nancy Adams' charming Illustrations to Mr. Poole's article, gives us ample material for an efficient key. Members will construct a key according to their own ideas. There are various ways of going to work. Leaves can be divided according to whether the margins are entire (unbroken) or not. There are two species with smooth margins and three with types of toothed margin. Considering the two larger leaved forms one sees that the Red Beech has 6-8 sharp teeth with rather deep notches between them, the Clinker Beech on the other hand has anything from 8-12 teeth which are rounded, in other words the margin is what botanists call crenate and the notches are shallow. Menzies Beech, which incidentally has a much smaller leaf, has the margin doubly crenate, i.e. the little blunted teeth are in pairs.

Veins provide useful differentia. Species with toothed margins are veined as follows:-

N.fusca has 3-4 distinct pairs of veins, N.truncata has 5-6 distinct pairs while in the smaller leaved N.menziesii the veins are obscure.

Another useful character is provided by the "domatia" (little pits occurring in some species in the axils of the veins.) These are found only in menziesii and in fusca but remember as regards Fusca domatia have not been recorded in saplings below 6-10 feet high.

As regards the two species with smooth margins, a glance at the sketch shows how these differ in shape. The veins of solandri are distinct but those of cliffortioides are obscure. The under surface of the former has a grayish-white tomentum, of the latter a grayish-fulvous tomentum.

There are, of course, differences in leaf size and these also can be taken into consideration.

These characteristics, worked out originally by Cockayne, apply of course only to pure species, and it is to be remembered as Cockayne has stated, "Hybridism occurs to an astonishing degree in the genus".

Needless to say the flowers and fruit are very important for the taxonomy of the genus, but members who wish to go into the matter further must consult Poole's articles. In the meantime the editor wishes them success with their keys.

Weeds in My Garden (Part 5)

"Larger Fellows of the Baser Sort".

Solanum auriculatum Ait. The auricled Solanum.

It seems odd to refer to a tree as a weed, but there is one small tree that constantly contributes vigorous and aggressive seedlings to quiet corners. Fully grown it reaches about 24 ft. and rapidly colonises waste areas, particularly in volcanic regions. Its one merit is ease of recognition. Its large soft leaves, often eight inches long with their white tomentum (covering of woolly matted hairs) and their quaint little "auricles" at the leaf bases are like no other naturalised tree, while its blue potato-like flower clusters and round yellow berries proclaim it as a member of the genus Solanum with refreshing clearness. The specific name auriculatum derives from the auricles i.e. the little stipule-like leaves to be found in the leaf axils. (See fig.I).

When crushed the plant emits a repellent smell and one is not surprised to learn that it is listed as "probably poisonous". It hails from tropical Africa and is, not surprisingly, confined to the northern part of our island. It is essentially a "waste places" weed.
