

## *Sorbus keenanii* Rushforth

KEITH RUSHFORTH describes a nearly new rowan from North East India and North Burma.

**Abstract:** *Sorbus keenanii* Rushforth is described from North East India and North Burma. The species is allied to *Sorbus insignis* and *Sorbus harrowiana*.

In the Sino-Himalayan forests from East Nepal across to western Yunnan at elevations between c. 2400m and 3000m there is a group of rowans (*Sorbus sensu stricta*) characterised by the following features: the leaves have relatively few pairs of large leaflets, the stipular zone at the base of the leaf clasps the stout shoots and the fruiting inflorescence is in large clusters of rather small pomes. The group belongs to *Sorbus* subgenus *Albocarmesinae* McAllister section *Insignes* (T. T. Yü) McAllister.

The first species to be named was *Sorbus insignis* (Hooker f.) Hedlund, based on collections from Sikkim. Subsequently this species has been found from North

East Nepal to the Apa Tani valley in the Subansiri valley in West Arunachal Pradesh, India. I have not seen any specimens attributable to *Sorbus insignis* from further east. This may mean that it does not occur east of the Siang or merely that it hasn't been collected from further east. *Sorbus insignis* is probably rather specific in its habitat requirements—it may require high humidity as it usually germinates as an epiphyte on mossy trunks. I have only seen it in two places in Bhutan and two in West Kameng, Arunachal Pradesh.

*Sorbus insignis* is characterised by the leaves with 4-6 pairs of leaflets, the leaflets 6-9cm by 1.5-2.5cm, the stipules large, rounded toothed and leafy, to 2cm, the buds round or rounded and the fruits in large corymbs to 15cm across with the fruits 5-7mm in diameter and ripening maroon-red.

*Sorbus harrowiana* (W. W. Smith) Rehder has been confused with *Sorbus insignis* and is treated as a synonym in the Eighth edition of Bean (1980) although listed in its own right in Bean (1933) and (1951) where *Sorbus insignis* is not mentioned. However, it differs from *Sorbus insignis* in several major respects. The leaves have only two or three pairs of oblong leaflets but what leaflets! They are more than 10cm in length—up to 20cm but more usually about 15cm, and 3-5cm in width. The base of the petiole has small linear stipules, never the large rounded ones of *Sorbus insignis*. The buds are also very different, narrow ovoid to long conic, pointed, to 2.5cm. The fruits are globular, 8mm, ripening pink-white and fading to white.

*Sorbus harrowiana* was first found by Forrest in West Yunnan, China in 1912 and subsequently by Kingdon-Ward in northern Burma in the Seingkhu valley. I have seen it at Caojian on the Ziben Shan in Yunnan—perhaps as far east as it occurs. It does not appear to cross the Indo-Burman range, as I have not seen it in any of the places I've been to in the Lohit valley but at suitable altitudes the air may be too dry.

There is, therefore a gap either in their occurrences or perhaps only in collections, from the ranges between the Siang in central Arunachal Pradesh and the Lohit/Indo-Burman range 150 miles to the east.

To the south of these along both sides of the Indo-Burman ranges there is a rowan differing from these two species. It is treated as part of *Sorbus insignis* in McAllister (2005) and as "more distinct" from *Sorbus insignis* than *Sorbus harrowiana* in Bean (1980); adding to the confusion two of the specimens at Edinburgh have been annotated as the distantly related *Sorbus sargentiana*, which is in a different subgenus—Subgenus *Sorbus* Section *Wilsonianae* McAllister. However, the leaves have 7-9 pairs of oblong-lanceolate leaflets which are 3-8cm by 1.2-2cm, the stipules are linear, not leafy and the buds which are ovoid, pointed, less than a centimetre in length and are flattened against the shoot on flowering spurs but more rounded on sterile spur shoots. The fruits are in dense clusters to 16cm by 15cm, containing a hundred or so small fruits 4-6mm across. These ripen to bright or light red or rose and persist over winter, hence being found on January and February collections.



*Sorbus keenanii*, from Kingdon-Ward 7746 growing at the Sir Harold Hillier Gardens.

In summary, it differs from both in the smaller more numerous leaflets, the smaller more numerous fruits and the buds, whilst the stipules are more similar to *Sorbus harrowiana*.

This species was first collected by George Watt on 17 January 1882 when he was surveying the borders of Manipur. The field notes attached to Watt 5965 record that seeds were sent to Kew on 30 January 1882 which may mean it was the first of the group to be introduced although there is no record of plants originating from this introduction.

Kingdon-Ward did introduce it from Japvo in the Naga Hills under his 7746 in 1927 and this introduction persists in cultivation. He records it as forming a tree to 30m but this may be attributable to the trees germinating as an epiphyte—one tree of *Sorbus insignis* I saw in Bhutan on the Yotong La had germinated 10m up on a side branch, with the root growing 4m down the branch to the trunk then turning through 90 degrees as it grew down to root in the soil.

The late Jim Keenan when collecting with U Tun Aung and U Tha Hla in the Suprabum district of Kachin State, Burma found the species in 1962 and it is after Jim that I am naming the species.

*Sorbus keenanii* Rushforth **sp. nov.**

Tree, often epiphytic. Shoot stout, 7-8mm in diameter. Buds ovoid-pointed or conical, flattened against the shoot but rounded on weak sterile shoots, 6-12mm by 5-8mm, red-brown or greenish at the base of the bud scales, scales

rufous hairy on outer surface and at apex. Leaves with 7-9 pairs of leaflets, kite-shaped when mature with the upper pairs of leaflets larger than the basal pairs, to 20-25cm by 14cm with a petiole 5-6cm; rachis grooved, rufous hairy, interstices 2-2.3cm; stipules linear, clasping the shoot in bottom centimetre of petiole; leaflets 3-8cm by 1.2-2.0cm, oblong to oblong-lanceolate, tapering to a shortly mucronate tip 1-2mm, base obliquely sessile on basal side, with 2-3mm petiolule on apical side, margin recurved and finely toothed with hooked teeth in upper  $\frac{3}{4}$ , upper surface rugose with impressed veinlets and sparsely hairy at first above, soon glabrous, underside initially densely rufous hairy, becoming sparsely hairy with veins raised. Inflorescence pyramidal, with caduceus bracts, when mature to 16cm by 15cm with *circa* 100 fruits, pedicels with large oval lenticels; fruits 4-6mm, ripening bright or light red or rose-scarlet, calyx 5 lobed, styles 3 or 4.

**India** Nagaland, Sirhoi, 8000 feet (2400m), 6 April 1948, Kingdon-Ward 17219 (holotype, NY); *ibid* 5 June 1948, Kingdon-Ward 17609 (NY); Nagaland, Japvo, 9000 feet (2700m), 24 November 1949, Kingdon-Ward 19074 (NY); Manipur, Sirohifurar, 8000 feet (2400m), "Leafless but making the forest sparkle with its profuse and dense corymbs of rose coloured fruits each less than  $\frac{1}{4}$ " in diameter, leaflets very minute within the large scaly buds, apparently pinnate, fruit info. 5 calyx teeth & stained on its apex rose scarlet, very like rowan tree", 17 January 1882, Watt 5965 (E); Manipur, Ching Sow, North East ranges, 8000 feet (2400m), February 1882, Watt 6445 (E); *ibid*, 8-9000 feet (2400-2700m), 16 April 1882, Watt 6539 (E).

**Burma** Kachin State, Sumprabum sub-division, Eastern approaches from Sumprabum to Kumon range, 26° 40' N, 97° 20' E, Bumpha Bum, western approaches to Bumpha Bum in scattered mossy Rhododendron forest with heavy understorey of grasses and bamboos; epiphyte, fruits bright red, 7-9000 feet (2100-2700m), 11 January 1962, J. Keenan, U Tun Aung & U Tha Hla 3195 (E); ditto J. Keenan, U Tun Aung & U Tha Hla 3196 (E).

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