

Colocasia, *Xanthosoma* and conservation of Malaysia's edible aroid genetic resources

The Malaysian Agricultural Research and Development Institute (MARDI) is building up a germplasm collection of edible plants of the aroid family, with emphasis on *Colocasia* and *Xanthosoma*.

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Figure 1: *Xanthosoma sagittifolium*

C*olocasia esculenta* (taro, dasheen, cocoyam or keladi) and *Xanthosoma sagittifolium* (tannia, yautia or cocoyam) are two of the most important root crop species in the world. According to Bown (1988), there are about 110 genera and 2500 species of edible aroids all over the world.

Colocasia esculenta is the most important and is usually grown as a root crop or as a leafy vegetable and sometimes as an ornamental plant. The leaves are cordate and peltate (heart-shaped with stalk attachment inside the boundary of the leaf blade) and without latex.

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Figure 2: *Xanthosoma sagittifolium* corms in the field



Figure 3: *Xanthosoma sagittifolium* corms in a market.



Figure 4: *Xanthosoma violaceum*



Figure 5: *X.violaceum* with corms

Table 1: List of *Colocasia esculenta* and their local names in the MARDI collection

NO.	ACCESSION	NO.	ACCESSION
1.	Keladi asahan	23.	Keladi Sarawak acc. 2
2.	Keladi merah	24.	Keladi serakit
3.	Keladi belang	25.	Keladi dokong anak
4.	Keladi minyak acc. 2	26.	Keladi pinang acc.2
5.	Keladi minyak acc. 4	27.	Keladi udang acc. 1
6.	Keladi telur acc. 4	28.	Keladi cina acc. 5
7.	Keladi udang acc. 2	29.	Keladi bantan
8.	Keladi cina acc. 2	30.	Keladi maras
9.	Keladi batang hijau	31.	Keladi putih acc. 4
10.	Keladi mawar acc. 3	32.	Keladi cina acc. 3
11.	Keladi mawar acc. 2	33.	Keladi cina acc. 4
12.	Keladi tuang acc. 3	34.	Keladi johol
13.	Keladi tuang acc. 2	35.	Keladi tapah
14.	Keladi hitam acc 1	36.	Keladi air
15.	Keladi hitam acc. 2	37.	Keladi sayur acc. 2
16.	Keladi tumbong	38.	Keladi minyak acc. 6
17.	Keladi johor acc. 3	39.	Keladi Sarawak
18.	Keladi wangi	40.	Keladi johor acc. 7
19.	Keladi udang kelabu	41.	Keladi pinang acc. 1
20.	Keladi minyak acc.1	42.	Keladi cina acc. 1
21.	Keladi telur acc. 3	43.	Keladi teles
22.	Keladi kemahang		



Figure 6. Conservation plot of *Colocasia* and *Xanthosoma* in MARDI, Serdang

Xanthosoma is a genus of about 40 species including two important food crop species: *Xanthosoma sagittifolium* and *X. violaceum*. The leaves are sagittate (like the barbed head of an arrow), non-peltate (with stalk attachment at the edge of the leaf blade). The living tissues exude white latex when bruised or torn.

Alocasia, *Amorphophallus* and *Cyrtosperma* are of relatively minor importance and are rarely planted. Their yams are usually harvested from the wild.

The classification of the edible aroids is undergoing extensive revision and the main centres of origin are considered to be in Central America and tropical Asia.

The two main groups of edible aroid are, according to their origin (Anton, 1999):

Asian and Asia-Pacific origin:

Alocasia macrorrhiza, *Amorphophallus campanulatus*, *Colocasia esculenta*, *Cyrtosperma chamissonis*.

American origin:

Xanthosoma sagittifolium and other species of *Xanthosoma*.

The species of foreign origin were introduced many centuries ago and have acclimatized to Malaysian conditions. At present very little is known of the distribution and extent of genetic resources available.



Figure 7. Collection of *Colocasia* corms



Figure 8. Keladi putih



Figure 9. Keladi cina