

A NEW *ARISAEMA* OF TAIWAN

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Abstract: One new taxon, *Arisaema formosana* (Hayata) Hayata var. *bicolorifolia* var. nov. was described.

On March 26, 1982, I went to Tiger Mountain, Chinshui village, Miaoli county for field collection. Above the altitude of 1100 m high, I had enjoyed not only the landscape of the natural broad-leaved forest covered by dominant trees of *Quercus variabilis*, *Prunus campanulata*, *Acer* spp. *Liquidambar formosana*, *Persea japonica*, *Cinnamomum randaiensis*, *Neolitsea nantoensis*, *Gordonia anomala*, *Rhododendron* spp., *Cyclobalanopsis glauca*, *Engelhardtia roxburghii*, but also my lucky collection of unusual *Arisaema* plants (Pl. 1,) growing together with *Arisaema formosana* (Pl. 2,) on the same forest floor of the southern slope at the altitude of 1400 m high which gave rise my attention as I did twenty-two years ago. At that time, my attention was paid on the field observation and cultivation of *Arisaema* plants specially for its interesting sexual chagement on the same plant of different ages (Huang, 1960). But this time the colourful leaflets made me a big surprise at a glance. So that I collected two male plants back (Huang 8697, 8698). On May 14, 1982, I went to Mt. Santou for field collection again in order to add female plants for my collection. Fortunately, I collected both male (Huang 8780, 8781, Pl. 3,) and female plants (Huang 8782, Pl. 5,) at the same place at the altitude of 1340 m high. I found them also growing together with *A. formosana* (Huang 8783, Pl. 4) on the same forest floor of the southern slope. What is more, the whitish area on the upper surface of leaflets can be observed from non-flowering immature plants to old flowering (Pls. 1, 3) and fruiting plants (Pl. 5). Thus it has been proved to be one of the constant and stable features.

In Chinshui village, there is a river named Bun-shui which flows from east toward west direction. Mt. Tiger situated to northward and Mt. Santou to southward of River Bun-shui. Mt. Tiger just opposite to Mt. Santou and their highest peak reach to 1492 m high and 1439 m high altitudes respectively. Since I found this unusual *Arisaema* plants at two different mountains, I can fairly confirm that this unusual *Arisaema* plant occupies large enough population to be proposed it as a new taxon. The following description was based on my observation of ten plants on three different places of the same southern slope of both Mts. Tiger and Santou on March 26, 1982 and May 14, 1982.

***Arisaema formosana* (Hayata) Hayata var. *bicolorifolia* Huang var. nov.** Fig. 1 & Pls. 1-5.

A varietate *formosano* foliis bicoloribus et latiusculibus differt.

Herba succulenta dioecia. Pseudocaulis testaceous 40 ad 100 cm alatus. Folia una palmatis composito hexa- ad deni- foliolis; foliola lanceolata 17-37 cm longa 4.8-13 cm lata, acuminato, venam laterali 10-26 parte, infra viridia, supra viridia parte medio excepto. Planta mascula: pedicellus 12-14 cm longus; spatha interna purpurea, externa vittata flavovirens alba alternalibus 11 cm longa, 3.2-3.4 cm lata, apice filiformi 12 cm longi; spadix 5-5.5 cm longus, stamine numeroso; appendiculata 2.5 cm longo 1.5-2 mm in diametro. Pollinis grana parva unisulca; exinium spinulum. Planta feminea; pedunculus 22 cm longus 0.8 cm latus; spadix 5 cm longus 2.5 cm latus; baccae numeroso; semen 1, raro usque 2.

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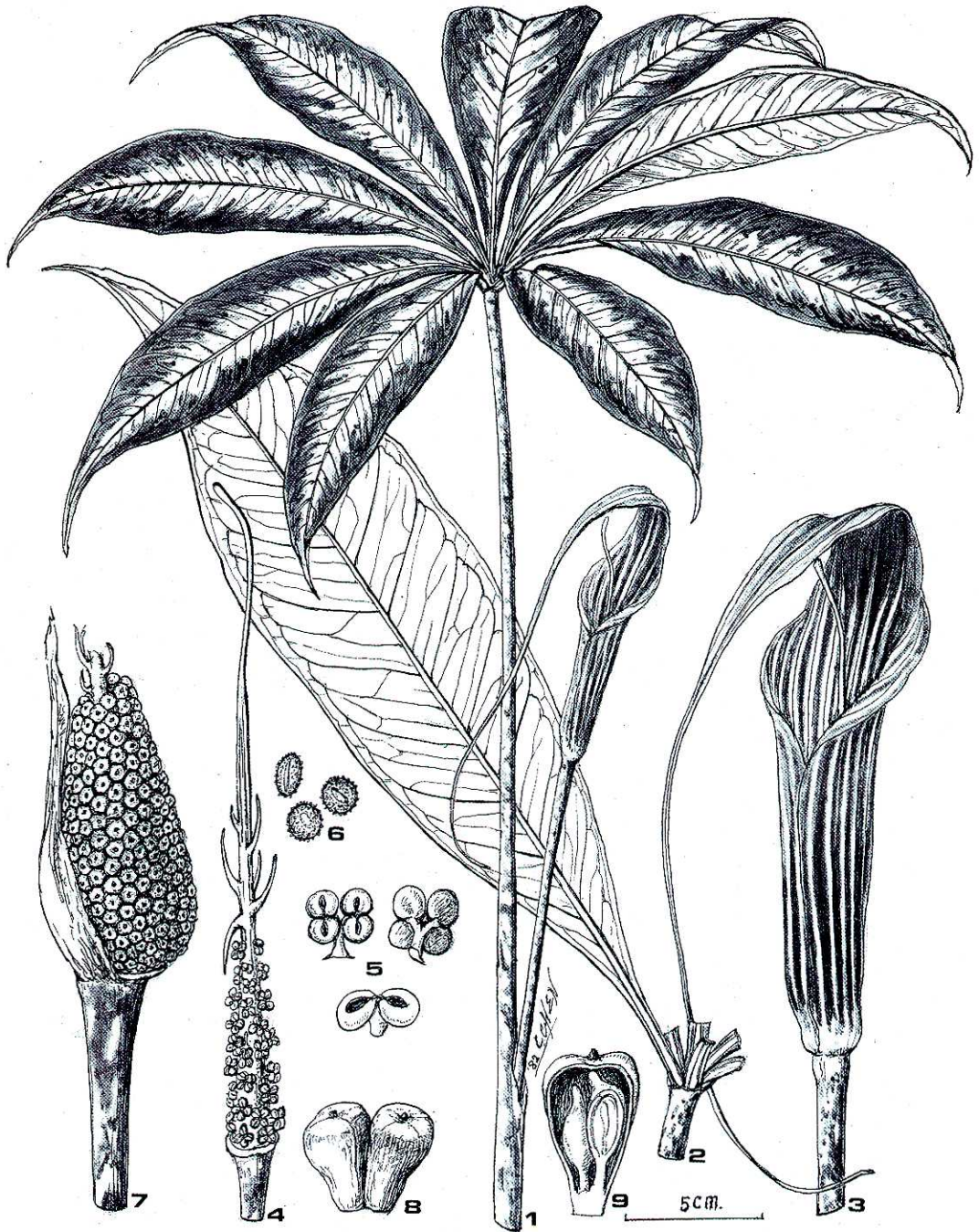


Fig. 1. Illustration of morphological features of *Arisaema formosana* (Hayata) Hayata var. *bicolorifolia* Huang

1. Habit, 2. Single leaflet, 3. Male spadix and spathe, 4. Male spadix.
5. Stamens, 6. Pollen grains, 7. Female spadix with remnants of appendage and spathe, 8. Pistils., 9. Longitudinal section of pistil with two ovules.
1-6: Huang 8698; 7-9: Huang 8782.



Pl. 1. Male plants of *Arisaema formosana* (Hayata) Hayata var. *bicolorifolia* Huang (*Huang* 8697, 8698) at Mt. Tiger.



Pl. 2. Male plants of *A. formosana* (Hayata) Hayata (*Huang* 8695, 8696) at Mt. Tiger.



Pl. 3. Male plants of *A. formosana* (Hayata) Hayata var. *bicolorifolia* Huang (Huang 8780, 8781) at Mt. Santou.



Pl. 4. Male plants of *A. formosana* (Hayata) Hayata (Huang 8783) at Mt. Santou.



Pl. 5. Female plants of *Arisaema formosana* (Hayata) Hayata var. *bicolorifolia* Huang (Huang 8782) at Mt. Santou.

Fresh dioecious herbs. Pseudostem brownish yellow, 40 to 100 cm tall. Leaves single, palmately compound with six to ten leaflets; leaflets lanceolate, 17-37 cm long, 4.8-13 cm wide, the apex acuminate, the lateral veins 10-26 pairs, connecting with marginal veins, the lower surface green, the upper surface green except whitish area of 2.4-7 cm broad along midrib which characteristic is the most important feature to distinguish it from any other Taiwan *Arisaema* plants. Male plant: pedicel 12-14 cm long; spathe purple inside, yellowish green alternate with whitish longitudinally striped outside, 11 cm long, 3.2-3.4 cm wide, the filiform tip of spathe 12 cm long; spadix 5-5.5 cm long, with numerous stamens, the appendage 2.5 cm long, 1.5-2 mm in diameter. Pollen grains 1-sulcate; exine spinulate. Female plant: peduncle 22 cm long, 0.8 cm thick; spadix 5 cm long, 2.5 cm wide; berries numerous; seed 1, rarely up to 2.

This new variety differs from the type species, *A. formosana* (Hayata) Hayata by having whitish area along midrib on the upper surface of leaflets and broader leaflets.

Locality: Mts. Tiger and Santou, Chinshui village, Tafu, Miaoli County, Taiwan.

Habitat: Forest floor of less disturbed broad-leaved forest at altitudes of 1340 m to 1400 m high.

Date: March 26, 1982 and May 14, 1982.

Type specimens: *Huang 8698* (male, holotype, TAI), *Huang 8697* (male, paratype, TAI), *Huang 8780-8781* (male, paratype, TAI), *Huang 8782* (female, paratype, TAI).

REFERENCES

- HUANG, T. C., 1960. Notes on *Arisaema* of Taiwan. 7: 93-104.
STEARNS, W. T., 1967. Botanical Latin, Nelson, p. 566.