

NEW RECORDS OF NAJAS IN TAIWAN

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Abstract: Three new records of *Najas*, namely: *N. ancistrocarpa*, *N. browniana* and *N. japonica*, are reported from Taiwan. *N. japonica* is widely distributed, *N. browniana* and *N. ancistrocarpa* have restricted distributions. Seven species have been found in Taiwan and a key to the species is given in this paper.

INTRODUCTION

Past investigations of aquatic plants have not been adequate. More species of aquatic plants exist in Taiwan than has been realized. Recent discoveries of *Isoetes taiwanensis* and *Sparganium fallax* are evidences of this fact.

During the past ten years many more ponds and swamps are being utilized than previously and water pollution is heavy, therefore wild aquatics are diminishing. In the last year I have spent many days collecting in the field. Some new plants belonging to the Najadaceae are here reported.

NEWLY FOUND SPECIES

1. *Najas ancistrocarpa* A. Br. ex Magnus, Beitr. 7, t. 3, f. 1-5 1870, (彎果茨藻)

Leaves serrulate, auricles rounded. Male flowers axillary, sometimes borne together with female flowers; anthers 4-celled. Female flowers axillary, covered within a spathe. Fruits U-shaped.

This species has only been previously known from Honshu, Japan and is very rare. This year it was found in a rice field at Shih-lin. It may have been recently brought here by migratory birds.

Taipei: Shih-lin, Yang 314 (TAI).

2. *Najas browniana* Rendle, Trans. Linn. Soc. II. Bot. 5:420, t. 42, f. 163-169. 1899. (扁葉茨藻)

Leaves serrulate; auricles short, triangular. Male flowers axillary; anthers 1-celled. Female flowers solitary, without spathe. Fruits narrowly elliptic. Seeds 1.5-1.7 mm. long, areolae subquadrate or pentagonal.

This species was found in brackish water in fish ponds at Chieh-ting, Kaoshiung. It is similar to *N. graminea* but easily distinguishable by the shape of the marginal teeth.

Kaoshiung: Chieh-ting, Yang 82 (TAI).

3. *Najas japonica* Nakai in Journ. Jap. Bot. 13:853. 1973. (細葉茨藻)

Leaves very narrow, margin finely serrulate, auricles truncate. Male flowers axillary, solitary; anthers 1-celled. Female flowers axillary, usually two borne together. Seeds 1.6-2 mm. long, areolae longitudinally elongate.

Taipei: Shih-lin, Yang 315 (TAI).

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KEY TO THE SPECIES OF NAJAS IN TAIWAN

1. Stems and lower surface of leaves conspicuously spined. Leaves broader than 2mm.....*N. marina*
1. Stems and lower surface of leaves not conspicuously spined. Leaves narrower than 1.5mm.
 2. Auricles truncate or rounded
 3. Fruits U-shaped.....*N. ancistrocarpa*
 3. Fruits not U-shaped
 4. Seeds narrowly elliptical, slightly curved, areolae transversely elongate.....*N. minor*
 4. Seeds elliptical, not curved, areolae not as above
 5. Areolae of seeds longitudinally elongate.....*N. japonica*
 5. Areolae of seeds quadrate or subquadrate.....*N. indica*
 2. Auricles triangular.
 3. Male flowers spatulate, anthers 4-celled.....*N. graminea*
 3. Male flowers spatulate, anthers 1-celled.....*N. browiana*

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Fig. 1



Fig. 2



Fig. 3

Fig. 1. *N. ancistrocarpa*. (Yang 314); Fig. 2. *N. japonica*, (Yang 315);

Fig. 3. *N. browniana*, (Yang 82).

1. Sketch of part plant; 2. Leaf sheath; 3. Leaf margin; 4. Leaf tip;
5. Areolae of seed; 6. Seed; 7. Fruit; 8. Stamen.