

13. Tribe ATHROISMEAE

山黄菊族 shan huang ju zu

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Annual or perennial herbs, shrubs, or small trees, sometimes aromatic. Leaves simple, alternate or fasciculate, petiolate or sessile, abaxial surface with or without sessile-glandular trichomes. Capitula terminal, in corymbiform cymes, or solitary, sometimes congested, glomerule-like or in rounded secondary capitula, pedunculate, sometimes sessile, radiate, disciform, or discoid. Phyllaries 1–4-seriate, sometimes much reduced or absent, herbaceous, subequal or gradate. Receptacles convex to conical, sometimes subglobose to globose, paleate or epaleate. Ray florets when present female; corollas yellow or white. Anthers usually ecalcarate, shortly caudate or not caudate, rarely tails well developed and branched; endothecium with polarized thickenings. Achenes brown or black, obcompressed to subterete, sometimes with thickened striations or ribs, sometimes with a proliferation of spongy cells apically, glabrous or with ciliate lateral ridges and glandular trichomes, sometimes with apically arcuate twin trichomes. Pappus of awns or variously lacerate scales, a crown of twin trichomes, sometimes with 2 awns, or absent.

Six genera and ca. 59 species: mostly in E Africa, a few species in W Africa, S and SE Asia, and Madagascar; one species in China.

201. ANISOPAPPUS Hooker & Arnott, Bot. Beechey Voy. 196. 1837.

山黄菊属 shan huang ju shu

Herbs, annual or perennial. Stems not winged, without resin canals. Leaves simple, entire to dentate or pinnatifid or deeply lobed, hairy. Capitula large or small, solitary or clustered, heterogamous, radiate. Receptacle paleate; paleae folded. Marginal florets female, in ca. 1 row; corolla yellow, radiate; epidermis not crested. Disk florets bisexual; corolla yellow with straight epidermis cell walls, without needle-shaped crystals; corolla lobes short, smooth, without spiny hairs apically. Anthers minutely calcarate, with long or very short tails; endothelial tissue polarized; cells of antheropodium wider than long. Pollen spines with a cavity. Style with obtuse, rarely acute, sweeping hairs not reaching furcation, without star-shaped crystals. Achenes ellipsoid or with obtuse indistinct edges, without crystals in epidermis. Pappus of short acute or obtuse scales, or sometimes missing. $x = 7$.

About 40 species: mostly in S and tropical Africa, Madagascar; one species in China.

That *Anisopappus* is a member of the Athroismeae, the closest relatives of the Heliantheae s.l., has received robust support from DNA analyses (Eldenäs et al., Pl. Syst. Evol. 210: 159–170. 2005).

1. *Anisopappus chinensis* Hooker & Arnott, Bot. Beechey Voy. 196. 1837.

山黄菊 shan huang ju

Inula yunnanensis J. Anthony; *Verbesina chinensis* Linnaeus.

Herbs, annual. Rhizome stout, 5–12 mm in diam. Stems erect, 40–100 cm tall, 2–4(–6) mm in diam., simple or rarely caespitose, with slender stripes, subwoody at base, densely rusty pubescent or sparsely pubescent in lower part during anthesis. Cauline leaves ovate-lanceolate or narrowly oblong, 3–6 × 1–2 cm, papery, both surfaces slightly pubescent, more densely so along veins, base truncate or broadly cuneate, margin obtusely serrate, apex obtuse. Capitula solitary or several in terminal cymbs; peduncles densely pubescent. Involucre hemispheric, 6–10 mm; phyllaries in 3 series, narrowly lanceolate or broadly

linear, 3–5 × ca. 1.5 mm, dorsally densely pubescent, margin membranous, apex obtuse. Paleae keeled, membranous, ca. 5 mm. Marginal florets female; corolla yellow; lamina obtriangular, ca. 6.5 × 2 mm, apex truncate, 3-dentate. Disk florets bisexual; corolla tubular, ca. 3 mm, with short triangular lobes. Achenes columnar, sparsely pubescent, apex truncate, slightly narrower to base, ca. 2 mm in female florets and ca. 1.5 mm in bisexual florets, with 4 ribs. Pappus grayish white, chaffy, of 4 or 5 bristles. Fl. Aug–Nov.

Grassy slopes, waste fields, forest margins; below 2400 m. S Fujian, Guangdong, Guangxi, Jiangxi, S Sichuan, Yunnan [India, Myanmar, N Thailand; tropical Africa, Madagascar].

In the protologue of *Anisopappus chinensis*, Hooker and Arnott referred to “*Verbesina chinensis* Linn.?” The expression of doubt in this citation prevented *A. chinensis* from being validly published as a new combination based on *V. chinensis*. The latter name was subsequently recognized as a heterotypic synonym of *A. chinensis*.