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NEW TAXA OF UMBELLIFERAE (APIACEAE) FROM SW ASIA

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ABSTRACT. A new monotypic genus *Scrithacola* Alava based on *Platytaenia* (*Pimpinella*) *tripartita* is described from Afghanistan/Pakistan. The new combination *Scrithacola kurramensis* (Kitam.) Alava is made for the sole species. Its closest ally seems to be *Johrenia*. Two new species are described from Iran: *Ducrosia assadii* from Kerman and *Malabaila isfahanica* from the Isfahan area.

In the same publication as his account of the Flora of the Kuram Valley, Afghanistan, Aitchison (*J. Linn. Soc. Bot.* 19:164, 1882) described a new species of Umbelliferae which he placed in the genus *Pimpinella* and named, on the basis of the leaf characters, *Pimpinella tripartita* Aitch. & Hemsl. Since, however, that name had been used by Kaleniczenko (*Bull. Soc. Nat. Mosc.* 18:231, 1845) for a completely different taxon, Kitamura (*Res. Kyoto Univ. Scient. Exped. Karak. & Hinduk. 1955,* 2:289, 1960) re-named the species *Pimpinella kuramensis* Kitam., and cited Honda's specimen from 'Swat Himalaya, Pakistan' as type. Both Aitchison's and Kitamura's concept that this taxon was a member of *Pimpinella* was based on specimens with immature fruits— see figs. 3 & 4 and plate 11 in Aitchison (op. cit.).

Better fruiting material was, however, available at the time when Rechinger and Riedl (*Biol. Skr. Dan. Vid. Selsk.* 13,4 (*Symb. Afghan.* 5):135, 1963) re-studied the species, removing it from *Pimpinella* and transferring it to *Platytaenia* as *Platytaenia tripartita* (Aitch. & Hemsl.) Rech. f. & Riedl. Once more it underwent nomenclatural change when Nasir (*Fl. W Pakist.* 20:133, 1972), agreeing partly with Rechinger & Riedl and partly with Kitamura, re-named it *Platytaenia kuramensis* (Kitam.) E. Nasir. Recently additional material, including specimens with mature fruits, has become available and this allows reconsideration of its status.

The dorsally compressed fruits of the taxon are sufficient alone to exclude it from *Pimpinella,* in which fruits are laterally compressed if they are compressed at all, and although it agrees with *Platytaenia* in the compression of the fruits, it differs in so many other characters it cannot be considered a member of that genus. In fact it seems to stand by itself and represents one among the many monotypic genera of Umbelliferae which form such a conspicuous part of the flora of SW Asia.

In the following table some of the pertinent characters separating '*Platytaenia tripartita*' from the other species of *Platytaenia* are compared:

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	'tripartita'	*other species*
Fibrous collar of petiolar remains	absent	present
Vegetative parts	glabrous, glaucous	hairy, non-glaucous
Leaves	palmately divided, succulent	pinnately divided, non-succulent
Bracts	obsolete	present
Bracteoles	rudimentary, if present	present, well developed
Flowers	actinomorphic	zygomorphic
Calyx margin	obsolete	5-dentate
Petals	non-emarginate, glabrous	emarginate, radiant, abaxial face hairy
Ovary & mature fruit	glabrous	hairy
Mericarp margin	not tumid	tumid
Oil canals	on vascular bundles	vallecular

'*Platytaenia tripartita*', judging from the note on the specimen labels, seems to be adapted to growing on screes in mobile gravel on steep mountain slopes, a fact observed by Aitchison (op. cit. 1882, p. 164) in his description of the habitat: 'amongst the broken debris of stone'.

It is proposed to place this taxon in a genus of its own, named *Scrithacola* in recognition of the special habitat to which the plant has become adapted.

Scrithacola Alava, **gen. nov.**

A *Platytaenia* Nevski & Vvedensky dentibus calycis obsoletis, petalis non-emarginatis glabris nec conspicue marginatis et radiatis dorso hirsuto, mericarpiorum marginibus exilis nec tumidis, vittis intrajuglibus nec vallecularibus differt; a *Pimpinella* L. mericarpis a dorso nec lateraliter valde compressis recedit.

Planta perennis glabra glauco-carnosa. *Radix* verticalis crassus. *Caulis* elongatus, eius pars superior subdichotome ramosissima. *Folia* crassa tripartita, infima subtrifoliata, foliolis petiolutatis, segmenta trifida. *Umbella* terminalia pauciradiata, radii inter se subaequilongi. *Phylla involucri* nulla, involucelli inconspicua vel obsoleta. *Flores* actinomorphi hermaphroditi vel unisexuales (staminati). *Dentes calycis* obsoleti. *Petala* ovata apice inflexa, facie abaxiali glabra. *Fructus* a dorso compressus, margine mericarpiorum in alam angustam non incrassatam dilatata. *Vittae* dorsales tenues intrajugales solitariae, commissurales nulla.
Genus monotypicus.

Scrithacola kurramensis (Kitam.) Alava, **comb. nov.** Fig. 1.
Syn.: *Pimpinella tripartita* Aitch. & Hemsl. in J. Linn. Soc. Bot. 19:164 (1882), non Kalen. (1845).

P. kuramensis Kitam., Fl. Afghan. 2:289 (1960).

Platytaenia tripartita (Aitch. & Hemsl.) Rech. f. & Riedl in Biol. Skrift. 13,4 (Symb. Afghan. 5):135 (1963).

P. kuramensis (Kitam.) E. Nasir in Nasir & Ali (ed.), Fl. W Pakist. 20:133 (1972).

Typus. Drekalla, Kurram Valley, Afghanistan, *Aitch.* 846 (K).

AFGHANISTAN. Bamian: Darya-e Anda Tal, bei Qaray-e Mohammad Sharaf, 2750 m, *Anders* 4576 (W); Bareki Cheidan on road to Band-e-Amir, dry slopes, c. 2800 m, *Hedge & Wendelbo*, W 4716 (E); Inter Bamian et Band-i Amir, c. 34°52′ N, 67°32′ E, c. 2800–3000 m, in glareosis graniticis, *Rechinger* 18160 (W); Inter jugum Kotal Deraz et Panjao prope pagum Mandigak, c. 34°20′ N, 67°10′ E, c. 2800–3280 m, *Rechinger* 18700 (W). Kabul: Panjao, in the vicinity of Panjao, limestone rocks, scree plant, c. 2700 m, *Hedge & Wendelbo*, W 4894 (E); ibid., steep stony slopes, scree plant, c. 2700 m, *Hedge & Wendelbo*, W 4988 (E); In valle 12 km W Panjao, 34°21′ N, 67°00′ E, substr. schist. calc., 2650–2800 m, *Rechinger* 36185 (W); Vardak: Khash Kul bridge at Helmand river, scree, c. 2560 m, *Hedge & Wendelbo*, W 8688 (E); Surkh-o-Parsa, 15 km from Ghorand valley, 2150 m, unstable slopes, *Freitag* 1170 (Herb. Freitag); Unai, Geröll bezw. Kalkschutt, 2500 m, *Volk* 1649 (W).

PAKISTAN. Quetta: E of Khojak, 1900 m, *Köie* (W); Montes Sulaiman, inter Fort Sandeman, 31°21′ N, 69°31′ E, et Dera Ismail Khan, 31°51′ N, 70°56′ E, c. 45 km a Fort Sandeman inter Manikhawa et Dhana Sar, 1750–1900 m, in glareosis mobilis, *Rechinger* 29929 (W).

Perennial plant with long deep taproot. *Stem* spreading, 25–45 cm tall, underground part long with scattered scale-like leaf sheaths, the part above ground strongly branching, terete, striate, sometimes slightly sulcate, glabrous and glaucous. *Leaves* trifoliate with short petiolules or tripartite, lamina succulent and with very narrow cartilaginous margins, segments oblong-cuneate, trisect. *Lower cauline leaves* long-petioled, leaf sheaths inconspicuous and with stipule-like membranous margins. *Upper cauline leaves* similar but smaller and sometimes apetiolate. *Umbels* terminal, 3–6-radiate, rays subequal and 2–3 cm long at the fruiting stage. *Involucral bracts* obsolete, bracteoles rudimentary when present. *Flowers* actinomorphic, 10–16(–20) per umbellule. *Calyx teeth* obsolete. *Petals* obovate and tapering into narrow inflexed apex, greenish-yellow and glabrous on abaxial face. *Fruit* dorsally compressed, glabrous, greyish-brown and glossy, oblong-elliptic, 3·5–4·5 × 2–3mm. *Mericarps* with narrow and nearly transparent wings, margins not tumid, ridges inconspicuous. *Stylopodium* with wide, slightly undulating cupular rim, styles divergent. *Dorsal vittae* thin and inconspicuous, one on the abaxial side of each of the vascular bundles. *Commissural vittae* obsolete. Afghanistan, W Pakistan.

Scrithacola kurramensis seems to be a very uniform species, and the slight variation that is sometimes evident is quantitative rather than qualitative, and often due to habitat differences. Its position among the Peucedaneae is not quite clear, but it shows some similarity, e.g. to *Johrenia*, in the position of the oil canals.

The specific epithet has been changed from *kuramensis* to *kurramensis* to conform with the accepted orthography: Kurram Valley.

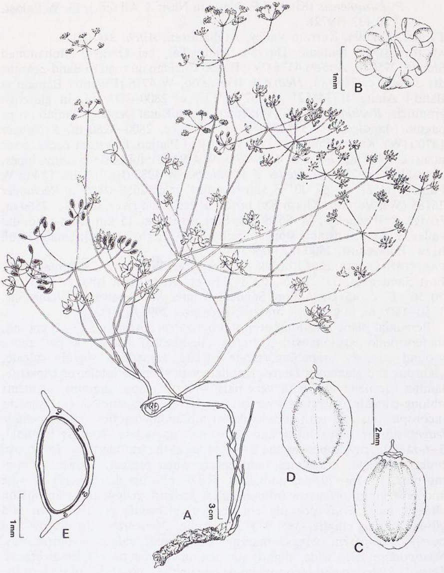

FIG. 1. *Scrithacola kurramensis*: A, habit; B, flower (stamens removed); C, mature mericarp (abaxial face); D, mature mericarp (adaxial face); E, mature mericarp (cross section). A & B from *Rechinger* 18160; C, D & E from *Freitag* 1170.

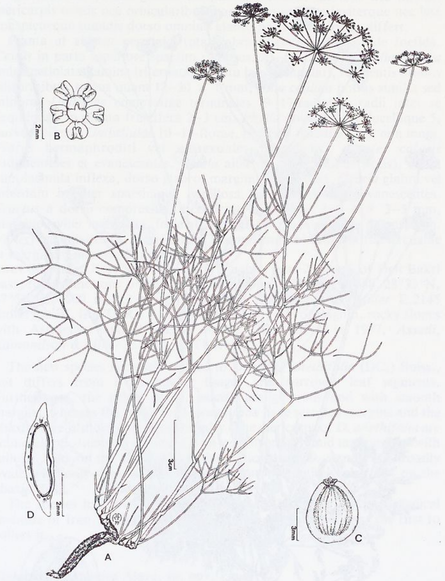

FIG. 2. *Ducrosia assadii*: A, habit; B, flower (stamens removed); C, mericarp (abaxial face); D, mericarp (cross section). From *Assadi, Edmondson & Miller* E.2145.

FIG. 3. *Malabaila isfahanica*: A, habit; B, petal (abaxial face); C, petal (lateral view); D, mericarp (abaxial face); E, mericarp (cross section). From *Rechinger* 46721.

Ducrosia assadii Alava, **sp. nov.** Fig. 2.

D. anethifolio (DC.) Boiss. affinis sed segmentis foliorum angustioribus longioribusque, petalis glabris marginibus serratis, laevibus nec hirsutis mericarpis ovatis nec orbicularibus marginibus anguste leviterque nec late conspicueque tumidis dorso omnino glabro nec dense hirsuto differt.

Planta ut videtur perennis, tota glabra, glaucescens et valde foetida. *Caulis* in parte superiore sparsim ramosus, 25–60 cm altus. *Folia basalia* longe petiolata, lamina triternata, ambitu late triangulari, segmentis ultimis filiformibus, minus quam 12–30 × 1 mm; *folia caulina* potius similia sed minora. *Umbellae* compositae terminales, 9–17-radiatae, radii inter se aequilongi, in planta fructifera 2–3 cm. *Phylla involucri* involucellique 5, parva, reflexa. *Umbellulae* 10–15-florae, pedicelli fructiferi 3–5 mm longi. *Flores* hermaphroditi vel unisexuales (staminati). *Dentes calycis* rudimentales et evanescentes. *Petala* alba (in speciminibus siccis), ovata cum lacinula inflexa, dorso glabro, marginibus laevibus. *Ovaria* glabra vel interdum breviter sparsimque papillosa, papillae demum evanescentes. *Fructus* a dorso compressus, mericarpia late ovata, 3·5–6 × 3–5 mm, margine leviter incrassata, facie abaxiali glabra, juga dorsalia inconspicua. *Valleculae* univittatae, vittae tenues. *Commissura* bivittata, vittae arcuatae et marginem incrassatam proximae.

IRAN. Kerman: Jiroft to Deh Bakri, Mughak pass 25 km S of Deh Bakri pass, rocky limestone slopes, Artemisia steppe, UTM ref. ES 88, 28°35′N, 57°51′E, 1500 m, 12 vi 1977, *Assadi, Edmondson & Miller* E.2145 (holotypus E, iso. TUR); Kerman to Baft, 87 km S of Baghin, rocky slopes with Astragalus and Artemisia steppe, 2500 m, 6 vi 1977, *Assadi, Edmondson & Miller* E.1822 (E, TUR).

The new species is closely related to *Ducrosia anethifolia* (DC.) Boiss., but differs from it in having longer and narrower leaf segments. Furthermore, the petals of *D. assadii* are glabrous and with smooth margins, whereas the petals in *D. anethifolia* have serrated margins and the abaxial face is shortly but densely hairy. The mericarps of *D. anethifolia* are round-elliptic to nearly orbicular with very strongly tumid margins and with tubular hairs on the abaxial face; the mericarps of *D. assadii* are broadly ovate with only slightly tumid margins and are entirely glabrous on the abaxial face.

The species has been named after Mostafa Assadi from the Botanical Institute of Iran, Tehran (Ariamehr Botanic Garden) who was the first to collect it.

Malabaila isfahanica Alava, **sp. nov.** Fig. 3.

Ab aliis speciebus generis caulibus valde ramosis, foliis subtiliter dissectis dense hirsutis, radiis umbellarum insigniter longioribus recedit.

Planta ut videtur monocarpica, *radix* crassus verticalis. *Caulis* e parte inferiore valde ramosus, teres, striatus, tenuiter hispidus, usque ad 40 cm altus. *Folia basalia* numerosa, petioli breves vel obsoletes, vagina valde evoluta. Lamina bi- vel tripinnata, ambitu late oblonga, segmenta ultima anguste lanceolata, tota densissime molliterque hirsuta. *Folia caulina* basalibus similia sed minora, lamina saepe paulo evoluta vel nulla. *Umbellae* compositae terminales, 4–8-radiatae, radii inter se inaequilongi, in planta fructifera 4·5–11 cm longi. *Phylla involucri* nulla, involucelli 3–5-phylla, anguste lanceolata vel subulata, demum evanescentia. *Umbellulae* 10–20-florae. *Flores* hermaphroditi vel unisexuales (staminati), non-radiantes. *Dentes calycis* obsoleti. *Petala* flavida (in speciminibus siccis), oblonge-ovata, lacinula inflexa et costa valde evoluta, dorso pilis molliusculis obsita. *Fructus* a dorso valde compressus, mericarpia late elliptica, 9–11 × 6–8 mm, in alam latam dilatata et margine valde incrassata, facie abaxiali molliter sparsimque hirsuta. *Styli* divergentes, in fructibus maturis marcescentes. *Juga* dorsalia inconspicua. *Valleculae* univittatae; vittae tenues, inter se inaequilongi. *Vittae commissurales* duo, ad centrum faciei commissuralis subparallelae.

IRAN. Esfahan: Kolah Ghazi National Park (Kuh-e Kolah Qazi, 32°23′N, 51°49′E), c. 25 km ab Esfahan austro-orientem versus, substr. calc., 1700–2000 m, 29 v 1974, *Rechinger* 46721 (holotypus W, iso. TUR).

Malabaila isfahanica differs morphologically in some characters from the other members of the genus (e.g. in branching pattern and having finely dissected and densely hirsute leaves and strikingly long umbel rays) but agrees fully in floral and fruit characteristics. Until more material is available its relationships in the genus cannot be ascertained and it seems to stand in rather an isolated position.