Peucedanum ozhatayiorum (Apiaceae), a new species from NE Turkey

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Peucedanum ozhatayiorum Akpulat & E. Akalın is described and illustrated as a new species from northeast Anatolia, Turkey. It is similar to P. caucasicum and P. longibracteolatum but differs from them by having a slender, scabroid stem; scabroid leaves; a fibrous collar; deciduous bracts; persistent unequal bracteoles; green-purple petals; and up to 10 vittae in the dorsal side of mericarps.

Key words: Apiaceae, new species, Peucedanum, taxonomy

Peucedanum is an heterogeneous genus of 100–120 species, distributed in the Old World, mainly in Eurasia and Africa. The North American genus Lomatium is fairly similar to Peucedanum (Pimenov & Leonov 1993).

Taxonomically Peucedanum s. lato is the most complex genus in the Apiaceae and it is usually defined in a broad sense, as in the majority of modern floras. Only few characters are common to all of the species and the genus exhibits a great diversity of life-forms, leaf structures and chemical constituents (Solov’eva et al. 1985). It is currently under revision by different botanists and it is reduced to only 8–10 Eurasian species, which are known as “true Peucedanum” species related to the type species P. officinale. Many satellite genera are separated from Peucedanum, including Cervaria, Holandrea, Imperatoria, Oreo selinum, Pteroselinum, Thysselinum, Tommasinia and Xanthoselinum (Spalik et al. 2004)

In Turkey Peucedanum s. lato is represented by 16 species, and 17 taxa, including six endemic taxa (Chamberlain 1972, Bernardi 1979, Davis et al. 1988, Pimenov & Leonov 2004, Parolly & North 2004, Parolly & North 2005).

We came across a new species during our fieldwork, which initiated a revision of Peucedanum in Turkey. The main objective of this project is to resolve the taxonomic problems in Peucedanum species, since the genus has not been studied in detail.

Peucedanum ozhatayiorum Akpulat & E. Akalın, sp. nova (Fig. 1)

Holotype: Turkey. Hopa-Borçka, near Borçka, 500 m., 41°24’10”N, 41°31’09”E, 7.IX.2006 Akpulat 4216 (holotype ISTE 84194, in flower; isotype CUHF!).

Species characteribus; collo radicis fibroso-
Erect, green, glabrous, one-stemmed, perennial, 40–70 cm tall. Rootstock woody, with a long, dense, fibrous collar. Stems slender, 4–6 mm in diam. at base, angled or weakly sulcate and striated above, green, inflorescence-bearing branches in upper 1/3. Leaves green to glaucous. Basal leaves 4–6, lamina ovate or deltate in outline, 18–30 × 4–8 cm (with petiole), 2–3 ternate, petiole long, 10–16 cm, striate, sheaths 1–2 cm long; segments deltoid to ovate, cuneate base 2–4 × 2–5 cm, ternate, terminal segments deeply incised to pinnatifid, narrowed into 1–20 mm long petiole, terminal segments bigger than lateral segments. Terminal lobes oblanceolate-oblong, cuneate at base, apex rounded to acute and hyaline-mucronulate. Cauline leaves similar to basal, becoming upwards smaller and simpler, ternate, 4–10 cm, lamina 3–5 × 4–5 cm, deltate, apex rounded to acute and hyaline-mucronulate, sheaths long, 1/4 or half of petiole. Synflorescence composed of long pedunculate compound umbels, sometimes narrowly winged, sparsely scabrid in upper part, green, somewhere purplish, unequally 4–12 rayed, rays 4–4.5 mm in fertile inflorescence, stout in flower. Bracts 0 or 1, 8–12 mm, deciduous. Flower small, 1–2.5 mm, pedicellate, 8–20 in each umbellule. Bracteoles 4–5, unequal, filiform to linear, 3 of them very long, 6–10 × 0.4–0.5 mm, 1–2 of them shorter, inconspicuous, 2–3 × 0.2–0.3 mm, persistent, spreading, scabrid, green, becoming purple with age. Pedicels stout, sulcate, unequal, 1–3 mm long, scabrid, green with purple lines. Sepals absent. Petals outside green, margins and tips purplish, glabrous, ovate or oblong, inflexed, with hyaline truncate retuse tip, 0.5–1.2 × 0.4–0.6 mm. Stamen filaments yellowish, ca. 0.8 mm, arcuate; anthers brownish, oblong, 0.4–0.6 mm. Stylodium conical, with undulate margin, greenish or creamy, glabrous. Style ca. 0.1 mm, yellowish or creamy. Ovary urn-shaped (conical), 0.5–0.8 × 0.2–0.4 mm, yellowish green to green. Fruits dark brownish except ribs and wing green, oblong-elliptic, flattened. Mericarps 5–7 × 3–4 mm, with lateral
comoso; caule superus sparsim scabridus; bracteae absens vel 1, caducu; bracteolis persistsentibus inaequalibus, 3 majoribus subulatis, setaceis, 6–10 mm, 1–2 inconspicuus; petalis viridi-purpureis.

**Etymology.** This species is named in honour of professors Neriman and Engin Özhatay who have contributed very much to the investigation of the Turkish flora.
wings, 0.5–0.8 mm wide, dorsal ridges filiform or narrowly winged, 0.2 mm, 5-ribbed; vittae prominent, 4 dorsal, 2 commissural, in transverse section vittae 4–10 dorsal, 4 commissural, but in some ridges rudimentary vittae associated to vascular bundles. Flowering August till September, fruiting October till November.

**Additional specimens examined** (paratypes). Turkey. A7 Trabzon, around Hamsiköy, in forest, 691 m, 40°45´18´´N, 39°37´20´´E, 10.IX.2006 Akplat 4232 (CUFH); A8 Artvin, Hopa-Borçka, near Borçka, 500 m, 41°24´10´´N, 41°31´09´´E, 20.XI.2007 Akplat 4305 (ISTE 84194, in fruit); A9 Artvin, in Yalnızçam forest, 1700 m, 45°67´95´´N, 38°28´51´´E, 8.IX.2006 Akplat 4223 (CUFH).

**Habitat.** *Peucedanum ozhatayiorum* grows in forest of northeast Anatolia (between squares A7 and A9), with species such as *Sanicula europaea*, *Astrantia maxima* subsp. *maxima*, *Eryngium giganteum*, *Pimpinella rhodantha*, *Pastinaca sativa*, *Foeniculum vulgare*, *Heracleum apiifolium*, *Caucalis platycarpos*, and *Tanacetum macrophyllum*.

*Peucedanum ozhatayiorum* can be recognized by several characters (see Appendix).

Fruit anatomy is very important in Apiaceae taxonomy. In *Peucedanum ozhatayiorum*, the dorsal ribs of mericarps are fairly inconspicuous to almost absent. The testa is completely obliterated except in the funicular area. Of the vittae (oil ducts), 4–10 are situated between the vascular bundles and dorsal valleculae. The other vittae are associated with the vascular bundles.

**Acknowledgements**

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**References**


Appendix. Comparison of diagnostic characters of *Peucedanum ozhatayiorum*, *P. longibracteolatum*, *P. graminifolium* and *P. caucasicum*. Except for *P. ozhatayiorum* based on Davis *et al.* (1988).

<table>
<thead>
<tr>
<th>Characters</th>
<th>P. ozhatayiorum</th>
<th>P. longibracteolatum</th>
<th>P. graminifolium</th>
<th>P. caucasicum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem height</td>
<td>40–70 cm</td>
<td>180–250 cm</td>
<td>50–115 cm</td>
<td>40–100 cm</td>
</tr>
<tr>
<td>Fibrous collar</td>
<td>present</td>
<td>absent</td>
<td>present</td>
<td>absent</td>
</tr>
<tr>
<td>Stem diam (mm)</td>
<td>4–6</td>
<td>8–9</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Basal leaves</td>
<td>4–6, 2(–3) ternate, petiole 10–16 cm</td>
<td>5–8, 1(–2)–pinnate, petiole 6–18 cm</td>
<td>ternate or 1–2-pinnate, petiole up to 30 cm</td>
<td>2-pinnate or 2-ternate</td>
</tr>
<tr>
<td>Leaf segments</td>
<td>deltoid to ovate, cuneate, ternate, 20–40 mm</td>
<td>deltoid to ovate, cuneate, trinerved, deeply incised to subpinnatifid 25–80 mm</td>
<td>linear, 2–3 paired</td>
<td>cuneate rhomboid, 1–2-pinnatifid or trisect 30–50 mm</td>
</tr>
<tr>
<td>Cauline leaves length (cm)</td>
<td>6–8</td>
<td>2–3</td>
<td>15 m</td>
<td>–</td>
</tr>
<tr>
<td>Bracts</td>
<td>0 or 1, 8–12 mm, deciduous</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
</tr>
<tr>
<td>Bracteol</td>
<td>unequal 2–3 or 6–10 cm</td>
<td>unequal 1–5 or 15–30 cm</td>
<td>unequal, 7–10, 2–20 cm, pubescent</td>
<td>setaceous, 1–3</td>
</tr>
<tr>
<td>Ovary size</td>
<td>0.5–0.8 × 0.2–0.4 mm</td>
<td>ca. 2 × 1.3–1.5 mm</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Pedisel</td>
<td>1–3 mm long, scabrid, green with purple lines</td>
<td>(2–)3–6(–7) mm long, glabrous</td>
<td>3–5 mm long, pubescent</td>
<td>–</td>
</tr>
<tr>
<td>Petals</td>
<td>green-purple</td>
<td>green-purple</td>
<td>white</td>
<td>white, whitish-green</td>
</tr>
<tr>
<td>Mericarp</td>
<td>5–7 × 3–4 mm with lateral wings, 0.5–0.8 mm wide, dorsal ridges filiform, or narrowly winged, 0.2 mm</td>
<td>(4.5–)5–6 × (4–)5–5.6 mm, spongiose wings, ca. 0.7 mm wide</td>
<td>5–6.5 × 3.5–4.5 mm, lateral wings 1 mm, ca. 0.2 mm</td>
<td>6 × 4 mm, wing</td>
</tr>
<tr>
<td>Pedicellata</td>
<td>8–20 in each umbellule</td>
<td>(6–)8–9(10) in each umbellule</td>
<td>20–25(–30) in each umbellule</td>
<td>10–15 in each umbellule</td>
</tr>
<tr>
<td>Synflorescence rays</td>
<td>4–12</td>
<td>5–9</td>
<td>7–10</td>
<td>6–10(–12)</td>
</tr>
<tr>
<td>Vittae</td>
<td>valleculae 1–3-vittate, commissures 4-vittate</td>
<td>valleculae 1-vittate, commissures 4-vittate</td>
<td>valleculae 1-vittate, commissures 2-vittate</td>
<td>valleculae 1-vittate, commissures 4-vittate</td>
</tr>
</tbody>
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