NEW SPECIES AND NEW RECORDS FROM GILAN PROVINCE, IRAN

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Three new specie including *Pimpinella gilanica* (Apiaceae), *Potentilla humilis* (Rosaceae) and *Verbascum gilanicum* (Scrophulariaceae) are described. In addition, three new records including *Aethusa cynapium* L. (Apiaceae), *Hypochaeris glabra* L. (Asteraceae) and *Turritis laxa* (Sibth. & Sm.) Hayek (Brassicaceae) are reported as new records for the flora of Iran.

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Key words: New species; new records*; Apiaceae; Rosaceae; Scrophulariaceae;* Gilan Province; north Iran

گونه های جدید و گزارش های تازه از استان گیلان، ایران

ولی اله مظفریان: دانشیار مؤسسه تحقیقات جنگلها و مراتع کشور

سه گونه جدید برای جهان گیاهشناسی شرح داده می شود، همچنین سه گزارش تازه از جنگل‌های گیلان برای ایران تشخیص داده شده که گزارش می‌گردد و تصاویر آنها ارایه می‌گردد. گونه‌های جدید شامل Pimpinella gilanica, Potentilla humilis, Verbascum gilanicum و گزارش‌های تازه به نامهای *Aethusa* cynapium L., Hypochaeris glabra L., Turritis laxa (Sibth. & Sm.) Hayek می‌باشند. صفات تاکزونومیکی و تصاویر همه گونه‌ها ارایه شده است.

INTRODUCTION

During the working on the project of collecting, determination and preparing of the Forestry Flora in Gilan Province the author have come to conclusion that the following taxa are clearly separable from taxa which are introduced in Flora Iranica (Engstrand 1987; Hedge 1968; Huber-Moratha 1981; Rechinger 1977; Rechinger 1987; Schiman-Czcika 1969), Flora of Turkey (Cullen 1965; Hedge C. & Lamond 1972; Huber-Morath 1978; Kupicha 1975; Matthew 1972; Pesmen 1972;), Flora of USSR (Komarov 1971; Vasiliev 2001) and Flora of Iran (Khatamsaz 1992; Mozaffarian 2007; Sharifnia 2011). Also *Verbascum gilanicum* is completely different from newly described species, *Verbascum shahsavarensis* Sotoodeh, Attar & Civeyrel (Sotoodeh & al. 2015). Therefore three new plant species and three new records are described for flora of Iran and illustrated.

New species

Pimpinella gilanica Mozaff. **sp. nov.** (fig. 1).

Rhizomatous perennial plant; producing stem. Stem 50-100 cm high, straight, hollow, striate and slightly ribbed, slightly sparsely setulose hairy. Lower leaves long petioled, simple-pinnate, with 5-7 pairs of sessile, oblong, 4-5 cm long, 1. 5-2 cm wide leaflets; leaflets unequally oblique truncate at base, unequally acute-dentate or incised dentate, sparsely hairy below with more or less prominent veins, glabrous above; lower leaves petiole longer to as long as blade, very narrowly sheathed, with 2-3 pairs of leaflets; upper cauline leaves distinctly sheathed, with short petiole and 2-3 pairs of leaflets; upper most leaflets similar to basal, and subtended branches leaves reduced to sheath, with very narrow linear to filiform leaf segments. Umbels of 16-22 thin glabrous rays. Bracts and bracteoles absent. Petals white; fruit oblong-ovate, 3. 5-4 mm long, 1. 5-2 mm wide, dorsal ribs protruding. Style 1-2 mm long; stylopodim mamillate.

Typus: Iran, Gilan; road from Nav and Kiare to Khalkhal, Ca. 5km to Andevil 2235m a. s. l. 37, 39, 50 N, 48, 35, 52 E. 7. 8. 2013 V. Mozaffarian, 102516 (Holotype – TARI)

Fig. 1. *Pimpinella gilanica* Mozaff. Scale bar = 2 cm.

Affinities: The new species is very similar and close to *Pimpinella major* (L.) Huds. but differs from it by wingless stem, white flowers not red, rarely white petal clour, shape and number of leaflets.
Note: I have compared my specimen with well known species of *Pimpinella major*, collected from Germany and preserved in Akhani herbarium located in Tehran University.

Potentilla humillis Mozaff. **sp. nov.** (fig. 2).

Plant caespitose, dawrf , up to 8 cm high. Caudex rather thick, developing short shoots and some stems covered with brown relicts of stipules. Stems more or less prostrate to ascending, up to 5-8 cm high, villous with long spreading hairs, with 1-2 leaves, each stem with 1-3 flowers. Stipules ovate-triangular, adnate to each other at the base, the lower scarious, brown, the upper hyaline-herbaceous, acute. Basal leaves petiolate, palmate, leaflets 5, obovate-orbicular, unequal, slightly lobed, long villous on both sides, 2-lower leaflets smaller, sessile; cauline leaves ternate, smaller, sessile, with conspicuous large green stipules. Flowers 18-20 mm in diameter. Outer sepals up to 3mm long, ovate-elliptic, obtuse, shorter than inner ones, densely sericeous, inner sepals up to 6mm long, ovate-triangular, obtuse, densely sericeous. Petals obovate - orbicular, slightly emarginated, conspicuously longer than sepals. Receptacle more or less flat, villous, fruitlets numerous, elliptic, long villous when young. Style longer than unmatured carpel, subterminal, clavate, constricted near the carpal at base.

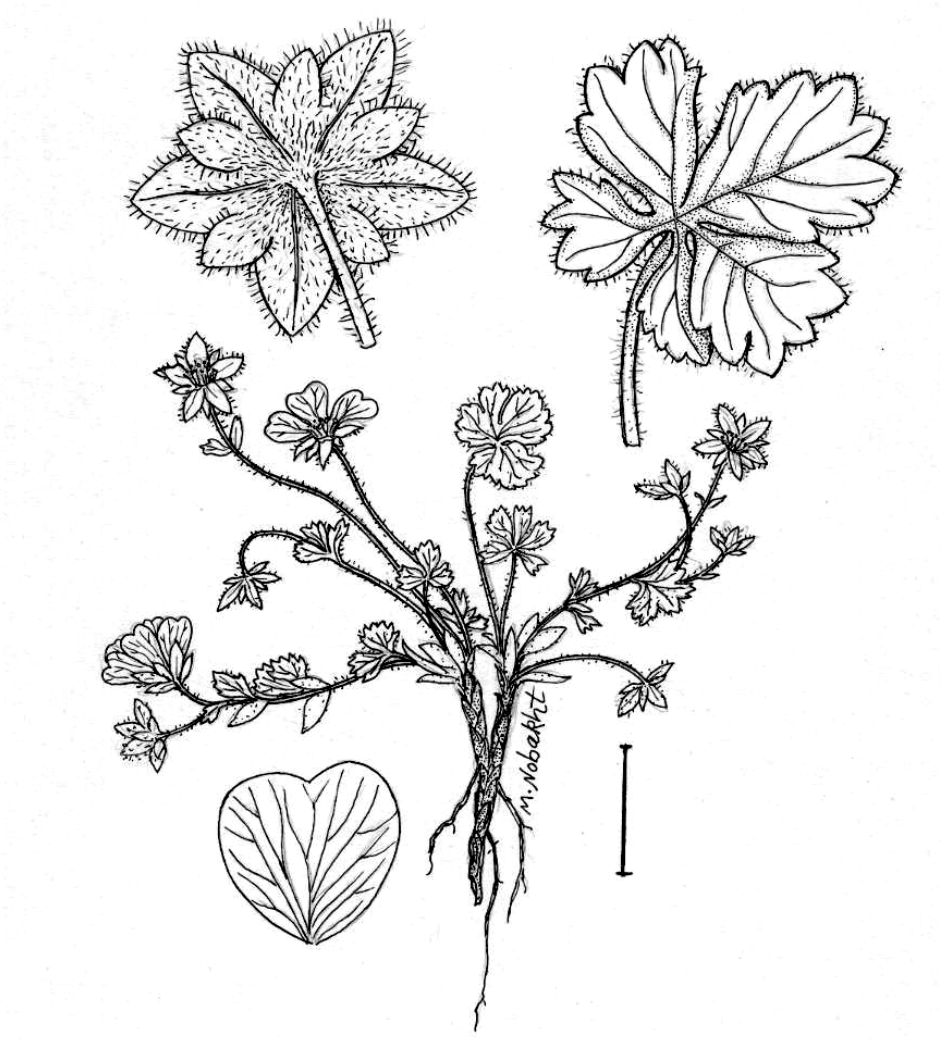

Fig. 2. *Potentilla humillis* Mozaff. Scale bar = 2 cm.

Affinities: The new species by having villous carpels and five leaflets is quite a distincte taxon in Flora Iranica area. According to Flora of USSR, it belongs to Subgenus Fragariastrum Ser. and by having five leaflets in radical leaves is close to *Potentilla* Fisch. & Mey., and *Potentilla alba* L., which is different from them by having long villous leaflets on both surfaces, not glabrous or subglabrous above, and by having subterminal style not terminal one

Typus: Gilan, Masal, Yeylaghe Kharzaneposht, 2010 m, a. s. l, 1. 5. 2014, 37, 17, 44 N. 48, 54, 51 E., V. Mozaffarian 102692 (Holotype-TARI).

Verbascum gilanicum Mozaff. **sp. nov.** (fig. 3).

Perennial or biennial, up to 100 cm high, covered with dense stellate velutinous hairs, without glandular hairs. Stem terete, slightly ribbed, densely leafy below, with dense grayish-hairs. Branching above. Basal rosette leaves oblong-elliptic, gradually narrowed to a broad winged petiole, crenate to crenulate at margins, narrowded to acute tip, with dense stellate -velvety hairs, grayish-green, above, paler below, up to 40 cm long, 10 cm broad at the middle of the blade; petiole more or less half as long as the blade; basal cauline leaves, sessile, decurrent on the stem, repanded at the lower part, crenulate at the margins, narrowed to acute-apices, gradually passing to bract-like cordate-ovate leaves. Inflorescence obpyramidal, erectly branched; branches densely furnished with raceme like flowers. Bracts often longer than pedicles, linear-lanceolate to ovate, triangular, mucronate, densely stellate hairy outside, more or less glabrous inside; pedicels 0-2 mm long, densely hairy. Calyx 2-6 mm long, in outside covered with sessile stellate hairs, divided to the base; calyx teeth lanceolate-triangular, acute. Corolla yellow, 15-20 mm in diameter, densely stellate hairy outside, glabrous inside. Stamens five, 2 anterior filaments in lower part purple-violet villous, their anthers 2-2. 5 mm long, elliptic, shortly adnate-decurrent, 3 posterior filaments purple-violet densely clavately -villous hairy, their anthers clavate, medifixed. Ripe capsules unknown, densely stellately tomentose.

Affinities: Verbascum gilanicum by having adnate decurrent anthers in 2 anterior filaments is similar to *Verbascum punalense*, but differs from it by having 1-3 flower (not 1 flowers) at each node, short 0-3 mm long pedicels (not 5-10 mm long) and close to *Verbascum thapsus* which differs from it by having obpyramidal long unbranched raceme like inflorescence (not densely cylindrical inflorescence).

Typus: Gilan; road from Fuman to Astara, Punel area, 48 m a. s. l. 37, 30, 28, N. 49. 09, 37, E. 6. 8. 2013, V. Mozaffarian 102746 TARI

New records

Aethusa cynapium L. (fig. 4).

Annual or biennial, much branched, bad smelling, glabrous, 30-100 cm high. Stem glabrous, slender, hollowed, finely striate, terete. Basal leaves ca. 10cm long, 4 cm wide, triangular, often bipinnate: ultimate leaf segments ovate, with linear-oblong lobes, lower ones petiolate, upper ones sessile, sheathed. Umbels leaf opposed: rays 10-18, scabrous above, 10-15mm long. Bracts usually absent. Bracteoles 4-5, up to8mm long, deflexed. Umbellules 10-18 flowered. Pedicels shorter to longer than fruit. Fruits 3-4 mm long, 1. 2-2. 5mm broad, glabrous, with thick ridges.

Specimen seen: Gilan : Astara, Khotbesara to Anbu village , Ca. 150m a. s. l., 16. 9. 2013, V. Mozaffarian 102562 TARI

-A very rare species in Iran, the author after a long time working on the Apiaceae family and collecting many plants in Iran, recently collected this European common weed of mostly arable land from Gilan Provinces.

Hypochaeris glabra L. (fig. 5).

A very distinct taxon with having homogamous capitulum, composed of many ligulate yellow flowers, flat receptacle, with scarious, linear, long sharp-pointed scales. Achenes angular-cylindrical, glabrous, muricate, truncate or beaked at apex, often dimorphic. Close to The genera of *Geropogon*, *Leontodon*, *Picris*, *Scorzonera* and *Tragopogon* with having plumose pappus but differ with them especially by having long sharp-pointed, linear, scaroius scales.

Specimen seen: Gilan, Rasht, Ca. 10 km From Rostamabad to Salanesar 925m, a. s. l., 36, 54, 47, N. 49, 25, 51, E., 26. 5. 2013, V. Mozaffarian 102275 TARI

Fig. 3. *Verbascum gilanicum* Mozaff. Scale bar = 2 cm.

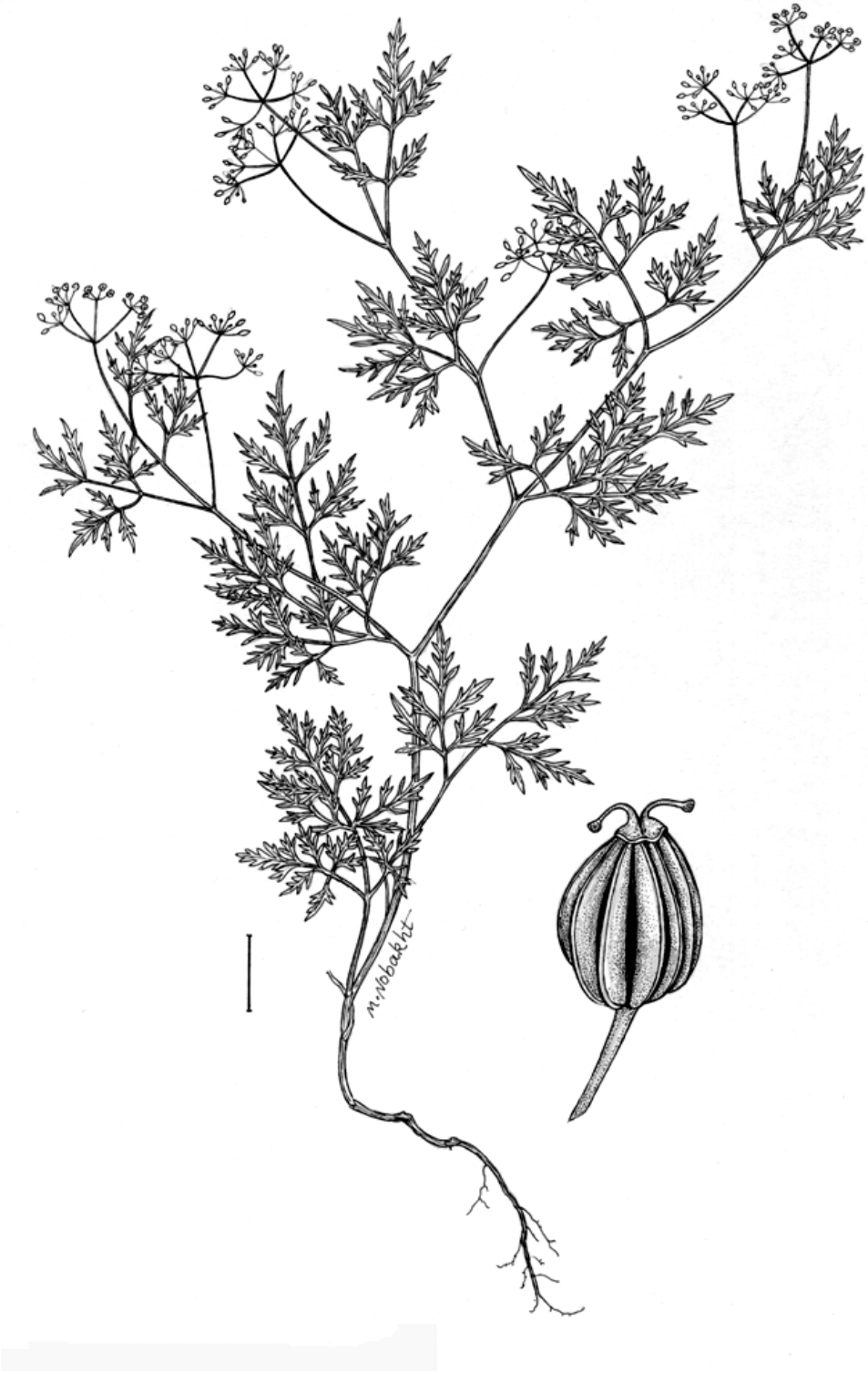

Fig. 4. *Aethusa cynapium* L. Scale bar = 2 cm.

Fig. 5. *Hypochaeris glabra* L. Scale bar = 2 cm.

Turritis laxa (Sibth. & Sm.) Hayek (fig. 6).
Syn.: *Arabis laxa* Sibth. & Sm., *A. cordata* Boiss., *A. cremocarpa* Boiss., *A. laxa* var. *cremocarpa* (Boiss. & Bal.) Boiss.

Annual or biennial. Stem erect, 30–60 cm high, glabrous. Rosette leaves obovate, deeply dentate, with an indumentum of stellate hairs. Stem leaves ovate-lanceolate, entire, with large clasping auricles which exceed the thickness of the stem, glabrous. Petals white or white with pink or lilac tips, 4 – 5 mm long. Siliquae spreading or deflexed , rigid, up to 10 cm long, 1. 5 mm broad, tapering at the apex.

Specimen Seen: Gilan: Asalem to Khalkhal, before Almas neck mountain 1630m a. s. l., 14. 4. 2013, V. Mozaffarian 102190 (TARI); Fuman, Masule, margin of Gilevandrud to Yeylaghe Visneposht, Mesga mine 712m a. s. l., 27. 5. 2013, V. Mozaffarian 102233 (TARI).

Fig. 6. *Turritis laxa* (Sibth. & Sm.) Hayek. Scale bar = 2 cm.

REFERENCES

Cullen J. 1965: *Turritis* in Davis P. H. (ed.) Fl. of Turkey vol. 1: 429-430. -Edinburgh.

Engstrand L. 1987: *Pimpenella* in: Rechinger K. H. (ed.) Flora Iranica No. 162: 311-333. Achademische Druck-und Verlagsanstalt, Graz.

Hedge J. 1968: *Turritis* in Rechinger K. H. (ed.) Flora Iranica No. 57: 214. Achademische Druck-und Verlagsanstalt, Graz.

Hedge C. & Lamond M. 1972: *Aethusa* in Davis P. H. (ed.) Flora of Turkey, vol. 4: 63.

Huber-Morath A. 1978: *Verbascum* in: Davis P. H. (ed.) Fl. of Turkey, vol. 6: 461-603. -Edinburgh.

Huber-Moratha A. 1981: *Verbascum* in: Rechinger K. H. (ed.) Flora Iranica No. 147: 5-50. Achademische Druck-und Verlagsanstalt, Graz.

Khatamsaz M. 1992: Rozaceae. In: Flora of Iran (eds. Assadi, M., Khatamsaz, M., Maassoumi, A. A.) No. 6. -Tehran (in Persian).

Komarov V. L. 1971: *Potentilla* in Komarov V. L. (ed.) Fl. of USSR vol. 10: 59-166 (Translated from Russian) – Israel program for scientific Translation Jerusalem.

Kupicha F. K. 1975: *Hypochaeris* in: Davis P. H. (ed.) Fl. of Turkey, vol. 5: 669-671. -Edinburgh.

Matthew V. A. 1972: Pimpinella in: Davis P. H. (ed.) Flora of Turkey, vol. 4: 352-364. –Edinburgh.

Mozaffarian V. 2007: Umbelliferae. In: Flora of Iran (eds. Assadi, M., Khatamsaz, M., Maassoumi, A. A.) No. 54. -Tehran (in Persian).

Pesmen H. 1972: *Potentilla* in: Davis P. H. (ed.) Fl. of Turkey vol. 4: 41-68. -Edinburgh.

Rechinger f. 1977: *Lactuceae* in: Rechinger K. H. (ed.) Flora Iranica No. 122. Achademische Druck-und Verlagsanstalt, Graz.

Rechinger f. 1987: *Aethusa* in: Rechinger K. H. (ed.) Flora Iranica No. 162: 345. Achademische Druck-und Verlagsanstalt, Graz.

Schiman-Czcika 1969: *Potentilla* in: Rechinger K. H. (ed.) Flora Iranica No. 66: 78-114. Achademische Druck-und Verlagsanstalt, Graz.

Sharifnia F. 2011: Verbascum in Scrophulariaceae. In: Flora of Iran (eds. Assadi, M., Maassoumi, A. A., Babakhanlou, P., Mozaffarian, V.) No. 68. -Tehran (in Persian).

Sotoodeh A., Attar F., & Civeyrel L. 2015: *Verbascum shahsavarensis* (Scrophulariaceae) a new species for flora of Iran – Phytotaxa 203(1): 76-80

Vasiliev. V. N. 2001: *Hypochaeris* (Lactuceae/ Asteraceae) in: Komorov, V. L. (ed.) Flora of the USSR vol. 29: 259-262 (Translated from Russian) – Israel program for scientific Translation Jerusalem.

Rosaceae *Potentilla* sect. *Fragariastrum* Ser.