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Investigation of Habitat Characteristics and Phenology of Five Range Species in Highlands of Kashan, Iran

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Abstract. Knowledge on habitat characteristics and nature of regional vegetation in rangelands is a prerequisite for any planning and proper range management along with sustainable development of renewable natural resources. Rangelands in southern and western highlands of Kashan, Iran are of good vegetation diversity but unfortunately, palatable and desirable species are endangered in recent years. This research aims to investigate habitat characteristics and phenology of five range species including *Prangos latiloba, Prangos uloptera, Ferula ovina, Astragalus eriopodus* and *Onobrychis melanotricha.* Several field studies were conducted and the distribution of each species in highlands of Kashan was determined using topographic maps, land capability, and GPS. Ten key species were selected in each region to study their phenological stages including vegetative growth, flowering, seed maturity, and seed dormancy. In spring, summer and autumn, 15-day visits and a 30-day visit in winter were performed. Finally, the distribution of each species and phenological stages were presented in maps and graphs. Our results showed that the dormancy period in most species started from early August and continued until late March. As temperatures rise in late March, vegetative growth starts and continues until mid-May. Flowering stage was in a period of mid-May and the end of June; afterwards, seeding stage and seed dispersal have started.

Key words: Phenology, Habitat characteristics, Kashan, Range species

Introduction

According to the diversity of lands and distribution of desirable range species in thezhighlands of Kashan, the recognition of factors related to habitat characteristics and the nature of existing vegetation is an introduction for any planning and proper range management as well as sustainable development of renewable natural resources.

P. latiloba and *P. uloptera* are from Prangos genus and Umbelliferae family. This genus has 15 prennial species in Iran with a considerable forage quality (Mozaffarian, 1998). The genus of *Ferula* from Umbelliferae family includes 30 perennial species mainly distributed in mountains and sometimes deserts (Mozaffarian, 1998). *Ferula ovina* is one of the species of this genus observed in the highlands of Kashan.

The genus of *Asrtagalus* from Papilionaceae family in Iran contains 804 annual and perennial herbaceous species (Maassoumi, 2003). The genus of *Onobrychis* from Papilionaceae family includes 56 annual and perennial herbaceous species having an extraordinary forage value (Mozaffarian, 1998). According to the definition provided by International Biological Program (IBP), phenology investigates the time of biological events occuring due to biotic and abiotic factors (Lieth, 1974). Phenology studies have a long history as the earliest evidence on cherry trees had been published in Japan (Menzel *et al*., 2006; Aono and Kazui, 2008). The main objective of phenology studies is to identify the occurance time of biological phenomena affected by climatic factors and it is of particular importance in grazing management (Levy, 1991; Tajali and Sadeghi pour, 2010). Several studies have been conducted on the phenology of plant species and their autecology. But no studies have been conducted on the mentioned species in mountainous rangelands of Kashan.

Ghasriani and Heidari sharifabadi (2000) studied the phenology of several important range species in the highlands of Kurdistan province, Iran. Results indicated that shrubs and grasses had a longer growth period as compared to the other species. Azarnivand and Dastmalchi (2000) studied the phenology of four species including *Astragalus squarrosus* Bunge, *Smirnovia iranica* Sabetii, *Zygophyllum eichwaldii* and *Stipagrostis plumosa*. Anders in different phenological stages of vegetative growth, flowering and seeding. Results showed that different temperatures were recorded during the growth stages of *S. plumosa* (2.2 to 41.5 °C), *A. squarrosus* (-1.8 to 42°C), *S. iranica* (-1.8 to 48°C) and *Z. eichwaldii* (-2.2 to 41.50°C).

Salehi and Hoveizeh (2001) investigated the phenology of native range species in semi-steppe and steppe regions of Khuzestan province, Iran and concluded that the species belonging to the same family had close phonological stages and the best time for livestock entry to the rangeland was determined with regard to the phase difference of different biological periods. Sadeghian *et al*. (2004) studied the phenology of four range species at Dehbid station of Fars province, Iran. Results showed that the growth period of *Stipa barbata*, *Bromus tomentellus* and *Oryzopsis molinioides* was longer as compared to *Onobrychis melanotricha* and in autumn, if conditions were appropriate, all the studied species had a fall regrowth. Najafi Tireh Shabankareh (2004) studied the phenology of *Zygophyllum atriplicoides* in different elevation zones of Hormozgan province. He concluded that the phenological stage of species is a function of climatic conditions of the region so that vegetative growth has been started when air temperature has decreased and dormancy stage was concurrent with the heat intensity in dry seasons. Hosseini and Abarsaji (2005) studied the phenology of seven halophyte

native range species in Incheh–Borun Golestan, Iran. Their results showed that the phenological stages of the species belonging to different families occurred in different time periods due to their biological nature, and the species belonging to the same family showed a greater adaptation to each other in terms of the occurrence of phenological phenomena. Jafari *et al.* (2010) studied the effects of phenological stages on yield and quality traits in 22 populations of tall wheatgrass *Agropyron elongatum* grown in Lorestan, Iran. Their results showed the significant effects of phonological stages, genotypes and genotypes×phonology interactions for all the traits except stem number. In the stem elongation and dough seed stages, the lowest and highest forage production rates were obtained with the average values of 2.58 and 5.08 ton/ha, respectively.

Mahall *et al.* (2010) investigated the phenology of *Styrax officinalis* and *Arctostaphylos glauca* in Southern California, USA and concluded that *Styrax officinalis* showed higher resistance and adaptation to climatic changes. Mortazavi Jahromi and Zarandi (2012) studied the phenology of *Ziziphus* genus in Fars province. Results indicated that growth patterns of this species varied with the fluctuations of drought and temperature; consequently, two distinct vegetative and reproductive seasons were identified for a year. Keneshlo and Amiri (2012) investigated the phenology of *Atriplex griffithii* in the rangelands of Aftar, Semnan province in order to optimize the grazing management. The analysis of meteorological data and the recorded dates of phenology showed that the growth of *Atriplex griffithii* varied with the drought and temperature changes in different seasons and two quite distinct seasons of vegetative growth and seed production were observed during a year concerning this species. Ehsani (2012) compared the phenology of *Artemisia sieberi* Besser in different steppe regions. The comparison results of phenological stages during the studied years showed that the vegetative growth stage of *Artemisia sieberi* started from early March to early April and in the presence of moisture, it continued till June. Flowering stage started from early July till late November. Seed maturity stage started gradually from early October to the end of January. Winter dormancy started in late January to early March. Azarnivand *et al*. (2012) studied the effects of Growth Degree Days (GDD) on the phenology of *Onobrychis melanotricha* and concluded that growth stages could be predicted using GDD. The main objective of this research was to identify habitat characteristics and the nature of species of Kashan highlands in order to achieve scientific information for the rehabilitation and development of the plant species investigated in this resaerch.

Materials and Methods

Characteristics of case study

The study area includes southern and western highlands and mountainous areas of Kashan with minimum and maximum altitudes of 1200 to 3600 m above sea level (Fig. 1). The climate of the study area was reviewed based on the meteorological statistics of Meymeh synoptic station (2005-1991) which is consistent with Kashan highlands in terms of distance and altitude (1980 m). Accordingly, the mean precipitation (160.5 mm), average temperature (11.5°C), mean relative humidity (47%) and number of freezing days (135 days a year) were recorded. Drought index was calculated as 7.5 based on Demarton classification and the climate of the region was dry cold. The ombrothermic diagram of this station shows a wet period of about 7 months (Fig. 2). It is noteworthy to state that the soil of the region has no specific horizons and it is mainly rocky and gravel.

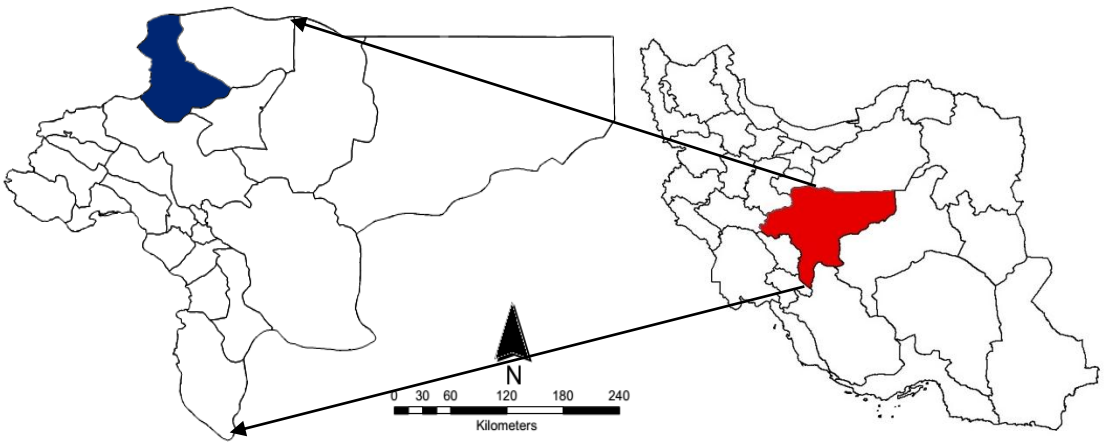

Fig. 1. Location of the study area

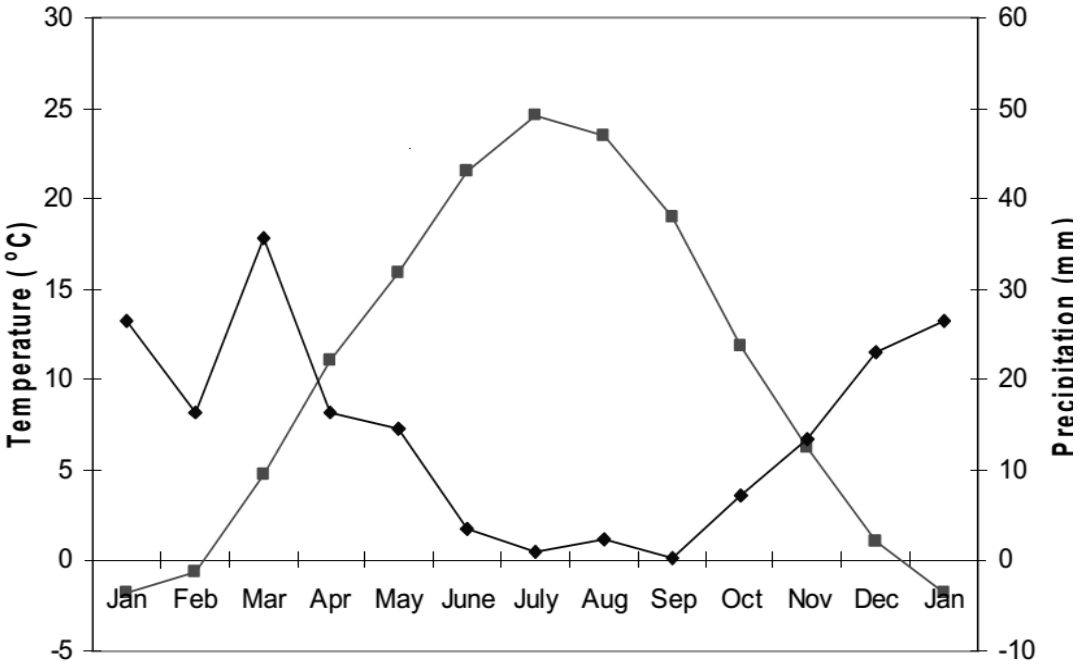

Fig. 2. Embrothermic diagram of the Meymeh synoptic station (1976- 2006)

Methods

With numerous field surveys using GPS, altimeter, compass, topography and geology maps, land resources, capabilities, hipsometry and vegetation type maps, the distribution map of species was drawn. Also, in key areas, at least 10 relatively similar individuals of each species (10 healthy and normal bases which were out of access of livestock and humans were selected) in terms of morphology and vegetative conditions were marked and information about biological phenomena (phenology) were recorded in special forms.

According to the research objectives, different growth stages including initial growth, vegetative growth, flowering, seed maturity and dormancy were recorded. Visits were performed in spring, summer and autumn for 15 days and in winter for 30 days. In this study, to describe the

vegetative characteristics and the nature of plant species, it was attempted to collect information on geographical features and important ecological indicators including land type, slope, the elevation range of vegetative unit, climate, mean annual precipitation as well as vegetation types.

Results

Distribution of all species has shown in Fig. 3. Diagram of phenological stages of five studied species is presented in Fig. 4. Results of each individual species are as follows:

Prangos uloptera

This plant is distributed in the mountainous areas of Ghohrood, Ghazaanof Ghamsar, Barzok, Vishang, Niasar, Eshagh Abad, Javinan in an elevation range of 1800 - 2600 m above sea level. The distribution of this species includes mountainous land unit with the slopes greater than 40%. It is distributed in semi-steppe regions with a temperate desert climate and mean annual perciptation of 200 to 250 mm.

This forage species is found as dense masses in the hills overlooking Javinan village and on the roadside of Ghamsar–Ghohrood having an area of 50 to 100 m^2 with 30% vegetation cover. This plant has a short period of vegetative and reproductive stage and a long dormancy period. Initial growth and vegetative growth occurred in mid-April and in the second half of April to the first half of May, respectively. Flowering stage occurred in the second half of May till June. Seeding stage and seed dispersal were observed in the first half of July and in the second half of July, respectively (Fig. 4). This species is not grazed by livestock in the vegetative and reproductive stages while it is grazed after drying. *Prangos uloptera* is mainly distributed in the vegetation types of *Artemisi aucheri –Astragalus* sp. with a canopy cover percentage of 30% and in the vegetation types of *Acantholimon scorpius – Acanthophyllum microcephalum* with an average canopy cover of 35% with the following species: *Acantholimon schahrudicum, Acantholimon talagonicum, Acanthophyllum squarrosum, Achillea tenuifolia, Astragalus gossypinus, Verbascum cheiranthifolium, Cousinia cylindracea, Dorema ammoniacum, Ephedra procera, Eryngium bungei, Ferula gumosa, Ferula ovina, Poa bulbosa, Gundelia tournefortii, Pennisetum orientalis, Stipa arabica* and *Astragalus iranicus.*

The shrubs of this species is merely harvested in Javinan. The farmers of the mentioned region after cutting and mixing the shrubs of this species with the other existing plants put them on each other as small masses. Often, a stone is put on each mass to prevent its transmission by wind. After the shrubs lose an amount of moisture through evaporation, they are stored in large masses to be used by livestock in winter.

Prangos latiloba

This range species is distributed in mountainous land unit in Reza Abad, Ghazaan mine road, Shahsavaran, Yahya Abad and Rahagh in an elevation range of 2000 to 2800 m above sea level with the slopes greater than 40%. This species is observed under the stratum of trees of Reza Abad gardens and mine road of the region as relatively dense vegetation cover. It is distributed in semi-steppe regions with a temperate desert climate.

Initial and vegetative growths occured in mid-April and in the second half of April to the first half of May, respectively. Flowering stage started from the second half of May until June. Seeding stage and seed dispersal were observed during the first half of July and in the second half of July, respectively. This species has a prolonged dormancy period from August to the first decade of April (Fig. 4). In the study area, *Prangos latiloba* is mainly distributed in the vegetation types of *Artemisia aucheri – Astragalus* sp. and

Acantholimon scorpius–Acanthophyllum microcephalum as well as gardens located at Ghazaan watershed with 10 to 20 % vegetation cover with the following species:
Acantholimon aspadanum, Achillea tenuifolia, Astragalus glaucanthus, Astragalus gossypinus, Bromus tomentellus, Cousinia cylindracea, Crambe orientalis, Eremopea persica, Eryngium billardieri, Hedysarum wrightianum, Ferula ovina, Iris songarica, Marrubium vulgare, Verbascum cheiranthifolium, Melica persica and *Stachys inflate.*

This species is propagated by seeds. If the seeds are placed in the soil (depth of 2.5 cm), they will germinate and start to grow after the snow melts in the highlands. Based on the evaluations conducted in the study area, shrubs of this species reach the height of 10 to 20 cm in the first year. Because the species is Hemicryptophyte, the shoots are dried in the early summer but the roots remain in the soil from which new plants arise in the following year. The utilization of this species as a forage is not common in the study area. After drying the shoots, it is used by the livestock.

Ferula ovina

This species is distributed in the highlands of Ghazaan watershed and Vishang, Rahagh, Eshagh Abad, Maragh and Nashalg in mountain land unit. It is distributed in an elevation range of 2000 to 3000 m above sea level with the slopes greater than 40% with a temperate desert climate. It is a hemicryptophyte species having short vegetative and reproductive stages and a long dormancy period.

Initial growth and vegetative growth occured in mid-April, and in the second half of April to the first half of May, respectively. Flowering stage started from the second half of May until June. Seeding stage and seed dispersal were observed during the first half of July and in the second half of July, respectively (Fig. 4). In the study area, *Ferula ovina* is mainly distributed in the vegetation types of *Artemisia aucheri* and *Artemisia aucheri-Astragalus* sp. with the following species:
Acantholimon aspadanum, Acanthophyllum squarrosusm, Allium scabriscapum, Alyssum bracteatum, Astragaluss sp., *Bromus tomentellus, Cousinia rhaphiocephala, Dracocephalum kotschyi, Echinophora platyloba, Eremostachys macrophylla, Fibigia umbellata, Gundelia tournefortii, Melica persica, Moriera spinosa, Prangos uloptera, Salvia reuterana, Stachys inflata, Stipa barbata* and *Tanacetum polycephalum*.

Astragalus eriopodus

This species is mainly distributed in upper terraces of Kamoo, Jovreh plain, Azaran, Ghohrood and Vishang with a 5-10% slope in an elevation range of 2400-2800 m above sea level.

It is distributed in semi-steppe regions with a temperate semi desert climate. Initial growth, vegetative growth, flowering, seed maturity and seed dispersal occurred in mid-April, second half of April until first half of May, second half of May until June, first half of July, and second half of July, respectively (Fig. 4). *Astragalus eriopodus* is observed 500 m far from Kamoo as a vegetation type with a limited area with the following species:
Artemisia aucheri, Echinops cephalotes, Astragalus gossypinus, Centaurea virgata, Cousinia cylindracea, Onobrychis melanotricha, Eryngium billardieri, Iris songarica, Ixiolirion tataricum, Melica persica, Melilotus officinalis, Festuca ovina, Nepeta persica, Phlomis orientalis, Salvia nemorosa, Sanguisorba minor, Stachys inflata, Tanacetum pinnatum, Teucrium polium.

Onobrychis melanotricha

It was observed in gravelly alluvial fans and highlands of Ghazaan, Ghamsar, Ghohrood, Kamoo, Niasar, Maragh and Azaran with an elevation range of 1800 to 2600 m above sea level and 10 to 20% slopes. This valuable rangeland species is

distributed in semi-steppe regions with a temperate desert climate.

Based on the evaluation, the initial growth of this species was first of March. Vegetative growth was observed during April and May until the first half of June. Flowering, seed maturity and seed dispersal were occurred in the second half of June, the first half of June and July, respectively (Fig. 4). In the study area, *Onobrychis melanotricha* is mainly distributed in the vegetation types of *Artemisia aucheri* and *Artemisia aucheri-Astragalus* sp. with the following species: *Acanthophyllum bracteatum, Achillea tenuifolia, Astragalus gossypinus, Crambe orientalis, Enneapogon persicus, Phlomis olivieri, Marrubium vulgare, Moriera spinosa, Nepeta isphanica, Scariola orientalis, Nepeta gloeocephala, Gundelia tournefortii, Salvia limbata, Salvia reuterana, Stachys inflata, Euphorbia petiolata, Tanacetum polycephalum, Teucrium polium, Echinophora platyloba, Ziziphora clinopodioides.*

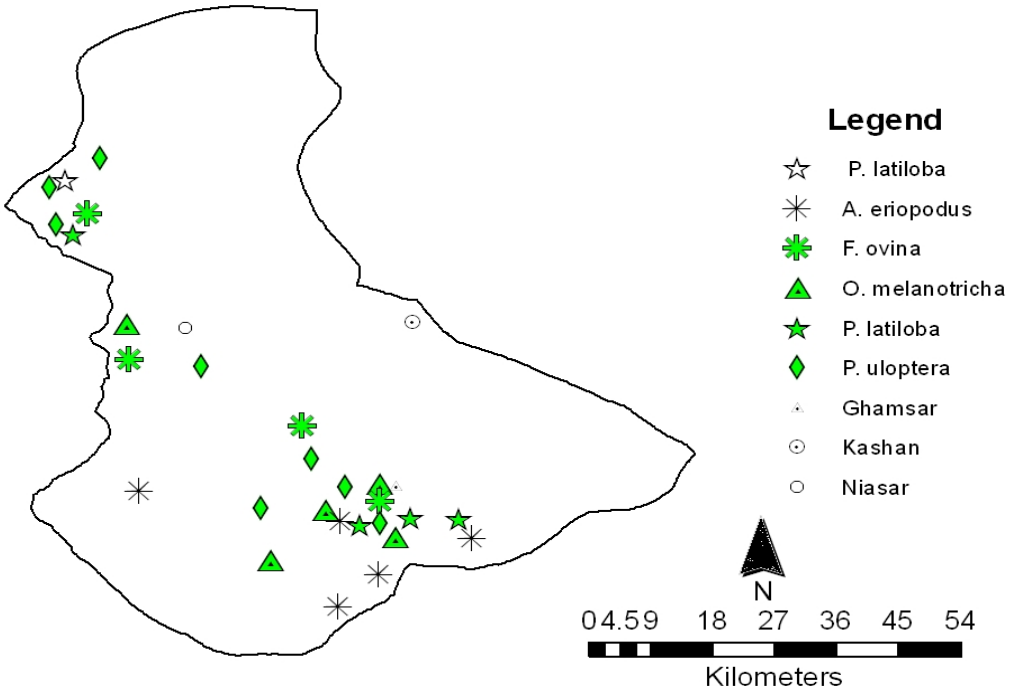

Fig. 3. Distribution of all species

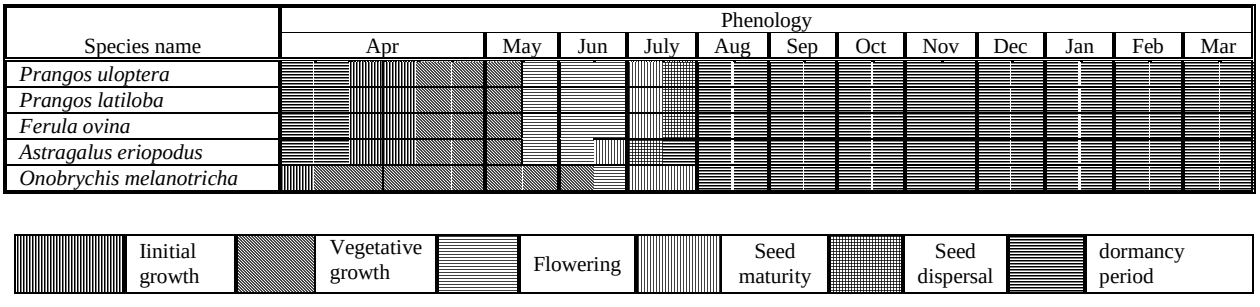

Fig. 4. Phenology of the studied species

Discussion and Conclusion

One of the major issues discussed in range management is the time of livestock entry into the rangeland. This time should be calculated on the basis of the phenology of key species to be applied by beneficiaries. No studies have been conducted on the phenological stages of desirable and key species of the study area. Desirable species are considered not only in terms of palatability and forage quality but also their roles in the prevention of water erosion and soil degradation. Two factors including overgrazing and early grazing ones have resulted in the degradation of rangelands. For this reason in the current study, it was attempted to determine the phenological stages of native and key species of the study area as well as the best grazing season.

The results showed that the dormancy period in most species started from early August until late March (Fig. 4). It is due to two reasons: (1) the reduced soil moisture and (2) the increased temperature in summer and the reduced temperature in winter. As temperatures rise in late March, vegetative growth starts and continues until mid-May. Flowering stage was in a period between mid-May and the end of June; afterwards, seeding stage and seed dispersal started. This timing was observed for all the studied species except *Onobrychis melanotricha* with minor changes. Therefore, late June was determined as the best time for livestock grazing and entry into the rangeland. The species of the family of Umbelliferae studied in this research, reached a height of 10 to 20 cm in the first year. Vegetative growth was short and occurred only in 2 months of the year (April and May). Flowering stage, seeding and seed dispersal occurred in the second half of May till July. *P. uloptera*, *P. latiloba* and *F. ovina*, belonging to Umbelliferae family were similar in terms of phenology. This result is consistence with previous studies conducted by Hosseini and Abarsaji (2005) and Salehi and Hoveized (2001).

However, although two other species belong to Umbelliferae family, no similarity was found in terms of phenology. As stated by Azarnivand *et al.* (2012), our results also showed that the phenological stages of *Onobrychis melanotricha* were consistent with temperature changes.

Harvesting these species is recommended after the third year of life. It is recommended to harvest the plants having no flowers while they are still green at the end of the vegetative growth stage.

Literature Cited

Aono, Y., and Kazui, K., 2008. Phenological data series of cherry tree flowering in Kyoto, Japan, and its application to reconstruction of springtime temperatures since the 9th century. *International Jour. Climatology*, 28(7): 905-914

Azarnivand, H. and Dastmalchi, H., 2000. The phenology of four species of desert areas Kashan, *Desert Jour.*, 5 (2): 15-26. (In Persian).

Azarnivand, H., Tarkesh Esfahani, M., Basiri, M., Zare Chahouki, M. A. and Saidfar, M., 2012. Effects of Growing Degree-Day on Phenology of *Onobrychis melanotricha*, *Jour. Range and Watershed Management*, 65(1): 1-10. (In Persian).

Ehsani, A., 2012. Comparison of phenology of *Artemisia sieberi* in different steppe regions of Iran, *Iranian Jour. Range and Desert Research*, 19(4): 737-747. (In Persian).

Ghasriani, F. and Heidari sharifabadi, H., 2000. Studies of phenology of main range species in the mountains of Kurdestan province, *Research and Reconstruction*, 13(2): 58-63. (In Persian).

Hosseini, S. A. and Abarsaji, Gh. A., 2005. Phenology 7 range species endemic halophyte out Incheh-Borun Golestan Station, *Research and Reconstruction*, 18(4): 87-92. (In Persian).

Jafari, A. A., Anvari, H., Nakhjavan, S. and Rahmani, E., 2010. Effects of Phenological Stages on Yield and Quality Traits in 22 Populations of Tall Wheatgrass *Agropyron elongatum* Grown in Lorestan, Iran, *Jour. Rangeland Science*, 1(1): 9-16.

Keneshlo, H. and Amiri, H., 2012. A Study on phenology of *Atriplex griffithii* for optimal management in the Aftar rangelands of Semnan,

Iranian Jour. Range and Desert Research, 19(2): 344-354. (In Persian).

Levy, J. B., 1991. The complete herbal handbook for farm and stable. 4th edition. Faber and Faber. ISBN No. 0-571-116-116-2, 474 p.

Lieth, H., 1974. Phenology and Seasonality Modeling. Springer Verlag, Berlin, 444pp.

Maassoumi, A. A., 2003. Flora of Iran. No. 43. *Astragalus* genus (*Astragalus* L.). Research institute of forests and rangelands. 386 p. Tehran, Iran. (In Persian).

Mahall, B. E., THwing, L. K. and Tyler, C. M., 2010. A quantitative comparison of two extremes in chaparral shrub phenology. Flora, 205: 513-526.

Menzel, A., Sparks, T. H., Estrella, N., Koch, E., Aasa, A., 2006. European phonological response to climate change matches the warming pattern. *Glob. Change Biol.* 12: 1969–1976.

Mortazavi Jahromi, S. M. and Zarandi, P., 2012. Investigation on phenology of *Ziziphus* genus at Fars province, *Iranian Jour. Forest and Poplar Research*, 20(1):110-122. (In Persian).

Mozaffarian, V., 1998. A dictionary of Iranian plant names. Farhang Mo'aser publisher, 740 pp., Tehran, Iran. (In Persian).

Najafi Tireh Shabankareh, K., 2004. Consists of phenological study "*Zygophyllum atriplicoides*" in different elevation zones, Hormozgan province, *Iranian Jour. Range and Desert Research*, 11 (1): 83-111.

Sadeghian, S., Tayebi Khorrami, M., Habibian, S. H., 2004. Phenology study of four rangeland species at Dehbid site of Fars, *Iranian Jour. Natural Resources*, 57(2): 367-376. (In Persian).

Salehi, H. and Hoveizeh, H., 2001. Phenology of steppe and semi-steppe species native to warm regions of Khuzestan, Research and Reconstruction, 14: 54-64. (In Persian).

Tajali, A. and Sadeghi pour, A., 2010. Phonological effects on the amount of essential oil compounds *Stachys schtschegleevii*, *Jour. Range Management*, 4(1): 130-137. (In Persian).

بررسی خصوصیات رویشگاهی و فنولوژی ۵ گونه مرتعی ارتفاعات کاشان، ایران

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چکیده. شناخت خصوصیات رویشگاهی و سرشت عناصر گیاهی بومی هر منطقه، پیش درآمد هر نوع برنامه‌ریزی و مدیریت اصولی مراتع و توسعه پایدار منابع طبیعی تجدید شونده آن منطقه می‌باشد. مراتع ارتفاعات جنوبی و غربی کاشان از جمله مراتع غنی به لحاظ تنوع پوشش گیاهی مطلوب می‌باشد که متاسفانه در سال‌های اخیر مورد بی‌مهری قرار گرفته و چه بسا گونه‌های خوش‌خوراک و مرغوب آن در حال انقراض می‌باشد. بنابراین در این تحقیق بر آن شدیم که ضمن معرفی ۵ گونه‌ی مطلوب، خصوصیات محل استقرار و فنولوژی آن را بیان کنیم. این ۵ گونه شامل: ***Prangos latiloba*** ،***Prangos uloptera*** ،***Ferula ovina*** ،***Astragalus eriopodus*** و ***Onobrychis melanotricha*** می‌باشد. در ابتدا با انجام مطالعات میدانی متعدد و با بهره‌گیری از نقشه‌های توپوگرافی، قابلیت اراضی، GPS پراکنش هر گونه در ارتفاعات کاشان بررسی و با مشخص کردن ۱۰ پایه کلیدی در هر منطقه، مراحل فنولوژیکی گیاه از قبیل آغاز رشد رویشی، گل‌دهی، رسیدن بذر، ریزش بذر و رکود یا خواب گیاهان مطالعه گردید. بازدیدها در فصل بهار، تابستان و پائیز ۱۵ روزه و در فصل زمستان ۳۰ روزه انجام شد. در نهایت پراکنش هر گیاه در قالب نقشه و مراحل فنولوژی به صورت نمودار تهیه گردید. نتایج نشان داد که مرحله خواب گیاه در اکثر گونه ها از اوائل مرداد شروع شده و تا اوخر اسفند ماه ادامه دارد. با افزایش دما در اواخر اسفند، رشد رویشی آغاز و تا اواسط اردیبهشت ادامه دارد. زمان گلدهی در فاصله زمانی اواسط اردیبهشت تا پایان خرداد ماه و در نهایت پس از آن گیاه وارد مرحله بذر دهی و ریزش بذر می‌شود.

کلمات کلیدی: فنولوژی، خصوصیات رویشگاهی، کاشان، گونه‌های مرتعی