



Published by

[www.researchtrend.net](http://www.researchtrend.net)

## First record of the two Asteraceae species from the United Arab Emirates

Mohammad Shahid and N.K. Rao

International Center for Biosaline Agriculture, P.O. Box 14660, Dubai, United Arab Emirates

\*Corresponding author: [m.shahid@biosaline.org.ae](mailto:m.shahid@biosaline.org.ae)

| Received: 21 September 2015 | Accepted: 05 November 2015 |

### ABSTRACT

*Launaea intybacea* (Jacq.) Beauverd and *Senecio vulgaris* L., which are the species of the plant family Asteraceae (Compositae) are reported for the first time from the United Arab Emirates. *S. vulgaris* was found growing on a roadside near Al Hayer, Abu Dhabi emirate, while a small population of *L. intybacea* was spotted near Dibba in the northern emirate of Fujairah.

**Key Words:** Abu Dhabi, Asteraceae, Fujairah, *Launaea intybacea*, *Senecio vulgaris*, United Arab Emirates.

### INTRODUCTION

The Asteraceae or Compositae is the largest flowering plant family, with more than 23,600 species that represent about 1,620 genera (Stevens, 2001). The family has quite a wide distribution range that includes all the 6 inhabited continents (Panero and Crozier, 2012). Though most of the Asteraceae species are herbs, a sizeable number are also shrubs, vines or trees that grow mainly in the tropical areas of the Americas and Africa (Panero and Crozier, 2012). In the United Arab Emirates (UAE), 82 species of the Asteraceae have been recorded (Western, 1989; Jongbloed, 2003; Karim and Fawzi, 2007; Shahid, 2014) that makes the family second to the Poaceae (Gramineae), which has the maximum number of species in the country. The family has a special feature called capitulum or head where the flowers condensed and structured into an involucre pseudanthium. Many of the food crops belong to the Asteraceae including lettuce, chicory, artichoke, sunflower, and safflower. Some of its species are used as herbs,

while many others are grown as ornamental plants as well as for the production of cut flowers.

The genus *Launaea* that composed of about 54 species is mainly found in the arid regions of Africa and southwest Asia, where it has acquired a remarkable diversity (Kilian, 1997). Its species are annual, biennial or perennial herbs to small thorny shrubs, but all of them flower in the first year. In past, different authors have reported the presence of 8 species of the genus in various areas of the UAE (Table-1).

*Senecio* is one of the largest plant genera that have more than 1,480 species (The plant list, 2010). Its flowers are usually rayed, yellow, and are borne in branched clusters. Great variations are found within the genus as it includes annuals, perennials, herbs, vines, shrubs and small trees (Senecio Research Network). Caterpillars of several Lepidoptera species feed on different *Senecio* species (Robinson, 1999). Some of its species produce chemicals, particularly alkaloids to

discourage animals to feed on them. Many of its species are nuisance for the farmers as they are intrusive weeds (Senecio Research Network). In the UAE, the genus is represented by 2 species, viz. *S. flavus* (Decne.) Sch.Bip. and *S. glaucus* L. subsp. *coronopifolius* (Maire) C. Alexander (Jongbloed, 2003).

## MATERIALS AND METHODS

During 2013-15 many botanical explorations were conducted in various regions of the United Arab Emirates (UAE) for the documentation of its wild flora, especially those plant species, which have not been recorded before from the country. The specimens of the two species, namely, *Launaea intybacea* (Jacq.) Beauverd and *Senecio vulgaris* L. were collected during the expeditions. Data on their habitats and populations size were also recorded. A Garmin GPS 72H was used to acquire the geographic coordinates of the sites from where the plant samples were collected. The related literature (Kilian, 1997; Chaudhary, 2000) was used for the description of the species.

## RESULTS AND DISCUSSION

***Launaea intybacea* (Jacq.) Beauverd.** Bull. Soc. Bot. Genève, sér. 2. 2: 114. 1910 **Figs. 1, 2 & 3**

**Synonyms:** *Lactuca intybacea* Jacq., *Lactuca intybacea* Jacq. ex Murray, *Brachyrampus caribaeus* DC.

An annual polymorphic herb, 50-150 cm. Stems erect, hollow with most of leaves in the basal rosette, many branches. Leaves variables, 5-25 x 2-10 cm, decreasing in size toward the stem top, obovate to spatulate, lobed, margins denticulate, apices acute to acuminate. Inflorescence with many capitula laxly or densely **paniculated**, subsessile to shortly-stalked. Capitula aggregated at nodes, 15-35 pale yellow florets. Ligules yellow 3-5 mm, linear. Achenes black, 3-4 mm including c. 1 mm beak, slightly wrinkled; pappus white, 5-7 mm, dimorphic, both feathery and bristly rays.

Flowering February to April, fruiting April to May

The natural range of *Launaea intybacea* is considered to be various regions of Africa (Grubben, 2004), but it is also found in many parts of the southwest Asia. In the Arabian Peninsula, it has been reported from Oman (Ghazanfar, 1992), Saudi Arabia (Chaudhary, 2000) and Yemen (Wood, 1997).

During an expedition about 20 plants of the species were found growing at a site (25°35.933'N, 055°54.835'E) near Dibba, Fujairah emirate. Review of the pertinent literature (Western, 1989; Jongbloed, 2003; Karim and Fawzi, 2007; Feulner, 2011) indicates that the species has not been reported from the United Arab

Emirate (UAE). Thus it is the first time that *L. intybacea* has been described from the UAE, bringing the total number of *Launaea* species to 9, which have been recorded from the country till now.

***Senecio vulgaris* L.** Sp. Pl. 2:867. 1753

**Figs. 4, 5 & 6**

**Synonyms:** *Erigeron senecio* Sch. Bip. ex Webb & Berthel., *Senecio vulgari-humilis* Batt. & Trab.

An annual herb. Stems erect, 20-50 cm, sparsely pubescent, lower side usually reddish. Leaves thick, sessile, alternate, sparsely haired, deeply lobed, toothed margins, lower leaves purple, 4-8 cm. Inflorescence a clusters of 5-15 capitula; no ray florets, disc florets tubular, yellow, 5-10 mm long; stamens 5; pistils 2 fused carpels. Achenes whitish brown, cylindrical, ridged, 2-3 mm long, pubescent. Pappus white, silky longer than achenes. Flowering February to March, fruiting April to May

*Senecio vulgaris* is native to Europe, Africa and Asia, while it is an introduced species in the Americas and Oceania. In Arabia it is found in Kuwait (Omar, 2000), Qatar (Norton et al., 2009), Saudi Arabia (Chaudhary, 2000), and Yemen (Wood, 1997).

While on a botanical exploration, 5 plants of *S. vulgaris* were found by the authors growing at the edge of a road (24°35.345'N, 055°44.349'E) near Al Hayer, a village in the emirate of Abu Dhabi. The study of the relevant text (Western, 1989; Jongbloed, 2003; Karim and Fawzi, 2007; Feulner, 2011) shows that species has not been recorded earlier in the UAE. Hence for the first time *S. vulgaris* has been reported from the region, making it the fifth county of the Arabian Peninsula where this Asteraceae species is found.

**Table-1.** *Launaea* species recorded in the United Arab Emirates

S.N.	Species
1	<i>Launaea capitata</i> (Spreng.) Dandy
2	<i>Launaea massauensis</i> (Fresen.) Chiov.
3	<i>Launaea mucronata</i> subsp. <i>cassiniana</i> (Jaub. & Spach.) N. Kilian
4	<i>Launaea mucronata</i> (Forssk.) Muschl.
5	<i>Launaea nudicaulis</i> (L.) Hook.f.
6	<i>Launaea procumbens</i> (Roxb.) Ramayya & Rajagopal
7	<i>Launaea spinosa</i> (Forssk.) Sch.Bip.
8	<i>Launaea tenuiloba</i> (Boiss.) Kuntze.

(Jongbloed, 2003; Karim and Fawzi, 2007)



**Fig. 1.** *Launaea intybacea* (Jacq.) Beauverd plants growing near Dibba, Fujairah, United Arab Emirates.



**Fig. 2.** Flower of *Launaea intybacea* (Jacq.) Beauverd.



**Fig. 3.** Achenes of *Launaea intybacea* (Jacq.) Beauverd.



**Fig. 4.** *Senecio vulgaris* L. plant near Al Hayer, Abu Dhabi, United Arab Emirates



**Fig. 5.** Flowers and seeds of *Senecio vulgaris* L.



**Fig. 6.** Basal leaves of *Senecio vulgaris* L.

### CONCLUSION

With the findings of the two unrecorded species (*Senecio vulgaris* L., *Launaea intybacea* (Jacq.) Beauverd) of the Asteraceae from different regions of the UAE, the total number of the reported species of the family is now 84 in the country.

### ACKNOWLEDGEMENTS

The authors like to say thanks to the administration of the International Centre for Biosaline Agriculture (ICBA) for providing support to this project.

### REFERENCES

- Chaudhary SA. 2000. Flora of the Kingdom of Saudi Arabia illustrated. Vol. 2 (3): National Agriculture and Water Research Centre, Riyadh, Saudi Arabia.
- Feulner GR. 2011. The Flora of the Ru'us al-Jibal - the Mountains of the Musandam Peninsula: An Annotated Checklist and Selected Observations. *Tribulus* 19: 4-153.
- Ghazanfar SA. 1992. An annotated catalogue of the vascular plants of Oman and their vernacular names. Vol. 2. National

- Botanic Garden of Belgium, Meise, Belgium.
- Grubben GJH. 2004. Plant resources of Africa 2. Vegetables. PROTA Foundation/BackhysPublishers, Wageningen, Netherlands. pp 362.
- Jongbloed M. 2003. The comprehensive guide to the wild flowers of the United Arab Emirates. Environmental Research and Wildlife Development Agency, Abu Dhabi, UAE.
- Karim FM and Fawzi NM. 2007. Flora of the United Arab Emirates. United Arab Emirates University, Al Ain, UAE.
- Kilian N. 1997. Revision of *Launaea* Cass. (Compositae, Lactuceae, Sonchinea). *Englera* 17:1-478.
- Norton J, Majid SA, Allan D, Al Safran M, Böer B and Richer R. 2009. An illustrated checklist of the flora of Qatar. Browndown Publications, Gosport, UK.
- Omar SAS. 2001. Vegetation of Kuwait: A comprehensive illustrative guide to the flora and ecology of the desert of Kuwait. Kuwait Institute for Scientific Research, Kuwait.
- Panero JL and Crozier BS. 2012. Tree of life – Asteraceae. <http://www.tolweb.org/asteraceae>. Accessed on 7-9-2015.
- Robinson GS. 1999. HOSTS - a database of the hostplants of the world's Lepidoptera. *Nota Lepidopterologica* 22 (1): 35-47.
- Senecio Research Network. [http://openwetware.org/wiki/Senecio\\_Research\\_Network](http://openwetware.org/wiki/Senecio_Research_Network). Accessed on 9-9-2015.
- Shahid M. 2014. New records for two alien Asteraceae species in the United Arab Emirates. *J New Biological Reports* 3(2) 115-119.
- Stevens PF. (2001 onwards). Angiosperm Phylogeny Website. Version 8, June 2007 <http://www.mobot.org/MOBOT/research/APweb/>.
- The Plant List. 2010. Version 1. Published on the Internet; <http://www.theplantlist.org/>. Accessed on 7-9-2015.
- Western AR. 1989. The flora of the United Arab Emirates: An introduction. United Arab Emirates University, Al Ain, UAE.
- Wood JRI. 1997. A handbook of the Yemen flora. Royal Botanic Gardens, Kew, UK.