

**New Records of the Flora of the
United Arab Emirates
(Part: 2)**

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ABSTRACT. Recent extensive floristic collections from U.A.E., especially in the desert region including Al-Ain district, which constitutes the main part of the eastern desert of United Arab Emirates, revealed the presence of 8 new taxa of the Flora of U.A.E. These are:

Digera muricata (Amaranthaceae), *Anvillea garcini*, *Conyza bonariensis*, *Inula crithmoides*, *Koelpinia linearis*, *Pulicaria crispa*, (Compositae). *Euphorbia heterophylla* (Euphorbiaceae), *Astragalus tribuliodes* (Papilionaceae).

This study is based on collections made during many visits to the region bordering Oman (Buraimi) to the east and south east, and Saudi Arabia (Rub-Al-Khali) to the south; within the United Arab Emirates (Fig. 1). This area does not seem to have been well explored botanically, the author was fortunate in being able to collect in 1989-1991 many species of new records of the flora of UAE, though they are very well known in the Mediterranean region and other parts of the world.

Topographically, the area comprises oasis plains, sand dunes plains, depressions and the southern extension of the Hafit mountain Limestone Highlands, possibly of Tertiary Limestone sediments which are part of the Arabian Peninsula.

The climate of the United Arab Emirates is characterised by low rainfall and high temperatures. Al-Ain area has an average of 10 days per year when some rainfall is recorded in winter. The mean annual rainfall is 78 mm. The mean maximum air temperature is 43.2 °C. In June, while the mean minimum air temperature is 9.7 °C. In January, the mean annual relative humidity is over 70%. Al-Ain attitude is 350 m. (except Hafit mountain which is 1160 m.)

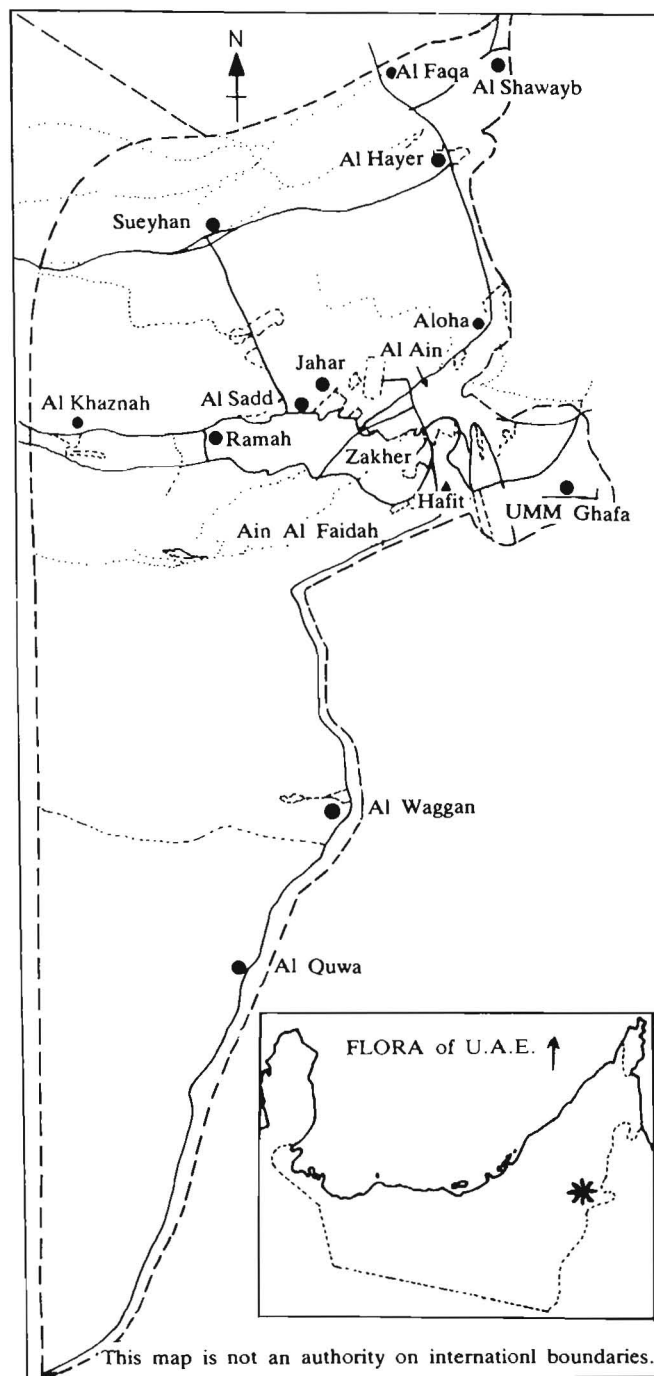


Fig. 1. * Map of the Al-Ain area, U.A.E.

The assessment for the "new records" is based on "Flora of United Arab Emirates, An Introduction (Western 1989)". "The Living Desert" (Jongbloed 1987) and other Floras of the adjacent countries.

Specimens are deposited in the National Herbarium of United Arab Emirates University. The Desert and Marine Environment Research Center in Al-Ain, (UAEUH).

Duplicates, when they exist, are in the herbaria of the Royal Botanic Gardens in Kew (K) and Edinburgh (E).

The following is an alphabetically arranged list of the species indicated as new for the flora of the United Arab Emirates. The abbreviations used in the text are:

fl. = flowering specimen

fr. = fruiting specimen

Amaranthaceae

1. *Digera muricata* (L.) Mart.
Syn.: *D. alternifolia* (L.) Aschers.
D. arvensis Forssk.
Achyranthes muricata L.
A. alternifolia L.

General distribution:

Topical Africa, South Asia, Yemen to India and Indonesia (Townsend 1974), Oman (Miller and Morris 1988), Saudi Arabia (Migahid 1978), Jordan (Al-Eisawi 1982), Syria, Palestine (Post 1932-33) as weed of cultivation and waste places.

Local distribution:

(fl.) S. Al-Ain near Al-Saruje, 350 m, in palm-trees grove 16-10-1990, F.M. Karim 4607 and 4668.

Compositae

Tribe: *Inuleae* Cass.

2. *Anvillea garcini* (Burm. f.) Dc.
Syn.: *Anthemis garcini* Burm. f.
Bupthalmum garcini Burm. f.

General distribution:

N.W. Africa to Persia (Zohary 1973), Saudi Arabia (Migahid 1978), Iraq and Kuwait (Al-Rawi 1968, 1987), Jordan (Al-Eisawi 1982), Syria, Palestine and Sinai (Post 1932-33).

Local distribution:

(fl. & fr.). Al-Ain, near Hafit mountain 380 m., sandy gravelly soil, 22-4-1991, F.M. Karim, 4542.

Tribe: *Astereae* Cass.

3. *Conyza bonariensis* (L.) Cronquist (Fig. 2)

Syn: *Conyza linifolia* (Willd.) Tackh.

Erigeron bonariensis L.

Erigeron crispum Pourr.

Erigeron linifolius. Willd.

General distribution:

Tropical America naturalized in the Old World (Mediterranean region, Asia and many other subtropical and warm regions of the world (Boulos 1988), Qatar (Batanouny 1981), Kuwait (Boulos 1988), Oman (Miller and Morris 1988), Saudi Arabia (Chaudhary and Akram 1987), Iraq (Al-Rawi 1968), Jordan (Al-Eisawi 1982), Syria, Palestine and Egypt (Post 1932-33).

Local distribution:

(fl. & fr.). Al-Ain near Saruje 370 m, in orchard, 24-10-1989, F.M. Karim 227.

Tribe: *Inuleae* Cass.

4. *Inula crithmoides* L.

Syn.: *Inula crithmifolia* L.

Senecio succulentus Forssk.

General distribution:

Mediterranean and Saharo-Arabian (Zohary 1973), Jordan (Al-Eiswai 1982), Syria, Lebanon, Palestine and Egypt (Post 1932-33).



Fig. 2. *Conyza bonariensis*

Local distribution:

(fl. & fr.). S. Al-Ain, Jabel Hafit, 420 m. sandy gravelly soil, 22-4-1991, F.M. Karim 4519.

Tribe: *Cichorieae* Cass.

5. *Koelpinia linearis* Pall. (Fig. 3)

General distribution:

N. Africa to E. Asia (Zohary 1973), Saudi Arabia (Migahid 1978), Iraq and Kuwait (Al-Rawi 1968, 1987), Bahrain (Cornes 1989), Jordan (Al-Eisawi 1982), Syria, Palestine and Sinai (Post 1932-33).

Local distribution:

(fl. & fr.) Al-Ain near Sanaiya, 380 m, sandy gravelly soil, 22-4-991, F.M. Karim 4518.

Tribe: *Inuleae* Cass.

6. *Pulicaria crispa* (Forssk.) Benth, et Hook.

Syn.: *Francoeuria crispa* (Forssk.) Cass.

General Distribution:

S. Europe, tropical, and S. Africa (Zohary 1973), Saudi Arabia (Migahid 1978), Iraq, and Kuwait (Al-Rawi 1968, 1987), Qatar (Batanouny 1981), Bahrain (Cornes 1989), Jordan (Al-Eisawi 1982), Syria, Palestine and Sinai (Post 1932-33).

Local distribution:

(fl. & fr.). S. Al-Ain near Jabel Hafit, 390 m, sandy gravelly soil, 22-4-1991, F.M. Karim 4504.

Euphorbiaceae

7. *Euphorbia heterophylla* L.

Syn.: *E. cyathophora* Murr.

[*E. heterophylla* (non L.) V. Tackh., Stud. Fl. Egypt ed. 2:326 (1974); Husain & Kasim, Cult. Pl. Iraq: 58 (1975)].



Fig. 3. *Koelpinia linearis*

General distribution:

American origin and naturalized in cultivated land of some Arab countries, (e.g. Egypt, Iraq (Townsend and Guest 1974-1980), Qatar (Batanouny 1981), Saudi Arabia (Chaudhary and Akram 1987). Oman (Miller and Morris 1988).

Local distribution:

(fl. & fr.). S. Al-Ain, Al-Saruje 370 m, in orchard, 24-10-1989, F.M. Karim 234.

Papilionaceae (Leguminosae)***Astragalus:***

Section: *Oxyglottis* Bunge.

8. *Astragalus tribulooides* Del.

Syn.: *Astragalus perpusillus* Bertol.

General distribution:

S.E. European, Russia (Zohary 1973), Turkey, Syria, Lebanon, Palestine, Jordan, Egypt, Saudi Arabia, Kuwait, Bahrain, Iran Transcaucasia, W. Pakistan, Afghanistan, S. Asia, N. Africa, (Morocco to Libya), Macaronesia (Townsend and Guest 1974-1980). Also found in Qatar (Batanouny 1981).

Local distribution:

(fr.) 30 km. West Al-Ain, 300 m, in road side, sandy soil 30-3-1990, F.M. Karim 4694.

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بعض أنواع النباتات التي وجدت حديثاً في فلورة دولة الامارات العربية المتحدة

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ص.ب: ١٧٧٧٧ - دولة الامارات العربية المتحدة

نتيجة للمسح الميداني لنباتات دولة الإمارات العربية المتحدة والذي يقوم به المعشب الوطني (التابع لمركز بحوث الصحراء والبيئة البحرية، جامعة الإمارات) - حيث يشتمل المسح على جمع نماذج نباتية مختلفة من جميع مناطق الدولة وذلك لمعرفة وحصر جميع الأنواع النباتية البرية المتواجدة على أرض دولة الإمارات ومن ثم تعريفها وتقسيمها إلى العوائل التي تعود إليها وحفظها في فايلات خاصة توضع في خزائن المعشب - فقد تمت عدة زيارات ميدانية وخاصة في فصل الربيع في الفترة (١٩٨٩ - ١٩٩١ م) إلى أماكن مختلفة من منطقة العين التي تقع في الركن الجنوبي الشرقي من دولة الإمارات العربية المتحدة حيث تحدها سلسلة الجبال العمانية من الناحية الشرقية والكثبان الرملية والسهول الحصوية من الجهات الأخرى (شكل ١)، وتتميز طبوغرافية الجهة الجنوبية من واحة العين بسلسلة جبل حفيت، حيث يبلغ إرتفاعه حوالي (١١٦٠) متر فوق سطح البحر. وتتكون صحوره بصورة عامة من الحجر الجيري والرمل والمارل والتي تعرضت عبر الزمن إلى عوامل التعرية. أما بقية الأراضي فتغطيها السبخات والكثبان الرملية وبارتفاعات مختلفة. إن نسبة الأمطار والرطوبة قليلة ومعدلاتها متفاوتة والطقس بارد شتاءً وحار جداً صيفاً.

تم التعرف على ثمانية أنواع جديدة من النباتات البرية المختلفة في هذه المنطقة والتي لم تكن مجموعة أو معروفة أو مسجلة سابقاً في فلورة دولة الإمارات ، ونماذج من هذه الأنواع النباتية محفوظة في المعشب الوطني التابع للمركز وهي :

اسم النبات العلمي	الاسم المحلي	اسم العائلة
<i>Digera muricata</i>	ديجار	عرف الديك
<i>Anvillea garcini</i>	شموم	المركبة
<i>Conyza bonariensis</i>	طباق	المركبة
<i>Inula crithmoides</i>	حوة	المركبة
<i>Koelpinia linearis</i>	لزيجة	المركبة
<i>Pulicaria crispa</i>	جثجات	المركبة
<i>Euphorbia heterophylla</i>	لبينة	اللبنية
<i>Astragalus tribuloides</i>	قرنة	الفراشية (البقولية)