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**Original Paper**

**A New Record *Artemisia Vulgaris* L. (Asteraceae) for the Flora of Libya**

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*Artemisia vulgaris* L. (mugwort) has been reported for the first time from Libya. This exotic species is native in Asia, Europe and North America. Flowering specimens of *A. vulgaris* collected from Khallet Alforjan about 18 km south of Tripoli. It is presented with updated nomenclature, taxonomic description, geographical distribution, place of occurrence in Libya, and field colored photographs are also provided. The voucher specimens were deposited in the Herbarium of Botany Department (ULT), Tripoli University, Libya.

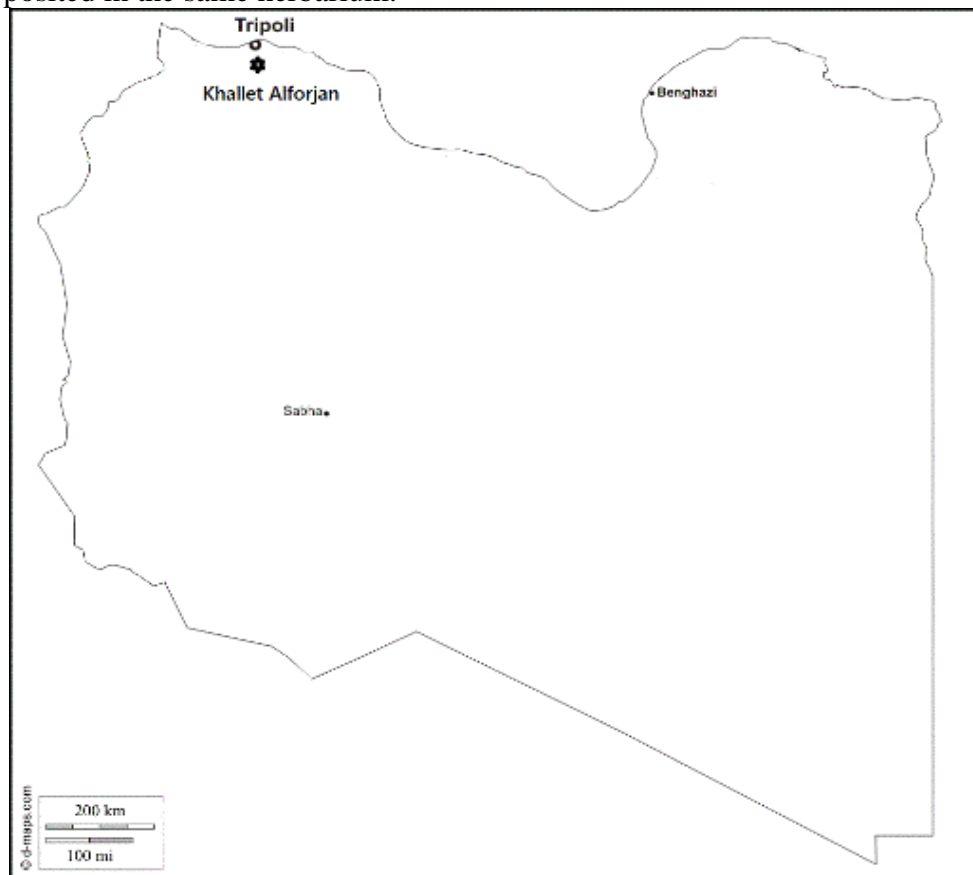
**INTRODUCTION**

The genus *Artemisia* L. belongs to the important family Compositae (Asteraceae), one of the largest family which comprises about 1000 genera and over 20,000 species. Within this family, *Artemisia* is included in the tribe Anthemideae and comprises over 500 species, which are mainly found in Asia, Europe and North America [1]. Alavi (1983) listed *Artemisia* in the flora of Libya, he recorded 5 species are reported from Libya [2]. *Artemisia* species are most commonly shrubs, rarely perennial herbs and more rarely annual or biennial herbs [3]. The genus *Artemisia* characterized by a wide range of morphological and phytochemical variability, which is associated with different geographical origins of the samples. The genus displays a huge ecological plasticity, with species occurring from sea level to high mountains and from arid zones to wetlands additionally, polyploidy is notably common and reported cytotypes differ in external morphology, anatomy, fertility and photochemical cytogenetically [4]. *Artemisia vulgaris* L. mugwort is thought to have several derivations including from the Greek physician Dioscorides, who believed the plant had the ability to ward off insects, *moughte* (for moth or maggot) with “wort” being an archaic term for a herbaceous plant [5]. *A. vulgaris* is a perennial weed growing wild native in Asia, Europe and North America [6]. *A. vulgaris* is considered a troublesome weed in nursery and urban landscape in Canada and the Eastern United States [7]. This species also infests barley and wheat crops in Korea; cereal and horticultural crops in Italy; citrus and maize in the former Soviet Union; tea and vegetables in Indonesia and Soviet Georgia; hazelnuts in Turkey [8 – 9]. On the other hand *A. vulgaris* has a well – documented history

of herbal use for the treatment of irregular menstruation and relief of menopausal ailments [10].

### Material and Methods

Plant specimens were collected from Khallet Alforjan about 18 km south of Tripoli ( $32^{\circ} 47' 14.32''$  N,  $13^{\circ} 13' 09.69''$  E) (Fig.1 and 2). The collected specimens were treated following the general herbarium techniques. Plant identification and authentication procedure were carried out at the Herbarium of Botany Department (ULT), Faculty of Science, University of Tripoli using the data from the following literatures [12 – 20]. The Voucher specimens were deposited in the same herbarium.



**Figure 1:** Map of Libya showing locality.



Figure 2. Map of Tripoli district showing locality.

#### Description of Species:

*Artemisia vulgaris* L., *Sp. Pl.* 848 (1753). Ic : Ross-Craig, Draw. Brit. Pl. 16 : t. 16 (1961); Bonnier, Fl. Comp. Fr., Suisse et Belg. 5 : t. 290 f. 1442 (1922). Figures 7, p. 177 : 15, p. 315.

**Synonyms:** *Absinthium spicatum* (Wulfen ex Jacq.) Baumg. ; *Artemisia affinis* Hassk. ; *Artemisia apetala* hort. pest. ex Steud. ; *Artemisia annabifolia* H. Lev.; *Artemisia coarctata* Frselles ; *Artemisia discolor* Douglas ex DC. ; *Artemisia eriophora* Ledeb. ; *Artemisia flodmanii* Rydb. ; *Artemisia javanica* Pamp. ; *Artemisia longiflora* Pamp. ; *Artemisia wallichiana* Besser ; *Artemisia superba* Pamp.

**Common names:** mugwort [13]; Chrysanthemum weed, felon herb [14]; green ginger, motherwort, mugweed [9]; St. John's Plant, herbe Saint Jean [15]; Cingulum Sancti Johannis [16].

Perennial herb without overwintering rosettes and its exhibiting extreme variation in morphology. Rhizomes about few millimeters to > 1 cm in diameter. Stems erect, simple or compound (30-) 60 – 120 (-210) cm, sparsely pubescent, often glabrescent, usually red or purplish. Leaves 1 – 10 cm wide, with the upper surface being slightly hairy and the lower surface covered with silvery-white woolly hairs. Leaves 1-pinnatifid, auriculate at base, the segments sometimes deeply lobed, with an obscure network of small veins. Lower leaves shortly petiolate, upper sessile. Capitula numerous, sub – sessile, erect or slightly recurved, crowded on the branches of a large panicle, Bracts leaf-like, the upper small and simple. Involucre 205 – 3 mm, campanulate or ovoid; bracts grayish-arachnoid-pubescent, the outer lanceolate, acute, broadly scarious, the inner longer, oblong, obtuse. Flowers are strongly aromatic, greenish yellow in colour, and generally contain a double-branched style and many stamens. Receptacle glabrous. Fruit cypsela, ridged, brown, oblong with a narrow base and have minute bristles at apex. (Fig. 3, 4, 5).  $2n=16$ . The above description is based on [12 – 17 – 18 – 9 – 14].

**Flowering time:** From July to October.

**Distribution:** Growing wild native in Asia, Europe and North America.

**Occurrence in Libya:** It was collected from Khamlet Alforjan south of Tripoli.



**Figure 3:** *Artemisia vulgaris*. habit



**Figure 4:** *Artemisia vulgaris* Portion of inflorescence

## RESULTS AND DISCUSSION

*Artemisia vulgaris* L. commonly known as mugwort, is a perennial herb is reported for the first time as an invasive species in Kalet- Alferjan about 18 km south of Tripoli Tripoli (32° 47' 14.32" N, 13° 13' 09.69" E). *A. vulgaris* is tolerant of wide range of climatic conditions and is reported to occur from the mountainous regions (3700 m) of the Northern Himalayas [21], to the warm temperate regions of South America [ 9 ]. This species is the most common infestations occur in Europe, where it is thought to have originated, but this weed is also found in Southeastern Asia, Australia, and South America [9]. *A. vulgaris* has been used as an herbal remedy and for flavouring beer, but recently has been identified as a primary pest of nurseries and urban landscapes [19]. It is characterized by its white-woolly hairs on the lower leaf surface and the presence of a dense underground rhizome system also by its undivided, wedged-shaped leaves, each with three blunt lobes [ 20] (**Fig. 5**).





**Figure 5:** *Artemisia vulgaris*. Leaf shape.

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