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**ASPLENIUM SAGITTATUM (DC.) BANGE (ASPLENIACEAE)
NEW TO THE JORDANIAN FLORA (***)**

Riassunto — *Asplenium sagittatum (DC.) Bange (Aspleniaceae) nuovo per la flora giordana.* *Asplenium sagittatum (DC.) Bange (Pteridophyta, Aspleniaceae), rinvenuto in Sud Giordania ad Est di Aqaba, è risultato nuovo per la flora giordana. Il reperto rappresenta la stazione più meridionale della specie, estendendone a SE l'area distributiva. In appendice viene fornito l'elenco aggiornato delle pteridofite giordane.*

Abstract — *Asplenium sagittatum (DC.) Bange (Pteridophyta, Aspleniaceae), found in S-Jordan eastwards from Aqaba, is shown to be new to the Jordanian flora. The new record is the southernmost one of the species and, moreover, extends the total range of *A. sagittatum* southeastwards. A complete updated list of the Pteridophytes for Jordan is added.*

Key words — *Asplenium sagittatum - Pteridophyta - Jordan.*

Jordanian flora is well-known as being rather poor owing to the aridity of the country and its pteridological component is decidedly exiguous for the same reason. No wonder, therefore, that contributions to the knowledge of ferns and fern-allies from Jordan are very scarce. In recent times they seem to be limited to the Flora of Palestine (ZOHARY, 1966) and to a few others works by BOULOS and LAHHAM (1977), AL EISAWI (1982), BARSOTTI (1985), GEBEL and STARCK (1985). A very weighty floristic inventory for the Mediterranean area, such as the Med-Checklist (GREUTER *et al.*, 1984), treats the Jordanian and Israeli territories as fused together, so providing data almost useless

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when the requested information concerns a single country (Jordan or Israel).

One of the present authors, during a trip through Southern Jordan in April 1987 to collect living plants for ongoing cytotaxonomical studies (see GARBARI and CRISMAN, 1988), discovered a small fern growing in the desert region near Disi, eastwards from Aqaba. This plant proved to be worth recording as important for Jordanian flora.

Asplenium sagittatum (DC.) Bange (Aspleniaceae)

[Syn.: *Scolopendrium sagittatum* DC. (bas.); *Phyllitis sagittata* (DC.) Guinea et Heywood; *Phyllitis hemionitis* auct.]

«Jordan, District of Ma'an, Disi, Jebel Rash Rash, ca. 1100 m a.s.l., 17 April 1987, F. Garbari et A. Giordani 173 (FI, PI)».

Species new to the Jordanian flora.

A. sagittatum was found in a deep split of ordovician grey sandstone in full shadow. The population consisted of a very few fertile individuals of small size. No other species of vascular plants was observed as growing in the station, while a further two ferns, *Adiantum capillus-veneris* L. and *Asplenium ceterach* L., were collected in the neighbourhood.

The frond, owing to the reduced growth of the fern, does not show the marked basal auricles, which are considered as typical of the species but occur only in well-developed specimens (see, f. i., ORMONDE, 1986, fig. 37/a, sub *Phyllitis sagittata*). In some cases the phenotype is practically the same as described and illustrated by MOUTERDE (1953; 1966a; 1966b, Pl. IV fig. 2/b; all sub *Phyllitis hemionitis*) for the Syrian population of *A. sagittatum* from Djebel Druze. Spore morphology is very similar to that shown for this taxon by FERRARINI *et al.* (1986, tab. 54 fig. 3150/2, sub *Phyllitis sagittata*).

A. sagittatum, which some authors also regards as belonging to the selfstanding genus *Phyllitis* Hill, is a rare diploid species, dwelling in damp shady rocks in the Mediterranean region. Its total distribution area is typically circum-Mediterranean, spreading from Southern and Eastern Spain (SALVO *et al.*, 1984; ORMONDE, 1986) over to the Near East, through the Balearic Islands (SALVO *et al.*, 1984; ORMONDE, 1986), S-France (BADRÉ and DESCHATRES, 1979), Corsica (FIORI, 1943; BADRÉ and DESCHATRES, 1979), Italy with Sardinia and Sicily (FIORI, 1943; FERRARINI *et al.*, 1986), NW-Yugoslavia (JALAS and SUOMI-

NEN, 1972; FERRARINI *et al.*, 1986), Corfu and the Cyclades (JALAS and SUOMINEN, 1972), Northern Morocco, Algeria and Tunisia (MAIRE, 1952), Malta (FIORI, 1943) and Cyrenaica (PAMPANINI, 1931; MAIRE, 1952). As for the Near East, the species was found as growing in S-Anatolia (BOISSIER, 1884; MORTON, 1914; HENDERSON, 1965), Lebanon (BOISSIER, 1884; MORTON, 1914; DINSMORE, 1933; THIEBAUT, 1953; MOUTERDE, 1953 and 1966a), W-Syria (MOUTERDE, 1953 and 1966a), Palestine (BOISSIER, 1884; MORTON, 1914; DINSMORE, 1933; ZOHARY, 1966).

The new record is the southernmost one of *A. sagittatum* and, moreover, extends the species total range southeastwards. The nearest formerly known stations of this fern are in Palestine (Upper Galilee, Samaria) and Syria (Djebel Druze); but only the Syrian population seems to be subject to general environmental conditions comparable with those affecting *A. sagittatum* from Jordan.

After this record, the list up-to-date of the Jordanian Pteridophytes is reported in the following summary.

Equisetaceae

Equisetum ramosissimum Desf. (ZOHARY, 1966; AL EISAWI, 1982; GEBEL and STARCK, 1985).

Osmundaceae

Osmunda regalis L. (AL EISAWI, 1982).

Sinopteridaceae

Cheilanthes acrostica (Balbis) Tod. (ZOHARY, 1966, sub *C. fragrans*; BOULOS and LAHHAM, 1977, sub *C. fragrans*; AL EISAWI, 1982, sub *C. pteridioides*; BARSOTTI, 1985, sub *Cheilanthes* sp.: specim. sub *C. fragrans* in Herb. Mus. Prov. St. Nat. Livorno, test. Barsotti et Lunghini).

Adiantaceae

Adiantum capillus-veneris L. (ZOHARY, 1966; BOULOS and LAHHAM, 1977; AL EISAWI, 1982; BARSOTTI, 1985, sub «Capelvenere»; GEBEL and STARCK, 1985; «Jebel Rash Rash, 17 Apr 1987, Garbari et Giordani», specim. in PI).

Hemionitidaceae

Anogramma leptophylla (L.) Link (AL EISAWI, 1982).

Cosentinia vellea (Aiton) Tod. (ZOHARY, 1966, sub *Cheilanthes catanensis*; BOULOS and LAHHAM, 1977, sub *C. catanensis*; AL EISAWI, 1982, sub *C. vellea*; BARSOTTI, 1985, sub *Cheilanthes* sp.: specim. sub *C. catanensis* in Herb. Mus. Prov. St. Nat. Livorno, test. Barsotti

et Lunghini).

Aspleniaceae

Asplenium ceterach L. (ZOHARY, 1966, sub *Ceterach officinarum*; BARSOTTI, 1985, sub *Ceterach* sp.: specim. sub *C. officinarum* in Herb. Mus. Prov. St. Nat. Livorno, test. Barsotti et Lunghini; «Jebel Rash Rash, 17 Apr 1987, Garbari et Giordani», specim. in PI).

Asplenium sagittatum (DC.) Bange.

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