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## On the occurrence of *Acacia raddiana* Savi and *A. albida* Delile in Jericho <sup>1</sup>

R. KARSCHON

### SUMMARY

The possibility is discussed that the Lower Jordan Valley may constitute the only area in the Middle East where the ranges of *A. raddiana* and *A. albida* overlap.

### RÉSUMÉ

La probabilité est envisagée que la vallée inférieure du Jourdain soit la seule zone où les aires de l'*Acacia raddiana* et de l'*Acacia albida* se chevauchent.

The occurrence of *Acacia albida* Del. in Jericho was reported by Hart (1891) in the following terms: "An acacia near Ain es Sultan was, I believe, *A. albida* Del. gathered previously at Gaza. It was a stunted bush...".

At present, the only acacia found near Ain es Sultan is *A. raddiana* Savi which was already recorded by Dinsmore in Post & Dinsmore (1932; under the name of *A. tortilis* Hayne). The single tree growing in a shallow depression between the SSW slope of the ancient mound of Tel es Sultan and the recently surfaced Jericho-Ramallah road displays a short asymmetrical bole with severe lean; its height of 11.5 m and girth at breast height of 222 cm makes it the largest tree of this species in Palestine (Plate I).

In order to determine if this tree could have been confused by Hart (1891) with *A. albida*, two increment cores were taken at about 1 m above ground, on opposite sides of the stem (for technical reasons it was not possible to extract complete cores). Since growth rings are indistinct, counts were made (by Mr. K. Tischler) of the broad concentric bands of aliform-confluent parenchyma (cf. Fahn, 1959) and compared with those from a 17-year-old tree planted in the Ilanot Arboretum in the central Coastal Plain. The average number of wood parenchyma bands formed per year at Ilanot was found to be 2.35. The application of this ratio to the Tel es Sultan material suggests an age of 108 years for a 22.7-cm-long core with 253 parenchyma bands, and an age of 87 years for a 14.4-cm-long core with 205 bands. There is, therefore,

<sup>1</sup> Contribution from the Agricultural Research Organization, Bet Dagan, Israel. 1974 Series, No. 115-E.

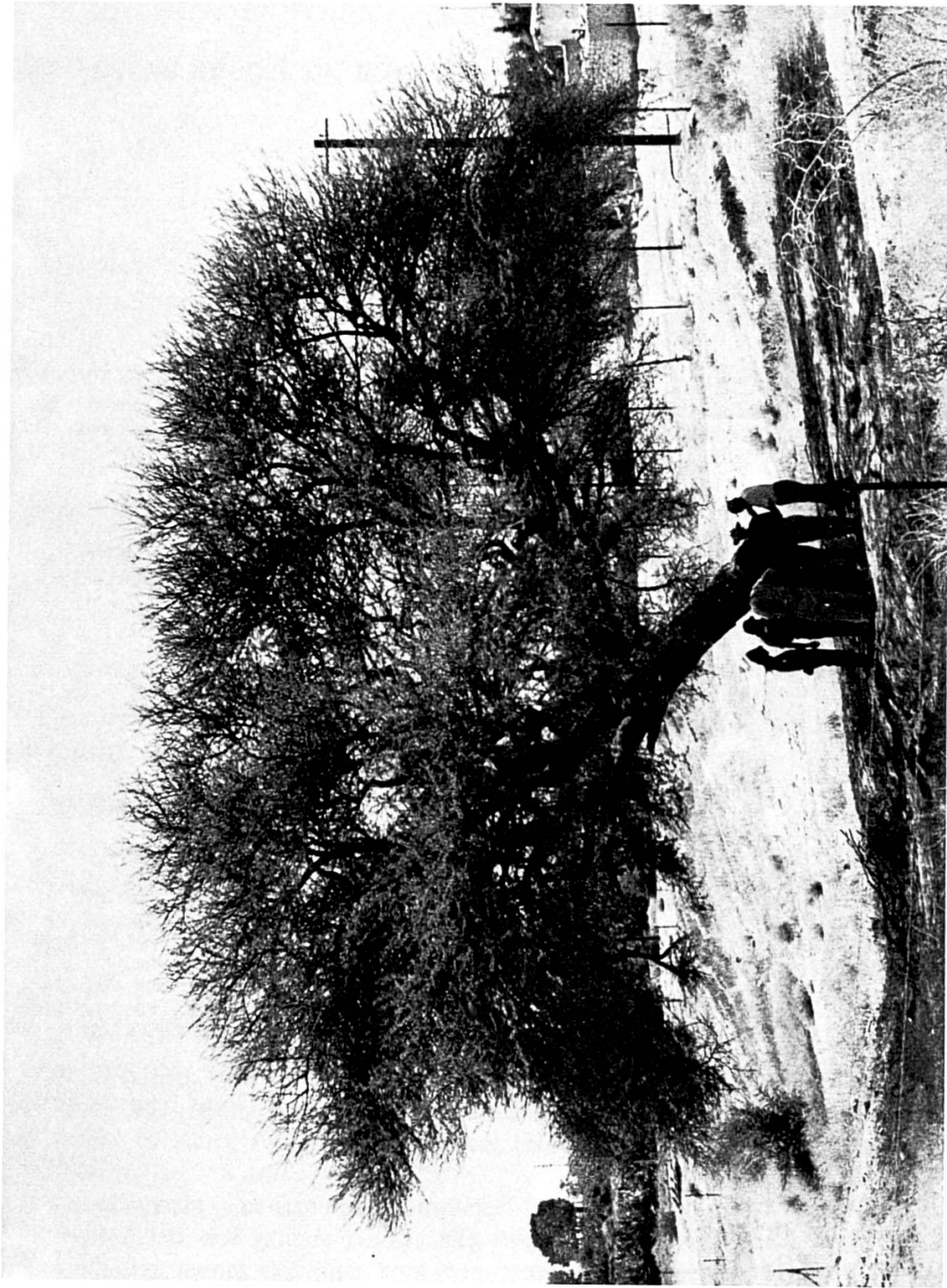
reason to believe that the tree at Tel es Sultan is much older than 100 years, as is also suggested by its size; thus, it cannot have grown from the "stunted bush" recorded by Hart in 1891.

The site of Tel es Sultan (210 m below sea level), at 31°52'N, represents the northernmost point of the general distribution of *A. raddiana* (Halevy & Orshan, 1972). There is little, if any evidence to show that in the recent past the species extended farther northward along the Jordan Rift Valley. This view is supported by the toponymy of the area, i.e., the complete absence of place names which can be associated with *A. raddiana* (Conder & Kitchener, 1883). There is, however, proof that even at the end of the 19th century, the tree was more frequent in the Jericho area than it is today. For instance, a woodland of *A. raddiana*, *Balanites aegyptiaca* (L.) Del. and *Ziziphus spina-christi* (L.) Willd. extended from Ain es Sultan to Jericho along the perennial stream discharging into Wadi Kelt (Conder & Kitchener, 1883); at present, the spring flow irrigates the intensively cultivated oasis.

No evidence is available so far on the actual occurrence of *A. albida* in Jericho. However, its presence in the Lower Jordan Valley, approximately 70 km south of several well-documented occurrences near Bet She'an (32°30'N), cannot be excluded since the species was apparently collected near St. John's Convent, about 8 km ESE of Jericho (coll. Kushnir, 1942), and in the environs of the Dead Sea (coll. Naftulski, 1924). These two collections were quoted by Halevy (1971) and also inspected by the present author at the Herbarium of the Department of Botany, Hebrew University, Jerusalem. If the determination of the herbarium sheets is indeed correct, these sites would represent the southernmost occurrences of *A. albida* in the Jordan Rift Valley. The Jericho area would then be the only area in the Middle East where the ranges of *A. raddiana* and *A. albida* overlap.

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*Acacia raddiana* Savi. Tel es Sultan, Jericho, August 1967 (Photo Y. Zohar).