

ON A NEW SPECIES OF *PLANTAGO* FROM IRAQ

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Recent collections of *Plantago* species made in the course of vegetational surveys of the deserts of Iraq have brought to light a common species which does not appear to have been previously described. The recognition of this species may clear up some rather surprising statements in the literature concerning this genus in the Middle East.

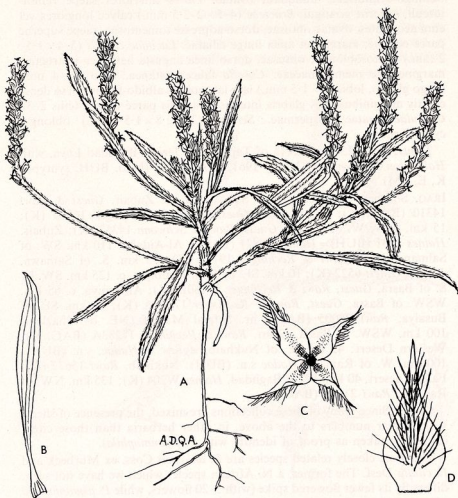


FIG. 1. *Plantago psammophila* Agnew et Chalabi-Ka'bi:

a, whole plant ($\times 2/3$); b, single leaf ($\times 2/3$); c, corolla lobes from above ($\times 6$);
d, ventral surface of one corolla lobe showing distribution of indumentum ($\times 12$).

Plantago psammophila Agnew et Chalabi-Ka'bi, sp. nov. (Sect. *Leucosyllium* Dec.). Fig. 1.

Affinis *P. ciliatae* Desf. et *P. akkensis* Coss. ex Murbeck. A *P. ciliata* non solum foliis lineari-lanceolatis nunquam obovatis nec lanceolato-spathulatis, semper apice sensim, haud abrupte, attenuatis, sed etiam spicis longioribus, corollae lobis latioribus, lobis margine saepissime integris, nec dense ciliatis, etc., distincta est. A *P. akkense* (e descr.) bracteis obtusis, seminibus brevioribus differt.

Planta annua, incano-viridis, caulibus brevibus prostratis, pilis longis sericeis sat dense tectis, nec sericeo-lanatis. *Folia* alterna sensim in petiolum attenuata, lineari-lanceolata, oblonga, acuta, apice sensim, haud abrupte, attenuata. *Pedunculi* inferiores folia aequantes vel superantes, superiores breviores, saepe prostrati. *Spicae* 3–8 cm. longae, arcte erectae, oblongo-cylindricae, nunquam ovatae. *Flores* inferiores saepe remotiusculi, superne contigui. *Bractae* (4.5 × 2–2.5 mm.) calyce longiores vel eum aequantes, ovatae obtusae, dorso adpresse tomentosae, saepe superne parce ciliatae, margini et apici longe ciliatae. *Laciniae calycis* (3–4 × 1.5–2 mm.) ovato-oblongae obtusae, dorso linea angusta herbacea instructae, margine late membranaceae. *Corolla* fauce castanea, tubo 3–5 mm. longo glabro, lobis (3 × 1.5 mm.) late-lanceolatis albido-fuscis dorso dense ciliatis marginibus latis glabris integris nonnullis parce ciliatis (cilis 2–3). *Capsulae* ovatae, dispermae. *Semina* (2.5–2.8 × 1.5 mm.) oblonga, cymbiformia.

Typus: Iraq: 25 km. North of Taji Camp, Jezira, Baghdad Liwa, with *Haloxylon salicornicum*, 3 May 1961, Agnew 5048 (holo. BUH, syntypus K, E, BM).

IRAQ. Southern Desert: 60 km. SW. by W. of Zubair, *Guest & Rawi* 14310 (BAG, K); Umm Qasr, *Guest, Rawi & Rechinger* 16909 (K); 15 km. S. by W. of Zubair, *Guest, Rawi & Schwann* 14352 (K); Zubair, *Haines* 1231 (BUH) = *Haines* W831 (K); nr. Al-Aidaha, 110 km. SW. of Salman, *Guest, Rawi & Rechinger* 19141 (K); 35 km. S. of Samawa, *Rawi & Gillett* 6522 (K); 10 km. SE. by S. of Jiraibiyat, c. 125 km. SW. by S. of Basra, *Guest, Rawi & Rechinger* 17160B (K); Al-Baniya, c. 65 km. WSW. of Basra, *Guest, Rawi & Rechinger* 17327A (K); 10 km. SE. of Busaiya, *Rawi* 26005 (BAG); nr. Safaial Maghif (NE. of Ghazlani) 100 km. WSW. of Basra, *Guest, Rawi & Rechinger* 17283A (BAG, K); Western Desert: 45 km. E. of Nukhaib, *Agnew & Hadac*, s.n. (BUH); 100 km. W. of Ramadi, *Hadac* s.n. (BUH); Nukhaib, *Rawi* 15672 (K); Falluja desert, 40 km. W. of Baghdad, *Haines* W204 (K); 135 km. NW. of Ramadi, *Rawi* 21278 (BAG).

(*N.B.*—Since many of these collections are mixed, the presence of sheets with similar numbers to the above, in other herbaria than those cited, cannot be taken as proof of identity with *P. psammophila*).

The most closely related species are *P. akkensis* Coss. ex Murbeck and *P. ciliata* Desf. The former, a N. African species which we have not seen, differs by its fewer flowered spike (with 5–20 flowers, while *P. psammophila* often has more than 30, though this is variable), its acute or acuminate bracts and its larger seeds (3.5–4 mm. long). *P. ciliata* Desf. (Fig. 2) is sympatric with the new species in Iraq, both occupying much the same sort of sandy habitats. *P. ciliata* is not confined to these habitats in

Iraq as *P. psammophila* is, and is much more widespread. There is never any difficulty in separating the two species in the field or in the herbarium, but for comparison a narrow-leaved form of *P. ciliata* is illustrated as well as a more typical leaf.

In *P. psammophila* the peduncles are longer than or equal to the leaves in young plants, but those produced later are much shorter, so that the leaf/peduncle ratio is not constant. The presence of older individuals with the leaves longer than the peduncles and young individuals with them shorter has presumably been responsible for specimens of this species being placed in *P. cylindrica* Forssk. and *P. albicans* L. (which respectively have these characters: see Table 1), and thus for the statement by Zohary (1938, p. 226) that both *P. cylindrica* and *P. albicans* can have the petal lobes "covered with long or short hairs" (our italics). In our experience of material of both these species, from Egypt and the eastern Mediterranean countries, the petal lobes are mostly but not always sparsely short hairy only towards the apex. The species referred to *P. albicans* in Iraq by Blakelock (1950, p. 441) and Zohary (loc. cit.) is *P. boissieri* Hausskn. et Bornm. (lectotype: Persia australis: in apricis arenosis insulae Kischm, Bornmüller 557 W!) which has almost constantly glabrous petals.



FIG. 2. *Plantago ciliata* Desf.:

a, portion of a branch of a narrow-leaved form for comparison with Fig. 1: a ($\times 2/3$); b, normal leaf ($\times 2/3$); c, corolla lobes from above ($\times 6$); d, ventral surface of one corolla lobe showing distribution of indumentum ($\times 12$).

| <i>P. albicans</i> | <i>P. boissieri</i> | <i>P. ciliata</i> | <i>P. cylindrica</i> | <i>P. psammophila</i> |
|--|--|--|--|--|
| Peduncles longer than leaves | Peduncles equal to or a little longer than leaves | Peduncles equal to or a little shorter than leaves | Peduncles shorter than leaves | Peduncles longer or shorter than leaves |
| Spike interrupted, cylindrical | Spike interrupted, cylindrical | Spike usually not interrupted, ovate | Spike dense, cylindrical | Spike interrupted, cylindrical |
| Petal lobe ovate, often brownish, shortly acuminate | Petal lobe ovate-elliptic, acute to shortly acuminate | Petal lobe lanceolate, acute | Petal lobe ovate-lanceolate, acute | Petal lobe ovate-lanceolate, acuminate |
| Petal lobe glabrous, or mostly with short hairs on the centre of the distal half below | Petal lobe generally glabrous, seldom with a few short hairs below | Petal lobe densely long-hairy below, ciliate at margin | Nearly all petal lobes with short hairs, confined to the apex of lower surface | Petal lobe densely long-hairy below, \pm glabrous on margins |
| Perennial | Annual | Annual | Annual or perennial | Annual |

Table 1. Comparative characters of five critical species of *Plantago* in the Middle East

Since these five species have been so confused in the past, it seems worthwhile to give opposite (Table 1) a comparison of them, and a key.

The recognition of *P. psammophila* has clarified the limits of the species in this complex, so that the specimens of *P. cylindrica* referred to by one of us (Chalabi-Ka'bi, 1961) in Iraq are all now referable to *P. boissieri*, and it seems that *P. cylindrica* is a doubtful member of the Iraq flora. The Iraqi plants referred to by Zohary (*loc. cit.*) as *P. cylindrica* Forssk. ssp. *micropoides* Zohary have not been seen by us but agree well in their description with *P. psammophila*. Zohary regarded petal indumentum as variable and therefore did not describe it in this subspecies, which leaves some doubt as to its identity.

There follows a key to the Middle East species of *Plantago* of the section *Leucopsyllium* Decne. that have hairy corolla lobes.

1. Corolla lobe conspicuously densely long-hairy below 2
— Corolla lobe glabrous or inconspicuously short-hairy below, the hairs confined to the apical portion of the lobe 3
2. Corolla lobe ovate-lanceolate, acuminate; leaves linear-lanceolate, gradually narrowing into an acumen *P. psammophila*
— Corolla lobe lanceolate, acute; leaves usually spatulate, abruptly narrowing into an acumen *P. ciliata*
3. Corolla lobe oblong acute; peduncles shorter than the leaves; annual *P. cylindrica*
— Corolla lobes ovate, acute or shortly acuminate; peduncles usually longer than leaves; annual or perennial 4
4. Corolla lobes 2.5–3 mm. long, usually brown in colour; perennial *P. albicans*
— Corolla lobes up to 2.25 mm. long, usually colourless; annual *P. boissieri*

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