Morphological description
A vigorous shrub, strongly ramified from the base, growing to 1 m. high. Greenish, turning yellowish or whitish when dried, glabrous-glaucous, except the leaf axils. The leaves are 4-10 mm., alternate, curved, tapering from a clasping base to a rigid spine, woolly in the axils. The small greenish flowers, located at the base of the leaves (1 to 3), surrounded with a thick layer of white wool, bracts up to 4 mm., are spinescent. Perianth – segments c. 5 mm., linear, subpatulate, obtuse, more or less denticulate at the apex. The fruit is an achene. Flowering takes place in autumn.

Geographical distribution
Local: Fairly common in the northern Algerian Sahara, common in the central Sahara, absent from the high mountains.
Regional: North Africa.
Global: It is a Saharo-sindian species found in North Africa, Nubia, Arabia, Iran and Pakistan (Baluchistan).

Ecology
This hardy shrub favours sandy soil, but grows also on regs with a moderate content of gypsum and salt. The long roots help it survive in harsh climatic condition where the rainfall does not exceed 150 mm.

Status
According to the IUCN criteria this Saharo-sindian species falls into the "C" category. The plant is not threatened and appears on the floristic list of several protected sites listed by the UNEP World Conservation Monitoring Centre.

Part used
The leaves. A decoction of the leaves is taken on an empty stomach.

Constituents
Gallotannins: Monacanthin A and B; Tannins (newly identified) and penta-O-galloyl-α-d-glucose and 1,2,3,6-tetra-O-galloyl-α-d-glucose.
Flavonol glycoside: quercetin-4-O-α-d-galactoside.
Flavonoids: luteolin-7-O-rhamnoside, luteolin-7-O-glucoside.
Triterpenoidal saponins.

Pharmacological action and toxicity
No information was found on the pharmacological action of this plant, while a search on its toxicity appears negative.

Pharmacopeias
Not relevant for this species.

Pharmaceutical Products
Not relevant for this species.

Traditional medicine and local knowledge
It is used for liver problems and jaundice, as a hepatic and a purgative. It is considered excellent pasture for camels, despite the spines on the leaves; it also has a beneficial purgative effect for camels, as well as helping milk production. It is also used as a remedy for scabies. In Morocco, the plant is used for the same purpose (for icterus).
References

Relevant to the plant and its uses

General references