

NANNORRHOPS BALUCHESTANICA (ARECACEAE), A NEW SPECIES FROM SOUTH EASTERN IRAN, BALUCHESTAN PROVINCE

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Nannorrhops baluchestanica is described as a new species from Iranshahr in Baluchestan province. The new species is distinguished from the other Iranian species *N. ritcheiana* by the taller and thicker stems, green-silver leaves, symmetric base of petiole with floccose indumentum on dorsal face, brown bristles (fiber) at base of blade, rounded carples with smooth surface, loose inflorescence, large and light brown fruits and different flowering time. The two species are compared in details.

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Key words: *Nannorrhops baluchestanica*; Arecaceae; new species; Iran

معرفی گونه جدید *Nannorrhops baluchestanica* از خانواده خرما (Arecaceae) از جنوب شرق ایران، بلوچستان

منصوره خداشناس: عضو هیئت علمی مرکز تحقیقات کشاورزی و منابع طبیعی استان کرمان

صدیقه یوسف نعنایی: کارشناس ارشد مرکز تحقیقات کشاورزی و منابع طبیعی استان خوزستان

بهمن پناهی: عضو هیئت علمی مرکز تحقیقات کشاورزی و منابع طبیعی استان کرمان

گونه *Nannorrhops baluchestanica* به عنوان گونه‌ای جدید از شهرستان ایرانشهر در استان بلوچستان نامگذاری و معرفی می‌شود. این گونه با گونه دیگر ایران *Nannorrhops ritcheiana* مقایسه می‌گردد و با داشتن ساقه بلندتر و ضخیم‌تر، برگهایی به رنگ سبز مایل به قره‌ای با قاعده متقارن، با کرکهای آردی، با موهای قهوه‌ای در پایه پهنک، برچه‌های کروی با سطح صاف، گل آذین باز، میوه‌های درشت تر و کروی به رنگ قهوه‌ای روشن و زمان گلدهی متفاوت از گونه مشابه خود *Nannorrhops ritcheiana* جدا می‌گردد.

INTRODUCTION

Nannorrhops belongs to the family Arecaceae including four names and a single accepted species by now. It is a small shrubby perennial palm, native to the Saharo-Sindian region, mainly India, Pakistan, Afghanistan, South and South East of Iran and Arabia. It is locally named Daz or Pork and requires full sunny exposure and can tolerate extreme climatic conditions (- 10 to 50~C) as well as drought (Sadaf 2005). Local people make ropes and baskets from the leaves and continually cut them from the living plants.

The first author have been preparing the draft of Flora of Iran (Arecaceae) during 2011-2014. The studies were based on field observations or herbarium

specimens. According to the knowledge of native people of Baluchistan province *Nannorrhops* species are divided into two groups, locally named DAZ and PORK. Further morphological studies of wild communities in natural habitat approved this idea. Among the specimens collected from Baluchestan province a collection of *Nannorrhops* was interesting which differs from its closest species *Nannorrhops ritcheiana* in some morphological characters. Results of present research showed that these specimens can be regarded as a new species. This new species is described as *Nannorrhops baluchestanica*.

MATERIAL AND METHOD

During 2011-2014 *Nannorrhops* materials of the herbaria were studied and new materials were collected from the field. All the specimens are preserved in the herbarium of Agriculture and Natural Resource Research Center of Kerman province. It was tried to name the specimens by using different Floras: Flora Orientalis (Boissier 1881), Flora of Iraq (Dransfield, 1959), Flora d'I Iran (Parsa 1964), Flora of Pakistan (Malik 1970), Flora Iranica (Moore 1980) and Flora of Turkey (Davis 1984), The specimens were compared with those preserved and named in TARI herbarium, where the duplicates are mostly preserved.

RESULTS AND DISCUSSION

Nannorrhops baluchistanica Khodashenas, sp. nov. (fig. 1)

Shrub with much branched underground rhizome. Stems up to 3.5 m high. Leaves palmate, 85-145 cm long, coriaceous, covered with floccose indumentum in abaxial and glabrous in adaxial surfaces, gradually narrowed toward the base. Hastula absent; petiole 25-55 cm long, 4-5.5 cm broad at the base, concavo-convex, floccose at the base. Leaf blade 60-90 cm long and 100-110 cm broad, palmately divided to the middle or lower into about 12 segments; segments induplicate, deeply bipartite, 44-62 cm long, linear, rigid. Inflorescence erect, slender, compound panicle, 250 cm long and 35 cm wide. Flowers usually one within a bracteole, developing in succession; bracteole white, membranous, with a main and 3-4(5) lateral midribs, broadly ovate, cuspidate, perfoliate; sepals 3 mm long, 2 mm wide, ovate, acuminate, thin, flat, membranous, joined at the base and forming a tube; petals ovate,

calcarate, 5 mm long and 3mm wide, papillate in dorsal face, coriaceous, connate at base; stamens 6, dorsifixed, filaments subulate, anthers 1-1.5 mm long, deeply sagittate; style short; ovary 3 loculate, reddish dark brown, 5 mm long and 4 mm wide, papillate. Fruit elliptic to rounded, 15-20 mm long and 14-18 mm broad, light brown (amber).

Typus: Iran, Baluchestan province, 35 Km from Iranshahr on the road to Chabahar, 1170 m, 20.09.2014, Khodashenas 8651 (holotypus TARI, isotypus herbarium of Agricultural and Natural Resources Research Center of Kerman).

Fl. Per: Spring, April. *Fr. Per:* Summer, August.

Habitat. The new species is restricted on seasonal riverbanks, on sandy soils along with *N. ritchieana*.

This species differs from *N. ritchieana* by having the symmetric petiole in dorsal face, green-silver flaccid leaves with brown bristles (fiber) at base of blade, rounded carpels with smooth surface, loose inflorescence, round and light brown fruits and different flowering time. The two species are compared in table 1. The species was carefully compared with the description of *N. arabica* Burret, a species described from Arabia and continuously regarded as a synonym of *N. ritchieana*. At least the carpels of *N. arabica* was described as *N. ritchieana* type, even if the vegetative characters are comparable. The local name of the new species is Pork and *N. ritchieana* is named Daz. Leaves are used for making various kinds of mats, baskets, fans and brushes; it is used medicinally to cure dysentery and diarrhea. Fruits are used as food and are a valuable source of sugars and vitamins.



Fig. 1. *Nannorrhops ritchieana* (left) triangular, rough and hardy connected carpels and *N. baluchistanica* (right) rounded, smooth and rather distinct carpels.



Fig. 2. *Nannorrhops baluchistanica*. Inflorescence with well developed and, tattered white bracteoles

Table 1. Comparison of morphological characters of *Nannorrhops* species.

| Characters | <i>N. ritchieana</i> | <i>N. baluchistanica</i> |
|--------------------|---------------------------|-----------------------------------|
| Stem | Decumbent | Erect |
| Leaf texture | Thin and smooth | Thick and rough |
| Leaf color | Green | Green to silver |
| Rachilla bracteole | Small, tubular, appressed | Developed, concave, not appressed |
| Bracteole apex | Obtuse | Tattered |
| Carpel shape | Triangular | Rounded- triangular |
| Carpel surface | Rough | Smooth |
| Flowering time | April - May | May- June |
| Fruit diameter | 10- 13mm | 14-18 mm |
| Seed color | Rough, red-brownish | Smooth, brown- grayish |
| Fruit taste | ± Sweet | Bitter |

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REFERENCES

- Boissier, E. 1881: Flora Orientalis, Vol.5: 45-47 and 754. Geneveae and Basileiae.
- Davis, P. H. (ed.) 1984: Flora of Turkey, Vol. 8: 37-41. Edinburgh University Press, Edinburgh.
- Dransfield, J. 1985: Palmae in Townsend, C.C., Guest, E., Omar, S.A., Al-khayat, A.H., Flora of Iraq., Vol. 8: 260- 267. Ministry of Agriculture & Agrarian Reform Republic of Iraq.
- Malik, Kamal A. 1970: Palmae in E. Nasir and S.I. Ali Flora of Pakistan. No. 153, Department of Botany, University of Karachi.
- Moore, Harold J. 1980: Palmae in K. H. Rechinger Flora Iranica. No. 146. –Graz: Akademische Druck-u. Verlagsantalt.
- Palibin, I. V. 1935: Palmae in V.L. Komarov Flora of the U.S.S.R. Vol.3: 464-478. Leningrad.
- Parsa, A. 1964: Flora d'I Iran. Vol. 4. Ministry of Science and Higher Education of Iran, Tehran.