

## COELACHYRUM BREVIFOLIUM, AN ANNUAL GRASS REPORT FROM BALUCHESTAN, IRAN

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During the study of the plants collected from South-East Iran (Baluchestan), a specimen was identified as *Coelachyrum brevifolium* which is reported as a new record to the flora of Iran. The genus was previously known with one species (*C. piercei*) in Iran. Unlike *C. piercei*, the species is an annual plant. Morphological characteristics, habitat, images, distribution map and identification key to the species of the genus in Iran are presented.

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**Key words:** Poaceae; *Coelachyrum*; new record; flora; Iran

گزارش گراس یکساله به نام *Coelachyrum brevifolium* از بلوچستان ایران

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طی مطالعه گیاهان جمع‌آوری شده از جنوب شرق کشور (بلوچستان)، نمونه‌ای تحت نام *Coelachyrum brevifolium* شناسایی گردید. از این جنس تا بحال تنها *C. piercei* از ایران گزارش شده است و این گیاه به عنوان گزارش جدید برای فلور ایران معرفی می‌گردد. گیاه مذکور برخلاف *C. piercei* دارای شکل رویشی یکساله می‌باشد. خصوصیات مورفولوژیکی، رویشگاه، تصاویر، نقشه پراکنش به همراه کلید شناسایی گونه‌های این جنس ارائه می‌شوند.

### INTRODUCTION

*Coelachyrum* Hochst. & Nees of tribe *Eragrostideae* Stapf has about 6 species in the world (Cope 1982) of which recently *C. yemenicum* (Schweinf.) S.M. Phillips has been transferred to *Disakisperma* Steud. (Snow & al. 2013). The genus distributes from Northeast Africa, Arabia to Pakistan and grows on sand dunes in semi desert regions.

Plants of the genus *Eragrostis* Wolf are similar to *Coelachyrum* but these two genera are recognized by their seed characters. These two genera are recognized for caryopsis characters (caryopsis surface is smooth or striate to reticulate in the first and rugose in the latter).

Bor (1970) reported *C. piercei* (Benth.) Bor from Pakistan. Assadi & Runemark (1983) collected a specimen from Baluchestan, Chabahar which was the first report of the genus under *C. piercei* from Iran. *Coelachyrum brevifolium* unlike *C. piercei* is an

annual plant and smaller in all parts. In recent collection from Baluchestan Province, a specimen was identified as *C. brevifolium* which is reported for the first time from Iran. Also, morphological characters, habitats and distribution map of species are provided. *Coelachyrum* species are compared with each other. Collecting data for the new record and new localities for *C. piercei* as well as a determination key for this genus are provided.

### MATERIAL AND METHODS

The studied materials are collected from Baluchestan Province and are deposited in IRAN herbarium. The specimens were identified using different flora and monographs, which have been presented in text and references.

### RESULT AND DISCUSSION

*Coelachyrum brevifolium* Hochst. & Nees, Linnaea

16: 221 (1842).

Syn.: *Eragrostis coelachyrum* Benth., Hooker's Icon. Pl. 14: t. 1368 (1881), nom. superfl.

Annual, laxly caespitose, 15 to 20 cm long. Stem geniculately ascending or decumbent, with 1-2 nodes. Leaves 1-3; sheaths opened to the base, 1.5 to 2.5 cm long, nerved, green; ligule an eciliate membrane; blades 2.5-5 cm long and 2-3 mm wide, surface smooth and glabrous, with prominent nerves on surfaces, apex attenuate. Inflorescence composed of 2-4 subdigitate racemes on a short axis, unilateral, 1.5-3 cm long, the axis sinuate, the spikelets sessile or with peduncle to 1 mm and closely overlapping. Spikelets broadly ovate, solitary, 3.5-4 mm long, with 6-8 flowers, ovoid, laterally compressed, disarticulating below each floret; glumes persistent, shorter than spikelet, membranous; lower glume 1-nerved, 1.5 mm long, ovoid, obtuse; upper glume 3-nerved (lateral veins not reach the top), 2 mm long, ellipsoid, acute; lemma broadly elliptic to subrotund or orbicular, 1.5-2 mm long, 3-nerved, lateral veins prominent, hairy, obtuse, broadly rounded to truncate, mucronate; palea orbicular, almost equal or slightly shorter than lemma, ca. 1.5 mm long, 2-nerved, hairy, keels smooth and eciliate. Anthers 0.5 mm long. Caryopsis orbicular or reniform, concave-convex, 1 mm long, rugose, brown. (Figure 1).

*Specimens examined*: Baluchestan: 150 km Chabahar to Jask, 56 m, 20.04.2017, Amini Rad & Bahramishad (73509-IRAN).

*Habitat*: Sandy dunes.

*Geographical distribution*: Tropical Africa, Egypt, Arabia and Iran.

*Notes*: It is a rare plant in our area and its growth may have been due to the recent good rainfalls in the area. In recent decades, the amount of rainfall was too low and thus it seems that many of the therophytic plants were not able to continue the life cycle, in contrast, perennial plants could grow in low rainfall condition. It is thought that more new therophyte plants may also be found. *Coelachyrum brevifolium* had been reported from Egypt and Arabian peninsula and recent collection showed that SE. Iran is the easternmost area of distribution of the species (Map 1).

*Coelachyrum piercei* (Benth.) Bor, Kew Bull. 7: 226 (1952).

Syn.: *Eragrostis piercei* Benth., Hooker's Icon. Pl. 14: tab. 1370 (1881).

*Examined specimens*: Hormozgan: Between Dezhgan

and Bandar Lengeh, 5 km S.E. Bandar Moallem, 16.02.1975, Iranshahr & Termeh (29170-IRAN); 166 km Bandar-e Abbas to Bandar-e Lengeh, 8 m, 19.04.2009, Amini Rad & Torabi (53726-IRAN). Baluchestan: 20 km Chabahar to Jask, 26.04.2008, Amini Rad & al. (51918-IRAN); 35 km Chabahar to Guatr, 27.04.2008, Amini Rad & al. (51913-IRAN); Chabahar, 19.03.1971, Movassagh (51917-IRAN); 110 km Chabahar to Jask, 12.04.2010, Amini Rad & Torabi (57986-IRAN); 15 km Konarak to Jask, 12.04.2010, Amini Rad & Torabi (57985-IRAN); Konarak, Air force station, 10-20 m, 22.11.1982, Mozaffarian (39966-TARI); Chabahar, 0-5 m, 09.03.1977, Runemark, Assadi & Sardabi (22510-TARI).

Although Assadi & Runemark (1983) reported the species based on one locality, but recently, more localities have been found for the species and showed that it is distributed from west of Hormozgan province to east of Baluchestan. (Map 1).

#### Identification key for *Coelachyrum* species in Iran:

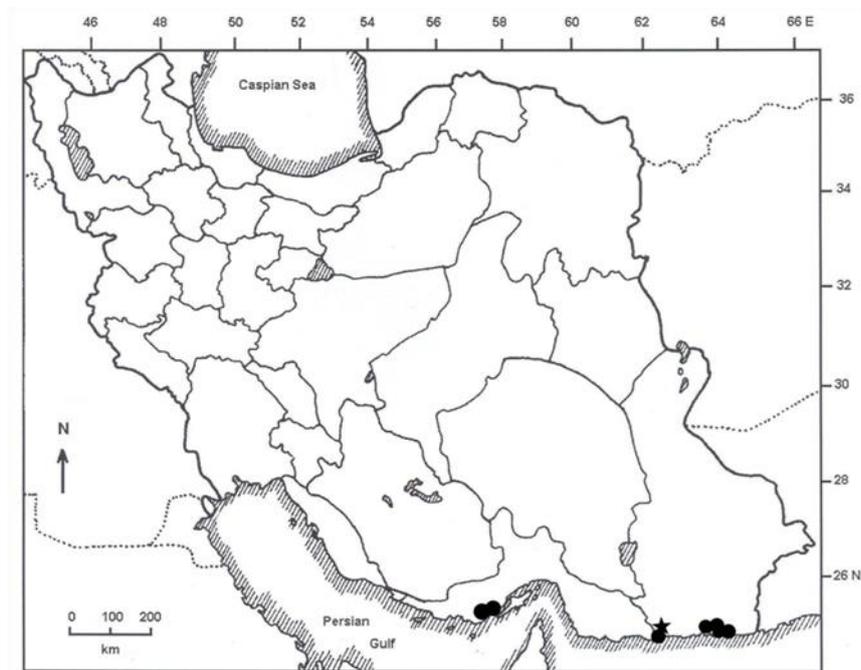
- 1- Plant annual, without rhizome; spikelets 3.5-4 mm long; lemma 1.5-2 mm *C. brevifolium*
- Plant perennial, rhizomatous; spikelets 5-6.5 mm long; lemma 2.7-3 mm *C. piercei*

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Map 1. Distribution map of *Coelachyrum* species: ★ *C. brevifolium*; ● *C. piercei*.

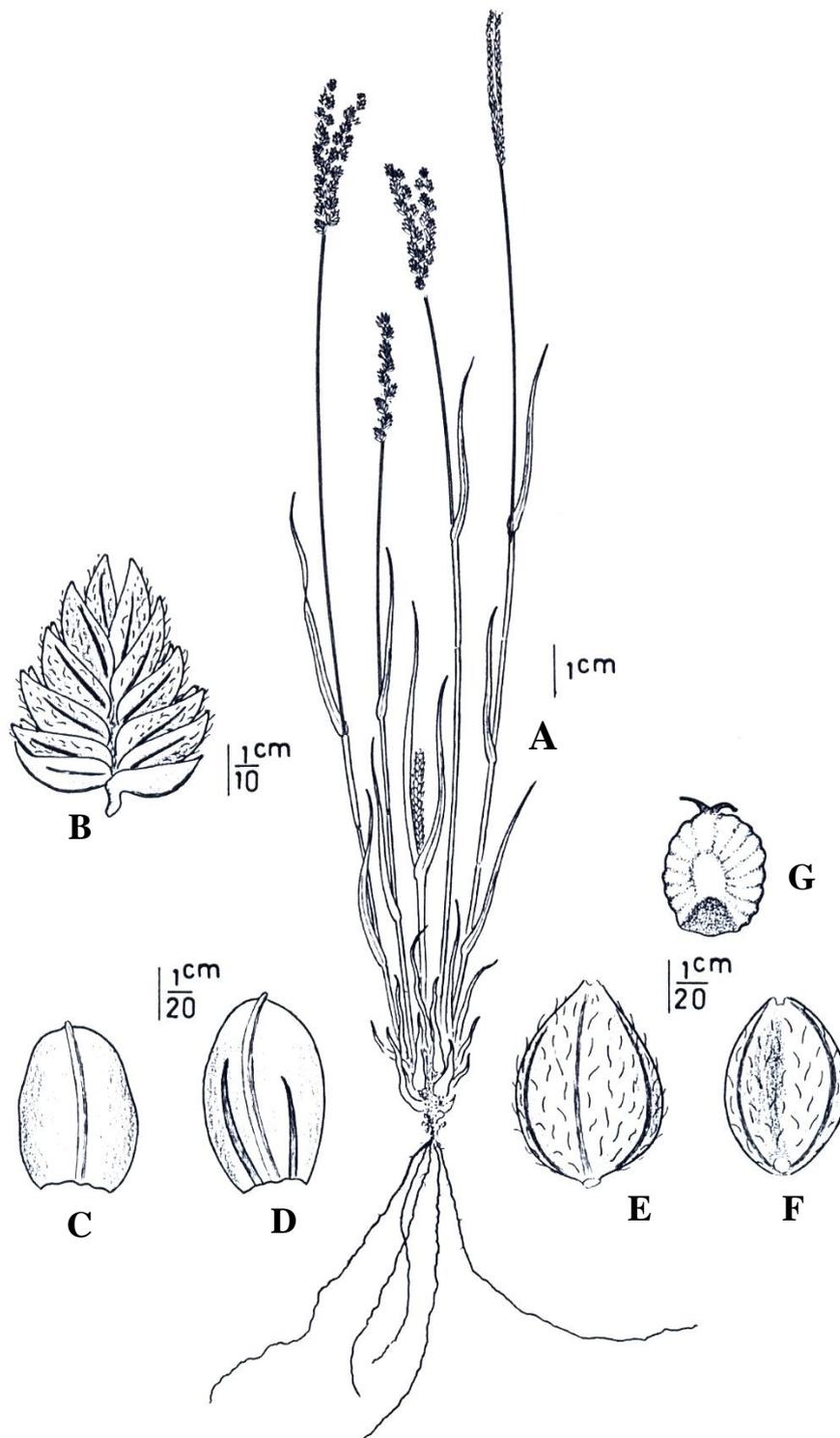


Fig. 1. Illustration of the *Coelachyrum brevifolium*: A, Habit; B, spikelet; C, lower glume; D, upper glume; E, lemma; F, palea; G, caryopsis.