

Rotala mexicana, an addition to the flora of Gujarat, India



Rotala mexicana Cham. and Schlecht.: a—habitat | b—habit. © S.K. Patel & P.R. Desai.

The genus *Rotala* L. with more than 55 species is distributed in tropical and subtropical regions of the world (Cook 1979) of which 29 species are reported so far from India (Narayanan et al. 2014). Lemiya & Pradeep (2015) recently described one more species *Rotala anamika* Lemiya from Kerala. The authors during their intensive botanical explorations in various parts of northern Gujarat came across an interesting specimen of *Rotala* at the plain terrain in Vijaynagar near Zer-Bhankhara forest of Sabarkantha District on soil following rain. It is restricted to a limited area with 6–8 individuals per square meter. The population distribution of the species is clumped. Specimens

were collected and properly processed for preparing herbarium by using the standard methods recommended by Santapau (1955) and Jain & Rao (1977). After critical examination of all morphological features and perusal of relevant literature available (Cook 1979; Joseph & Shivrajan 1989; Lemiya & Pradeep 2015), the specimens were identified as *Rotala mexicana* Cham & Schlecht. Prior to this finding, there were four species of *Rotala* reported from Gujarat. *Rotala mexicana* was not recorded in any work pertaining to Gujarat. Hence, it forms a new addition to the flora of Gujarat State. A voucher specimen has been deposited at the Department of Botany, The M.S. University of

Baroda, BARO Herbaria, Vadodara (Gujarat). A brief description along with notes on habitat, distribution, phenological data, and photographs is provided here to facilitate easy identification of the species in the wild. In addition, a key to the species of *Rotala* found in Gujarat has also been provided.

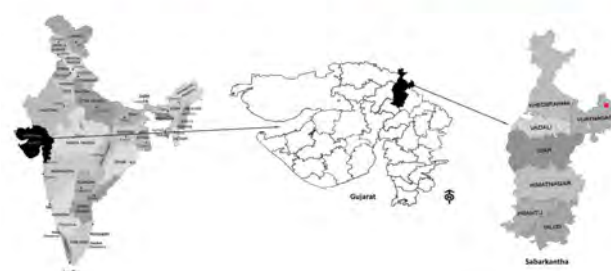
Key to the species of *Rotala* found in Gujarat

1. Leaves opposite decussate, flowers petaliferous 2
1. Leaves opposite decussate or in whorls of 3, flowers apetalous 4
2. Calyx appendages present *R. densiflora*
2. Calyx appendages absent 3
3. Calyx tube constricted above; petals longer than calyx lobes *R. serpyllifolia*
3. Calyx tube not constricted; petals half as long as calyx lobes *R. indica*
4. Bracteoles leaf-like, partly or completely enclosing the flower *R. occultiflora*
4. Bracteoles scarious, not enclosing the flower *R. mexicana*

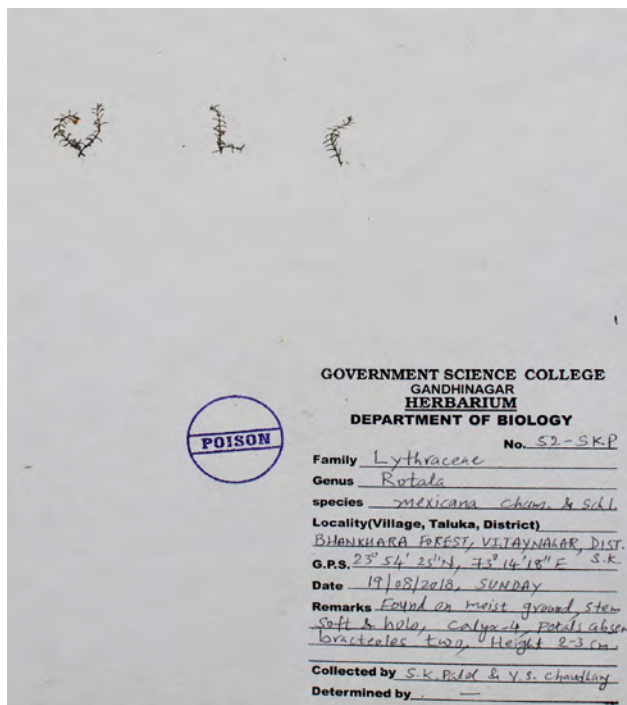
Rotala mexicana Cham & Schlecht., Linnaea 5: 567, t. 830; Koehne, Bot. Jahrb. 1: 150. 1880 & in Engl., Pflanzenr. 17 (4, 216): 29. 1903; Blatt & Hallb., J. Bombay Nat. Hist. Soc. 25: 702. 1918; Van Leeuwen, Blumea 19: 54. 1979; Cook, Boissiera 29: 33. 1979; Philcox, Kew Bull. 41: 43. 1986.

Prostrate herbs, 2–3 cm long, stem soft, hollow, branched, slender, 4-angled, creeping or ascending, rooting at nodes. Leaves in whorls (3 on each node) or opposite

decussate in upper portion, linear-oblong. Bracts leaf-like. Bracteoles two, linear, scarious, not enclosing the flower, usually as long as calyx tube. Flowers monomorphic, apetalous, solitary, axillary, sessile, less than 1mm long. Calyx tube 0.6mm long, pink, lobes 4, triangular, without appendages. Petals absent. Stamens usually 2, inserted near the base of calyx tube, not exerted. Ovary globose; style short; stigma capitate. Capsule globose, ca. 0.8mm across, 2–3-valved, slightly exceeding the calyx lobes. Seeds 10–18, 0.3mm long, smooth, black, semi-obovate.



Map showing location of *Rotala mexicana* Cham. and Schlecht.



Herbarium sheet of *Rotala mexicana* [#SKP - 052].

Specimen examined: SKP-52, 19.viii.2018, Gujarat, Sabarkantha District, Vijaynagar, Zer-Bhankhara forest, 23.906°N & 73.238°E, 293m, coll. Suresh K. Patel (BARO Herbarium).

Field notes: It is found on wet mud following rain with limited distribution in the area. Several species seem to be associated with the plants including *Funaria* sp., *Ophioglossum* sp., *Eriocaulon* sp., *Lindernia ciliata*, *Lindernia indica*, *Cyperus triceps*, and grasses. It is very short lived and completes its life cycle within 30–35 days.

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