



## Genus *Corchorus* represent in Ahmedabad City, Gujarat, India

### KEYWORDS

*Genus Corchorus*, Family Tiliaceae, Ahmedabad city, Gujarat state.

### Dr. Tushar Parmar

Assistant Professor in Botany, Department of Biology, Gujarat Arts & Science College, Ellis-Bridge, Ahmedabad-15, Gujarat, India

**ABSTRACT** *Ahmedabad is situated in Central Gujarat, it is a largest city of Gujarat state located on Sabarmati river. The herbaceous diversity is highly diversified in vegetation and has rich number of floristic composition due to topography, climate and edaphic factors which are favourable for such luxurious vegetation. Present paper deals with the synoptically analysis of the genus Corchorus belong to family Tiliaceae. It further compares the data with Flora of Gujarat state (G.L.Shah 1978), Flora of Ahmedabad (B.S Vaidya 1967), Flowering Plants of the Gujarat University campus and surroundings, Ahmedabad (S.M.Pandya 1972).*

#### Introduction:

Herbaceous diversity has acquired increasing importance in recent years in response to need of developing and under developing urban areas to assess their plant wealth. Here prepared with a view to incorporate data on the synoptic analysis and comparison of the genus *Corchorus* belongs to Family Tiliaceae in Ahmedabad city.

Ahmedabad is situated in Central Gujarat; it is a largest city of Gujarat state. It lies between 22°55' 35°36' and 23°07' 51°44' North latitude and 72°28' 41°95' and 72°41' 19°59' East longitudes. The North side of the city is bounded by Kalol and Gandhinagar talukas of Gandhinagar district. North-East by Dahegam taluka of Gandhinagar district and South of City taluka of Ahmedabad district and the West side by Sanand taluka of Ahmedabad district. Ahmedabad the district headquarters was also the state's capital from May 1960 to May 1970.

The Ahmedabad municipal corporation declared the city as megacity and built up Sardar Patel ring road on periphery of the city. Except the peripheral agricultural land, rest part is the city area. It covers 10,000 square kilometer and circumference of the Sardar Patel ring road is 70 kilometer. As per census of 2001 approximate population of the city is 61, 67,589.

Saxton and Sedgwick (1918 and 1922) studied the plants of North Gujarat. Sutaria (1958), Gandhi (1958), Vaidya and Vora (1964), Vaidya (1967), Pandya (1972), Patel (2010) carried out Floristic study in Ahmedabad. The area has been eroded which might be owing to the proliferation of human activities in these areas. The present paper is there for based on fresh field work carried out during the year 2010 with a few frequent observations in city and vicinity of Ahmedabad city to incorporate data on the genus *Corchorus* belongs to family Tiliaceae.

#### Methodology

##### Literature survey

Literature screening can be categorized into botanical and non-botanical lines. Various floras, publications on economic botany, relevant journals etc. were consulted to spot out local uses of plants by peoples in the study area.

Books and journals of the fields of Anthropology, Sociology and Ethnology, Historical accounts, Government re-

ports, Census publications, Gazetteers etc., were the non-botanical works screened. Website: <http://www.ahmedabadcity online> were also used as source of data.

Some good floristic works on the area by Saxton & Sedgwick (1918-1922), Sutaria (1948), Gandhi (1958), Vaidya & Vora (1964), Vaidya (1967) and Pandya (1972) have been used.

#### Field work

The result embodied in this work based on collections 2009 to 2010 through well planned explorations in these areas. Number of extensive explorations of 10-20 days duration each, were made in different areas of Ahmedabad city with emphasis on intensive rather than extensive explorations. Field work was carried out in all seasons with more frequency during rainy season, so that nothing escapes of the herbaceous ephemeral flora appearing in that season. During collection trips plants were collected in different developmental stages and exhaustive field notes were taken. Different characters such as, habit, habitat, abundance, color and fragrance of the flower, etc. were noted in the field diary from time to time. The areas explored were divided into smaller sectors, because my emphasis was on intensive rather than extensive explorations. During explorations of different species of genus *Corchorus* in different stages of development were collected and identified by dissecting the floral parts and confirmed with (local floras). The help of Floristic key of Cooke (1908) and Shah (1978). As far as possible local names of the plant were confirmed by showing actual specimens to the local people who know much about them.

#### Laboratory work

All the collected samples were properly processed for herbarium by using the standard herbarium methods recommended by Santapau (1955), Jain and Rao (1976). All the specimens were critically examined in the laboratory under light microscope and identified with the help of the state or the regional floras and other authentic literature on taxonomy available in the university library. The identification was finally confirmed by matching with the help of authentic herbarium specimens available at S.P. University Herbarium, Vallabh Vidyanagar and Saxton & Sedgwick Herbaria, Gujarat College, Ahmedabad. After the identification was confirmed, all the herbarium sheets were labeled and arranged according to Bentham & Hooker System.

Analysis and presentation of data

Artificial keys generated for the identification of Genus *Corchorus* and its species of the family Tiliaceae with reference of Flora of Gujarat state (Shah 1978).

The nomenclature adopted in the present work is the one used in authentic taxonomic literature with the rules of international code of Botanical Nomenclature 1967. Description is given for each species. Each species is provided with a valid name with reference to its original publication followed by bisynonym, if any chronologically arranged synonyms which have been encountered in recent monographs and previous works on Flora of Gujarat (Shah, 1978). Floristic description is followed given by Shah, (FGS). Cooke, (FPB).Hooker,(FBI). in their respective literature. Those page numbers of each species is given after author citation. Local name(s) wherever possible are also given in capitals within bracket after citation separated by single space. Short and diagnostic description of the species is given with paragraph after local name. A note follows it on the flowering and fruiting period, exsiccate provided with herbarium specimen number and its localities.

#### Abbreviations used

In the paper author has used following short of some name and words, they are given in full forms detail as under,

NAP Naileshbhai A. Patel  
 FBI Flora British India  
 FGS Flora of Gujarat State  
 Fls. Flowering Season (Months)  
 FPBFlora of Presidency of Bombay  
 Frs. Fruiting Season (Months)  
 Sp. Species  
 Syn. Synonymous

#### Observation:

Following are the keys for family, genus and species:

#### TILIACEAE

Key to genera

1. Fruits elongate, petals without gland at base .....*Corchorus*
1. Fruits not elongate, petals with a gland at base
2. Fruits unarmed nuts or drupes, shrubs or small trees .....*Grewia*
2. Fruits spiny nuts, herbs .....*Triumfetta*

#### *Corchorus* L.

Key to species

1. Capsule depressed globose, warty, without beak, valves woody .....*C. capsularis*
1. Capsule longer than broad, beaked, beak entire or 3-parite valves
2. Capsule angular:
  3. Capsule winged, beak trifid .....*C. aestuans*
  3. Capsule not winged, beak entire .....*C. trilobularis*
  2. Capsule cylindrical or linear-cylindrical:
    4. Beak entire:
      5. Capsule 4-7.5 cm long, 10 ribbed .....*C. olitorius*
      5. Capsule less than 4 cm long, not ribbed .....*C. fascicularis*
      4. Beak divided .....*C. tridens*

#### 1) *Corchorus aestuans* L. (CHUNCH, CHHADAHART CHUNCH)

FGS 1:126; FPB 1:160; FBI 1:358; NAP:53; TDP: 1

Syn. *Corchorus acutangulus* Lam.

50-90 cm tall annual herbs, suffrutescent. Leaves 2.2-7.0 x 0.8-2.6 cm petiolate, broadly ovate, acute, serrate, appendages present, sparsely hairy. Flowers yellow, solitary, leaf opposed cymes or extra-axillary. Sepals linear-oblong, apiculate. Petals spatulate. Capsules 1.0-2.5 cm long, 6-winged; beak 3-fid, each segment again 2-fid, tips recurved. Seeds brownish black, angular truncate.

#### Fls & Frs : Aug.-Dec.

Field notes: Common weed on open land everywhere in city and surrounding area.

#### 2) *Corchorus capsularis* L. (BORCHHUNCHI)

FGS 1:127; FPB 1:157; FBI 1:397; NAP:54; TDP: 2

40-200 cm tall, erect, glabrous herbs or underherbs. Flowers yellow, axillary or extra-axillary, solitary or 2-3 fascicled. Capsule 0.6-1.5 cm across, green, black on drying, warty. Seeds wedge-shaped, smooth, glabrous, deep-brown or blackish-brown.

#### Fls: Aug.-Oct. Frs: Sep.-Dec.

Field notes : Frequent near Chharodi near Narol canal.

#### 3) *Corchorus fascicularis* Lam. (CHHUNCHHDI)

FGS 1:127; FPB 1:159; FBI 1:398; NAP:55; TDP: 3

Diffuse herbs, woody at base, with 10-30 cm long, densely pubescent in younger parts. Leaves 1.5-5.5 x 0.5-1.5 cm, elliptic-oblong or ovate-oblong, nearly glabrous. Flowers yellow, in axillary, extra-axillary or leaf-opposed fascicles. Capsule 0.9-1.5 cm long, pubescent, shortly beaked, 3-valved. Seeds angular, cuculate, black, smooth.

#### Fls & Frs: Aug.-Jan.

Field notes : Frequent near Khoraj and Ognaj village.

#### 4) *Corchorus olitorius* L. (CHHUNCHHUDDO)

FGS 1:128; FPB 1:158; FBI 1:397; NAP:56; TDP: 4

Annual herbs upto 100 cm tall. Leaves 3.3-10.8 x 2.1-5.4 cm, ovate to ovate-lanceolate, glabrous, serrate, rounded at base, filiform, appendage one on each side at base, stipules triangular. Flowers yellow, solitary, bractate. Pedicels 1-3, short, axillary or extra-axillary. Sepals oblong, pointed. Petals oblong-spatulate. Stamens many. Capsules long up to 3.5-5.6 cm, cylindrical, erect, glabrous, 4-5 valved. Seeds angular, black, trigonous, smooth, glabrous.

#### Fls : Aug.-Nov. Frs : Up to Feb.

Field notes : Common weed on open land everywhere particularly agricultural land.

#### 5) *Corchorus tridens* L.

FGS 1:128; FPB 1:159; FBI 1:398; NAP:57; TDP: 5

Annual, erect or suberect, 30-100 cm. tall slender herbs. Leaves 5.8-8.6 x 0.8-2.5 cm. linear, oblong, ovate-oblong or lanceolate, crenate-serrate. Petioles 0.8-1.0 cm. long. Flowers yellow, sessile or subsessile leaf-opposed solitary or 2-4 fascicled Sepals 4-5, linear-oblong, apiculate. Petals 4-5, obovate-oblong. Stamens numerous. Capsules 1.3-4.0 cm. long, glabrous, slender, linear-cylindrical, 3-valved, beak 3-fid. Seeds truncate black.

#### Fls & Frs : Aug.-Dec.

Field notes : Rare near Ognaj village and near Kathvada village.

#### 6) *Corchorus trilocularis* L.

FGS 1:128; FPB 1:158; FBI 1:397; TDP: 6

Annual or perennial, 20-50 cm tall, patently hairy herbs. Leaves 1.5-10.5×0.8-1.4 cm, ovate-oblong, elliptic-oblong or elliptic-lanceolate, glabrescent or nearly so. Flowers yellow, solitary or 2-3-fascicled, leaf-opposed, axillary or extra-axillary. Capsule straight or slightly curved, 3-4gonous, glabrous. Seeds lead black, smooth, trigonous, truncate.

#### Fls & Frs : July.-Dec.

Field notes : Rare near Dastane-hayat Farm Kathvada.

#### Result and Discussion:

During present study 6 species of *Corchorus* has been recorded from Ahmedabad city. While in previous observation done by G.L Shah (1978) 8 species of genus *Corchorus* had been recorded from different parts of Gujarat state. However, Pandya (1972) recorded 5 species of *Corchorus* from Gujarat University campus and its surrounding and Vaidya B.S.(1967) recorded 5 species of *Corchorus* from Ahmedabad city.

*Corchorus trilocularis* L. has been recorded for the first time from the Ahmedabad city

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