Journal Homepage: - www.journalijar.com
INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)
Article DOI: 10.21474/IJAR01/4724
DOI URL: http://dx.doi.org/10.21474/IJAR01/4724
ISSN NO. 2320-5407

RESEARCH ARTICLE

OSBECKIA WALKERI Arn. (MELASTOMATACEAE): A NEW RECORD FROM SOUTHERN WESTERN GHATS, INDIA.

Amitha Bachan K.H[1] and A. K. Pradeep[2].

1. Research & PG Department of Botany, MES Asmabi College & Western Ghats Hornbill Foundation, Kodungallur, Thrissur, Kerala- 680671, India.
2. Department of Botany, University of Calicut, Calicut University P.O., Kerala-673635, India.

Manuscript Info

Manuscript History

Received: 4 May 2017
Final Accepted: 6 June 2017
Published: July 2017

Key words:-
Osbeckia walkerii, Melastomataceae, Southern Western Ghats, Parambikulam

Abstract

Osbeckia walkeri Arn. (Melastomataceae) reported for the first time from India. The species was considered endemic to Sri Lanka and this report from Parambikulam, Anamalai part of Southern Western Ghats, Kerala, India extents its distribution to the Southern Western Ghats. This was collected during an exploration to study riparian and streamside flora of the Chalakkudy River Basin within Anamalais. The herbarium specimens were prepared and deposited at Calicut University Herbarium (CALI). Detailed description, illustration and relevant note on the species are provided.

Introduction:-

The genus *Osbeckia* L. consists of ca. 100 species distributed in Tropical Africa to Australia (Mabberley 2008). Hooker (1879) described 26 species from the Indian subcontinent including 11 from South India, 6 from Sri Lanka and one species with distribution to South India and Sri Lanka. Gamble (1919) treated 20 species of *Osbeckia* from South India. Detailed description of 31 Asian species under the genus was provided by Hansen (1977). Most of the species of the genera confined to India (16) and Sri Lanka (10) and other countries represent less than six species (Hansen 1977). The genus is known to have 14 species in Kerala of which nine species are endemic to Southern Western Ghats (Sasidharan 2004 & 2012).

Materials and Methods:-

The specimen was collected during exploration of riparian and streamside flora of the Chalakkudy River basin within Anamalais at an elevation of 1100m from Vengoli peak, Parambikulam Tiger Reserve. Specimens were collected and processed as per the procedures given by Jain and Rao (1977). The specimens were examined thoroughly and detailed description and illustrations were prepared. The specimen was compared with it type (Thwaites 1571) The species was considered endemic to Sri Lanka (Hansen 1977) and it was not reported from the Indian region (Hooker 1879, Gamble 1919, Hansen 1977, Sasidharan 2004 & 2012). The present collection extents its distribution to the Anamalai part of Southern Western Ghats, India.

Taxonomic treatment:-

Osbeckia walkeri Arn.

Osbeckia walkeri Arn., Companion Bot. Mag. 2: 309. 1837; Hansen, Ginkgoana 4: 93. 1977. *Asterostoma walkeri* (Arn.) Blume, Mus. Bot. Lugduno-Batavum 1: 50. 1849*; Osbeckia walkeri* var. *bechetii* Cogn. In A. et C. DC.,

Corresponding Author:- Amitha Bachan K. H.
Address:- Research & PG Department of Botany, MES Asmabi College & Western Ghats Hornbill Foundation, Kodungallur, Thrissur, Kerala- 680671, India.

Mongr. Phan.7: 315. 1891, non Triana 1872. *Osbeckia buxifolia* var. *bechetii* Trim. J. Ceylon Branch Roy. Asiat. Soc. 9: 34: 1885 (*nom. nud*.), Fl. Ceylon 2: 196. 1894; *Osbeckia beckettii* (Trim.) Alston. Trim. Fl. Ceylon 6. Suppl. 121. 1931.

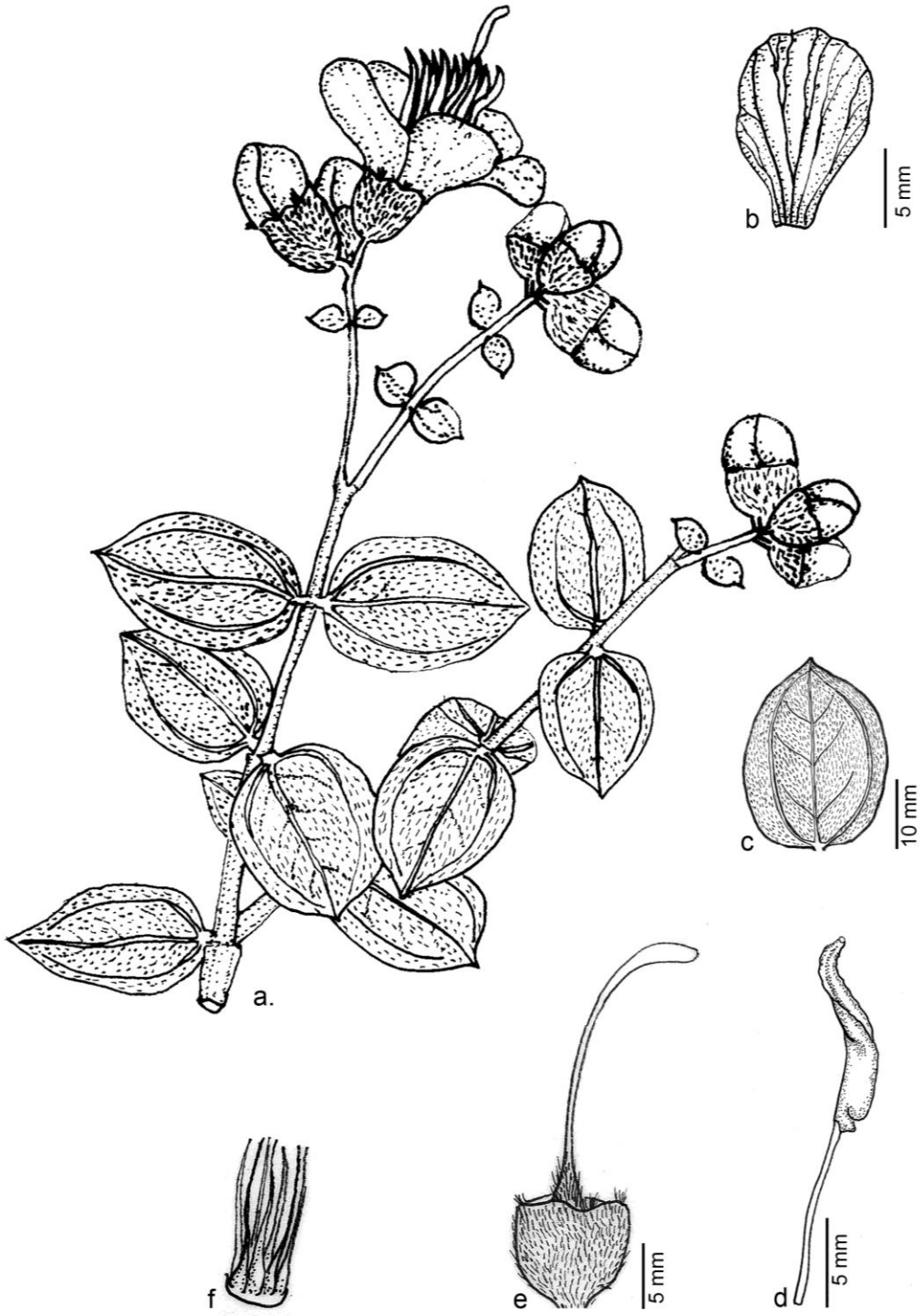

Fig 1:- *Osbeckia walkeri* Arn. a. Flowering Twig, b. Petal, c. Single leaf, d. Single stamen showing twisted anther, e. Hypanthium cup with Gynoecium, f. intersepalar emergences.

Erect branched shrubs to 150cm high with a more or less brownish indumentum all over. Young branches densly hairy; hairs ascending to patent to apressed. Petiole 1-3mm long, Lamina broadly elliptic, rarely ovate or obovate with slightly revolute margin, 8-30 x 6-15 mm; broadly obtuse to acute at base, acute to narrowly acuminate at apex, 3-nerved from base, well developed apressed short hairy at upper side and less dense patent, long thin hairy underside; lines of crystalliferous cells not distinct above and absent or few beneath. Flowers 5 merous, terminal, one or few together, subtended, sometimes very closely, by two or three pairs of leaves, when closely upper pairs reduced to semi bracts, no other bracts observed. Pedicel 2-3 mm long in flower and upto 5mm long in fruit; hypanthium to 5-7 x 5-6 mm, covered with few and much reduced bristles emergences few; inter sepalar emergences terete, apressed hairy, 1.5-2.5mm long, ending in an inconspicuous tuft of hairs, hypanthium covered by inflexed and bulbous bristles. Sepals 7-8 mm long, soon narrowed in to a narrowly triangular lobe with acute apex, 1-nerved, ciliate and apressed hairy on back, deciduous, Petals obovate, 15-22mm long, pink, ciliate on outer half. Stamens 10; filaments 7-9mm long, equal; anthers yellow, narrowly ovate, twisted 6-9.5mm long, beak 1-1.5 mm long, pore oblique on ventral side of the apex. Connective prolonged in to a distinct collar with two dorsal tubercles or two smaller and two larger ventral lobes. Ovary united to half of the hypanthium cup; free part of the ovary densely covered with apressed and bulbous hairs. Fruit to 8-10 x 7-8 mm, ovary as long or slightly longer than the hypanthium.

Flowering and Fruiting: November- March
Habitat: Grows on wet rocks in open stream side vegetation at hill tops in an evergreen to moist deciduous forests at an elevation of 1100m.

Distribution: Sri Lanka and the present study shows and extended distribution of the taxon to Anamalai part of Southern Western Ghats of India.

Specimen examined: Amitha Bachan 98943 (CALI), at Vengoli peak-Parambikulam., Thwaites 1592 (Holotype) Herb. Mus. Paris.

Note. *Osbeckia walkeri* is charectrised by 3-nerved small more or less hairy leaves, twisted anthers and absence of emergences on the hypanthium. It is related to many species with twisted anthers like *O. gracilis* but differs distinctly with the dense apressed indumentum on the hypanthium. In general *O. walkeri* resembles *O. buxifolia, O. lanata* and *O. rubicunda* var. *hakgalana*. But it can be clearly differentiated from *O. buxifolia* and *O. lanata* with the twisted anthers and the well developed indumentums on the upperside of the leaf. It also differs from O. buxifolia with the absence of emergences. It differs from *O. rubicunda* var. *hakgalana* for being leaves strictly 3 nerved from base.

Acknowledgment:-

The authors are thankful to Mr. V. Gopinathan former PCCF (Wl), Mr. Snjayan Kumar IFS, former Deputy Director, Prambikulam Tiger Reserve and other staffs of Kerala State Forest Department for granting permission to carryout research in the forests. Mr. Vijyan Malaya tribe and Mr. Manikkaraj Kadar tribe for the field support, other staff and members of the Western Ghats Hornbill Foundation for various help. The first author would like acknowledge the financial support from Sunya Foundation Ahemedabad and CEPF-ATREE Western Ghats Small Grants for carrying out this work.

References:-

1. Airy-Shaw H.K. (1973) *Willis dictionary of flowering plants and ferns*. Cambridge Univ. Press, Cambridge. 832 pp.
2. Gamble J.S. (1919) *Flora of Presidency of Madras*. Vol. 1, Bishen Singh and Mahendrapal Sing., New Delhi.
3. Hansen C. (1977) The Asiatic species of Osbeckia (Melastomataceae). *Ginkgoana*. Contributions to the flora of Asia and the Pacific region. 4. Academic Sci. Book.
4. Hooker J.D. (1879) *The Flora of British India.* Vol. 2. L. Reeve & Co., Ashford, Kent.
5. Jain, S.K. and R.R. Rao (1977): *A Handbook of Field and Herbarium Methods.* Today & Tomorrow, New Delhi.
6. Mabberley, D. J. (2008) *Mabberley's Plant Book–A Portable Dictionary of Plants, their classification and uses.* Cambridge University Press, UK.
7. Sasidharan (2004) *Flowering Plant: Biodiversity Documentation for Kerala Part-6.* Kerala Forest Research institute.
8. Sasidharan (2012) Flowering Plants : CD Rom Version 2. Kerala Forest Research institute