

1 Botanical Standardization of the Embeli Ribes Burmf & 2 Possibilities of Species Substitute

3 Syed Asadulla¹, Ramandang² and Rajasekharan³

4 ¹ CNK.Reddy.(Oxbridge) College OF PHARMACY

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6

7 **Abstract**

8 EmbeliaribesBURM. F. is an important drug of Ayurveda. Which is considered as multi
9 remedies *with wide* group of Active consistents. Isolated from the berries. Because of High
10 Commerce, Traders, are subjected to 26 species of substitution, a detailed botanical
11 investigation with macro & microscopical comparison with the drug used under the name of
12 VIDANGA. Therefore the present study is an attempt to establish macro & Microscopic
13 characteristic of E.R. as well as to Distinguish the species in Chart.

14

15 *Index terms—*

16 **1 Botanical Standardization of the Embeli Ribes**

17 Burmf & Possibilities of Species Substitute Syed Asadulla ? , Ramandang ? & Rajasekharan ? Embeliaribes-
18 BURM. F. is an important drug of Ayurveda. Which is considered as multi remedies *with wide* group of Active
19 consistents. Isolated from the berries.

20 Because of High Commerce, Traders, are subjected to 26 species of substitution, a detailed botanical
21 investigation with macro & microscopical comparison with the drug used under the name of VIDANGA.

22 Therefore the present study is an attempt to establish macro & Microscopic characteristic of E.R. as well as to
23 Distinguish the species in Chart. Great emphasis is laid on the most diagnostic characters by which each parts
24 of the plant was identified particularly with the macro biological group to which it belongs as in Table ??o.1,
25 of fruit collection and genuine and substitution (Table ??o. 2) which gives the value in distinguishing features
26 between species of fruits(berries). As the leaf is first cleared in the solution of Chloral hydrate & lignification was
27 established by the reaction with solution of phloroglucinol followed by a concentrated Hydrochloric acid (C-HCL)
28 to detect the presence of lignin & also mounted for powder microscopy for fruit in dry condition.

29 The respective photographs were taken with nokia camera and measurements were taken with camera lucida
30 support and recorded.

31 IV.

32 **2 Anatomy**

33 Stem -TS of fresh stem shows a circular outline, with a single layer of epidermis covered with a thin cuticle,
34 numerous lenticels, Below the epidermis 2-5 rows of collenchymatous cortical tissue is present and rest of the
35 cortex is parenchymatous containing numerous simple and occasionally oleoresin cells along with compound
36 starch grains & patches of lignified fibers present at fairly regular intervals towards inner cortex, the vascular
37 bundles, cambium, uniseriate medullary rays and pith is seen.

38 Petiole -TS of petiole is nearly circular in outline with a depression on the adaxial side, a thick wall epidermis,
39 several well developed layers of collenchymas are present beneath the upper epidermis and a sheath of ground
40 tissue, but only 2 to 3 layers on Abaxial side.

41 Ground tissue is parenchymatous, vascular tissue forms an arc that has widely spaced bundles, a few small
42 prismatic crystals of calcium oxalate are present in the ground tissue. Detection of various anatomical features

5 CONCLUSION

43 such as tracheids, trichromes, fibers, glands, cork, stomata, pollen grains etc provides important identification
44 clues in leaf & fruits. ER and many of its species are recorded for their botanical characters in Table no.1 and 2.
45 EmbeliaribesBURM. F. botanical features deals with the pharmacognostical study of leaf and fruits.
46 VI.

47 3 Discussions

48 EmbeliaribesBURM.F. plant character is identified in FRLHT,Bangalore, and soil samples is submitted in
49 GVK,Soil sciences „ Bangalore. The results are awaiting and the Tissue culture study is carried out in I.I.H.R.
50 Bangalore results are awaiting.

51 4 VII.

52 5 Conclusion

53 The present statement is to predict the leaf & fruit characters of EmbeliaribesBURM. F.

54 Thus it is concluded that the above statement can be validated and authenticated on the basis of their macro
µscopical characters are the possibilities of substitutes. ^{1 2}



Figure 1:

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²() B Botanical Standardization of the Embeli Ribes Burmf & Possibilities of Species Substitute



Figure 2: Figure

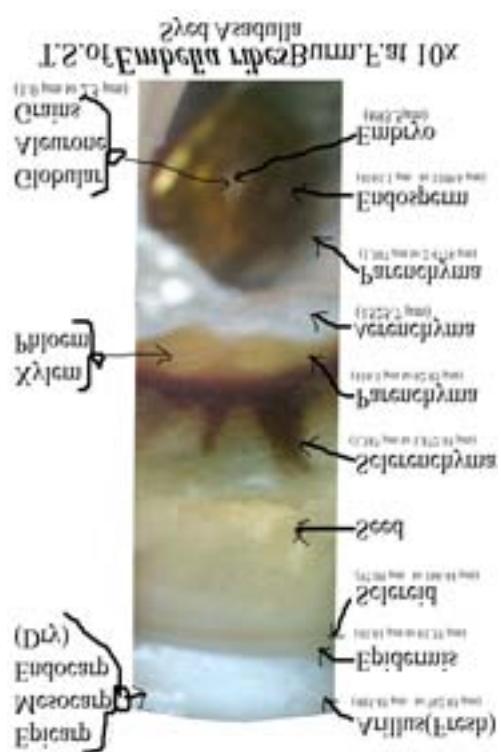


Figure 3:

5 CONCLUSION

4



Figure 4: Figure 4 Fruits

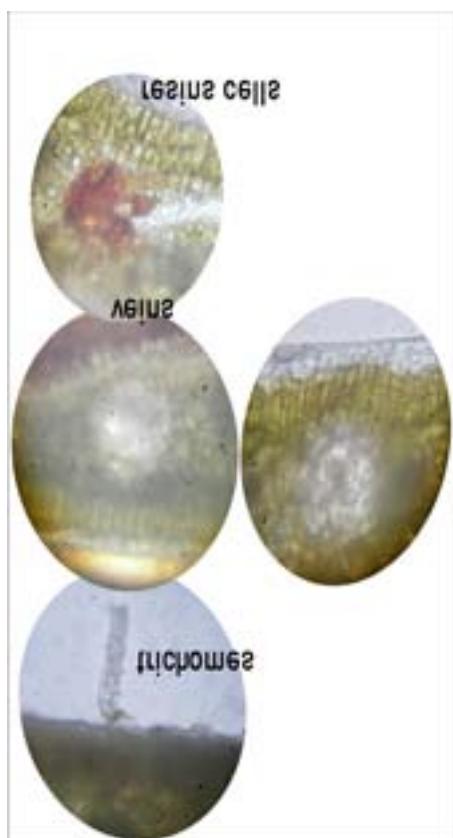


Figure 5:

Figure 6:

9. Sclereid layer of dark Brown of 2-3layers which is tangentially elongated layer thickness ranges from 97.09 μ to 166.44 μ .

10. Epidermis of 5 to 12 layers thick walled narrow and axially elongated cells layer thickness ranges from 41.61 μ to 61.35 μ .

11. In fresh condition Arillus layer thickness ranges from 485.45 μ to 762.85 μ which is the layer of Testa is covered layer on the external side by thin transparent

colourless cells or with collapsed parenchyma also

013 called as membranous Arillus, In dry condition the Arillus is modified into Testa layer modified into 2 rectangular fruit(Berries)which scales consist 24 mesocarp and endocarp on powder analysis the in number Year

testa region shows a group of oleoresin cells and stone cells.

(

)

B

rectangular

Figure 7:

5 CONCLUSION

1

Serial No.	Regions	Cortex Colour	Testa Fracture	Longitudinal	Special Features
				Stiations or Scaly markings	
01	Hubli Hebsur	Ash Brown to green	Gradually Testa is Erupted and few lines are seen.	22	Intermittent eruption in 30% of seeds
02	Ayur Hubli.	Brownish-Black with white patches	Testa is firmly attached	28	Few scaly eruption seen
03	Himalaya	Brown Green	Calyx, Broken, in 30%	24	Not to be seen
04	Kerala	Brownish Black	1% of Hemisphere Testa Breaks & 99% is safe	22	Nil
05	Rajasthan	Brownish red to Green	Testa is erupted in 50% of seeds	22	4-5
06	Fathepur	Matte Ash -Brown	In half Hemisphere	Nil	Single Fracture
07	FRHLT	Reddish Brown	50% Testa is broken to powder	28 scales are found	Scaly depression
08	Hessarghat	Reddish Brown to Green	Testa is attached to the seed	24 scales are found	Scaly depression
09	AmrutKesa	Brownish Black	Testa is erupted to 25%	24	2 to 3

Figure 8: Table 1 :

2

Sl.	Drug No. Name	Authour Name	Source	Uses	Published	
01	Embeliaribes <i>Bhima</i> , LSL;	van Valkenburg,	JLCHForest Research Institute	Anthelmintic	Plant resources of South East Asia No. 12(1):	
			Jalan FRI, Kepong, 52109 Kuala Lumpur, Malaysia	Medicinal and poisonous plants 1; de Padua, L.S., Bunyaprapatsara, N & Lemmens, R.H.M.J. (eds); Paperback edition; Bogor, PROSEA Foundation, 1999; p 257-258		
01a	Embeliaribus <i>Bhima</i> fngut	Vo Van Chi	Vietnam(grows in	ripped fruits Treat	Vietnamese Medicinal Plants], Hanoi, Medicinal	
	Tudien cay thuoc	waste	landhill	bitten by snack, earth	Publ. House	
			mountains)	worm, whites, cough and diarrhoea.	1997; p. 244.	
02	Embeliarobus <i>ChRox</i> b. (Vir	SL; van anga. Valkenburg, Birang-i-kabuli,)				

Figure 9: Table 2 :

5 CONCLUSION

56 Remarks -The above nine varieties are identified and Published but the seeds are very similar in morphology
57 to Embelia ribes BURM.f.