



# Safeguard of *Faidherbia albida* based on phytochemical study of parts used in Phytomedicine of Benin, Niger and Togo

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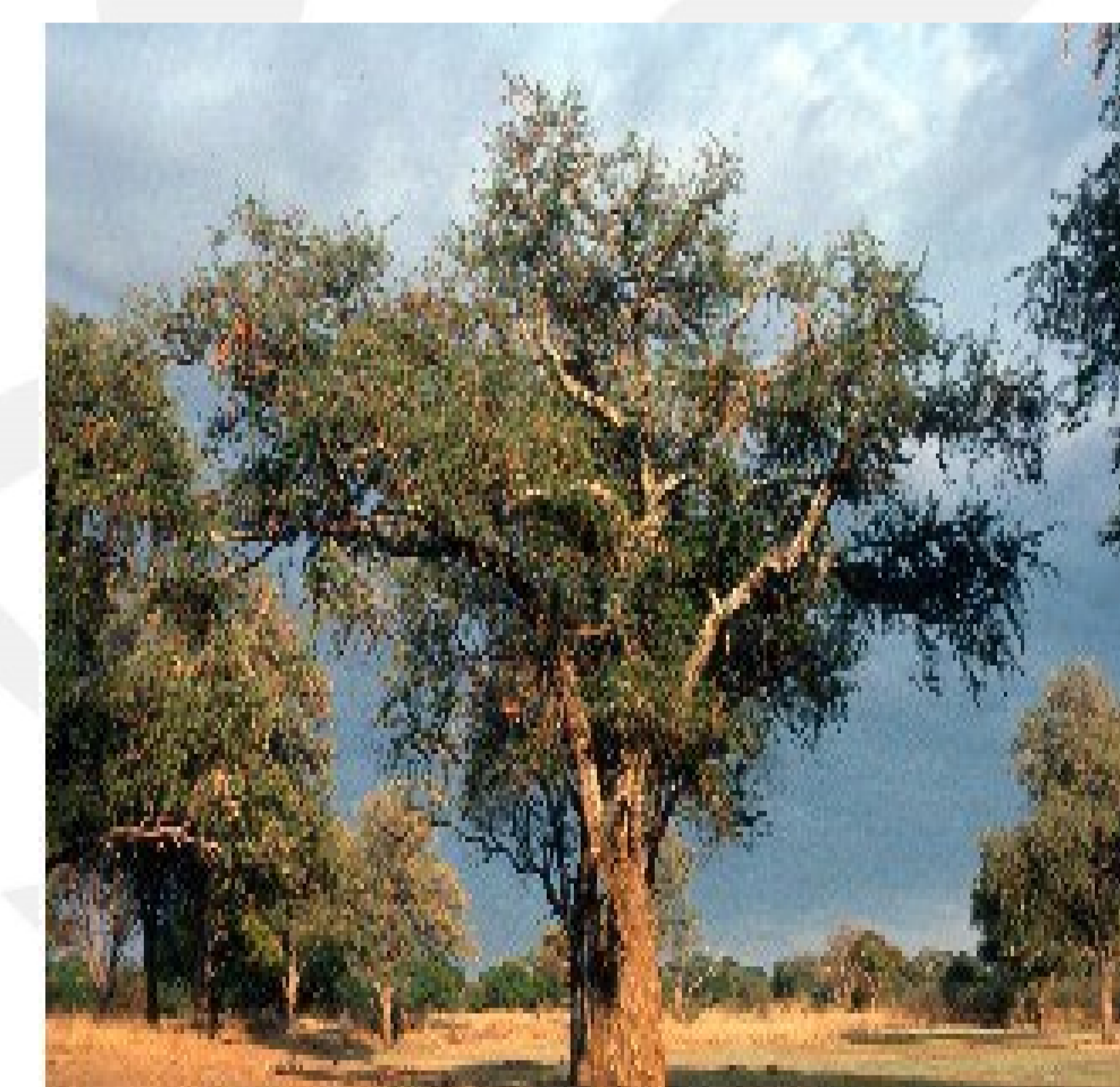
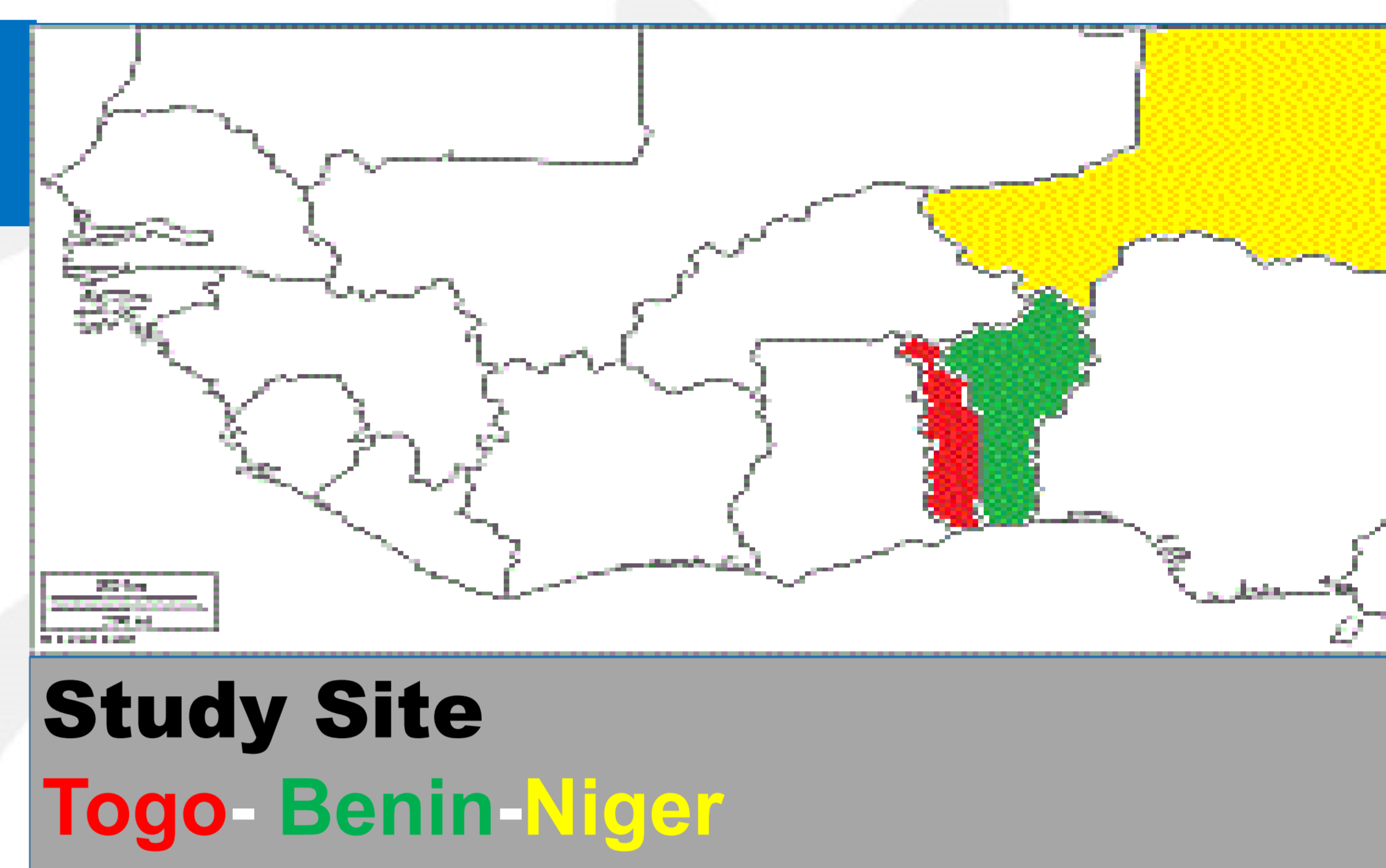
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## BACKGROUND

*Faidherbia albida* (FA) is one of the plants that could be threatened due to its parts used to feed animal and curing livestock's/human diseases in phytomedicine. Research results show that the stem bark of FA possess antimalarial properties (Oluwakanyinsola *et al.*, 2010); antimicrobial properties (Usman *et al.*, 2013); antipyretic, anti-inflammatory and anti-diarrhea properties (Tijani *et al.*, 2008). Moreover, Alhaji *et al.* (2014) reported anti-trypanosoma properties of aqueous extract of *Faidherbia albida* stem bark against *Trypanosoma brucei*. Due to the multiple properties of the stem bark, a non renewable organ of *F. albida*, it obvious to search a way of substitution of this organ by others of the same plant. This study aimed to compare through a phytochemical screening, secondary metabolites present in fruits (F), leaves (L) and stem bark (SB) of FA for good practices in the identification of best part to use for safeguard and conservation of *F. albida*.

## METHODOLOGY

- The leaves (fig 1), fruits ( fig 2) and stem bark (fig 3) of *Faidherbia albida* have been used to carry out the screening.
- The three parts of *Faidherbia albida* were collected in the North of Togo at Dapaong.
- Phytochemical screening established by Houghton and Raman (1998) and described by Houngbeme *et al.* (2014) was the comparative method used. It consisted on the identification of 18 chemical groups ( Alkaloids, flavonoids, tannins, coumarins, quinones, anthocyanins, leuco-anthocyanins, reduced compound, glycosides, saponins, terpenoids, steroids, cynogenic derivate and mucilage) in the organs.
- Sustainable part of the plant's identification and the threat evaluation followed technics of Koudouvo *et al.* (2017).



**Fig 1: Leaves of *F. albida***

**Fig 2: Fruits of *F. albida***

**Fig 3: Stem bark of *F. albida***

**Fig 4: Plant of *F. albida***

## RESULTS & DISCUSSION

**Table 1: Comparison of the secondary metabolites between the bodies of *Faidherbia albida***

Bodies	Chemical compound																	
	Al	TAC	TAG	Fl	Ant	Leu	Qn	SP	Tp	St	Cy	Mu	Cm	Cr	HL	O-H	C-H	H-C
Stem of bark	-	-	+	+	+	+	-	+	-	-	-	+	+	+	-	-	-	-
Leaves	+	-	+	-	+	+	-	+	+	-	-	+	+	-	-	-	-	-
Fruits	+	-	+	-	-	+	-	+	-	-	-	+	+	-	-	-	-	-

TAG : gallic Tannins ; Al: Alkaloids ; Fl: Flavonoids ; Tp : terpenes ; Leu : Leucoanthocyanes ; Ant: Anthocyanin ; Mu : Mucilage ; HL: free heteroside ; Cr: reduced compound ; Cm : Coumarins ; Qn : Quinones ; Sp : Saponins ; Cy: cyanogenic derivate

- Possibility of substitution of stem bark by fruits and leaves
- Substitution of stem bark by fruit and leaves mitigated
- Substitution of stem bark by fruit and leaves impossible

The study completed by Karoune *et al.* (2015) revealed the presence of phenolic acids and flavonoid in the leave, fruits and stem bark of FA. The results study of Evans *et al.* (1977) show the presence of alkaloids in seeds of *Faidherbia albida*

## CONCLUSION

The present study shows that leaves, fruits and stem bark of FA contain a variety of chemical compounds that justify their use human and animal medicine. It is thus important to vulgarize the results right side out of population for of best practice in traditional medicine. By adding this to reforestation we will safeguard FA and the biodiversity.

## REFERENCES

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