



Mini Review

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Malmea Depressa, The Plant of The Future for The Treatment of Diabetes Type II and Kidney Stones

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Abstract

Malmea depressa is distributed in Mexico, Central America to Honduras; it is used for the treatment of hyperglycemia and urinary lithiasis, scientific studies have shown that the infusion of roots of this tree, that is consumed in some communities of Yucatan, effectively is functional.

Geographical Distribution

Malmea depressa is a tree that belongs to the Annonaceae family. In our country, this plant species is distributed in the states of Guerrero, Jalisco, Michoacán, Oaxaca, Tabasco, Campeche, Chiapas, Quintana Roo, Veracruz and Yucatán; but it has also been located from Central America to Honduras [1].

Common Names

This plant, in the Mayan language, is known by different names, ek-ele-muy, elemuy-box, eklemoy or elemuy [1].

Botanical Synonymy

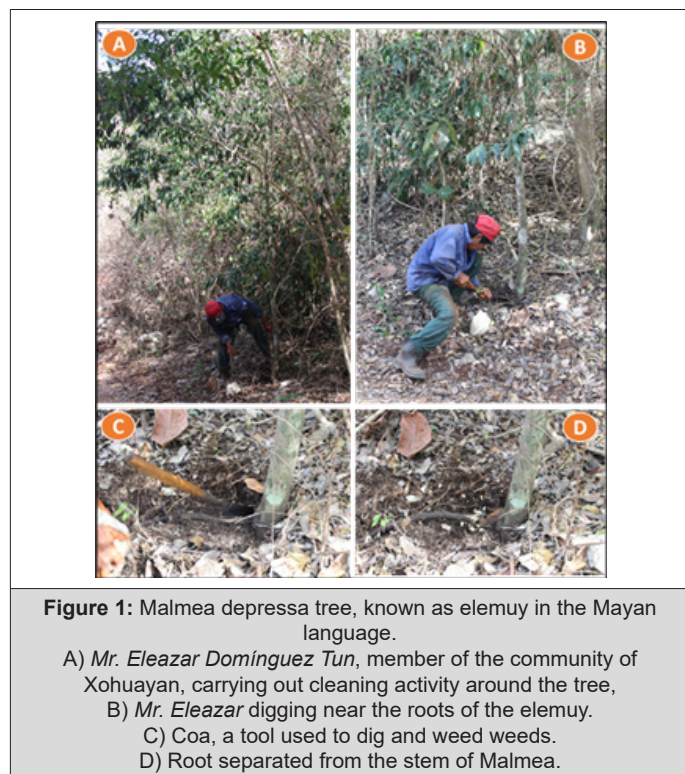
Elemuy can have different scientific names, such as Guatteria gaumeri, Mosannonna depressa and *Malmea depressa* [1,2].

Traditional use

This tree has been used since pre-hispanic times; Its bark and root have been used for the treatment of kidney conditions and hypercholesterolemia [2] and it is traditionally used in Mayan communities for the treatment of diabetes type II [3]. In Yucatan, *Malmea depressa* is also used for the treatment of renal lithiasis or kidney stone [4].

In particular, in the community of Xohuayan, Oxkutzcab, Yucatan, the infusion of *Malmea depressa* roots (Figure 1) is consumed as a natural remedy for the treatment of kidney stones and pounce. According to the opinion and experience of the people of this community, they report that this plant is very effective for the treatment of urinary lithiasis or kidney stones. The infusion of the root also

helps the elimination of water through the urine; therefore, they consider it as a diuretic (Figure 1).



Studies in the Laboratory

The aqueous, ethanolic and butanoic extract of roots of *Malmea depressa* lowers the blood glucose levels in diabetic rats. In the case of root infusion, as it is commonly prepared in communities, it was shown to be effective [5]. In addition, butanoic extract has been shown to stimulate insulin release [6] and block hepatic glucose production [3].

Chemical Composition of the Root Extract

Through HPLC analysis, it was determined that the roots con-

tain phenyl butane derivatives, 2-Hydroxy-3,4,5-trimethoxy-1-(2',4'-Hydroxy-3'-dihydroxy) butyl-benzene, and 2-hydroxy-3,4,5-trimethoxy-1-(2',3',4'-hydroxy) butyl-benzene. Laboratory studies, demonstrated that these compounds are relationates with pharmacological activity of the extract against diabetes type II [5].

Conclusion

Malmea depressa or elemuy is an alternative for the treatment of diabetes type II and kidney stones, it has been demonstrated by Scientifics. We believe that it would be important to deepen the phytochemical studies of the natural remedies prepared by Maya communities, to rule out side effects.

Acknowledgements

None.

Conflicts of Interest

None.

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