

SEARCH FOR ANTIPLASMODIAL COMPOUNDS FROM TWO CAMEROONIAN *ZANTHOXYLUM* SPECIES:

Z. GILLETII AND *Z. DINKLAGEI* (RUTACEAE)

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INTRODUCTION

Malaria caused by the parasite *Plasmodium falciparum* is recognized as one of the most threatening diseases worldwide. It is the leading cause of illness and death in many developing countries. Current drugs used for treatment are either from plant sources or developed from compounds isolated from plants. Nonetheless, the parasite continuous to developed resistance to these drugs. Several species of the genus *Zanthoxylum* (Rutaceae) including *Z. gillettii* are being used in Cameroon traditional medicine for the treatment of malaria.[1][2] In the current study, the antiplasmodial potential of the DCM/MeOH (1:1) stem bark extracts of *Z. gillettii* (ZM) and *Z. dinklagei* (ZD) obtained by cold percolation along with their constituents obtained by column chromatography were investigated.

METHODOLOGY

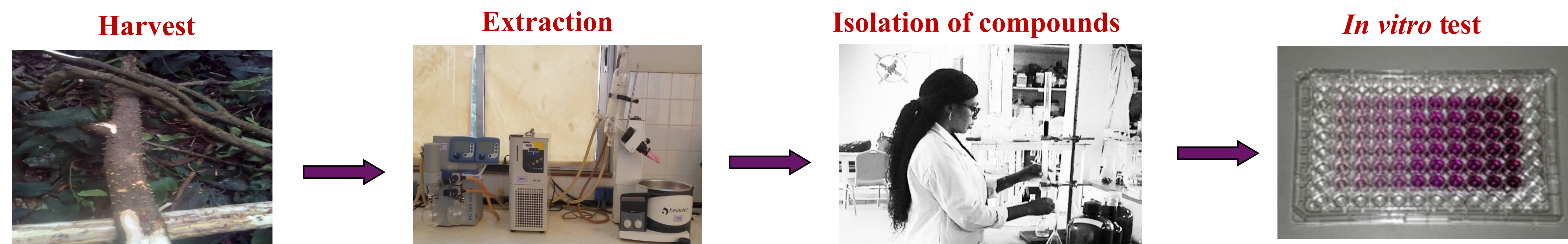
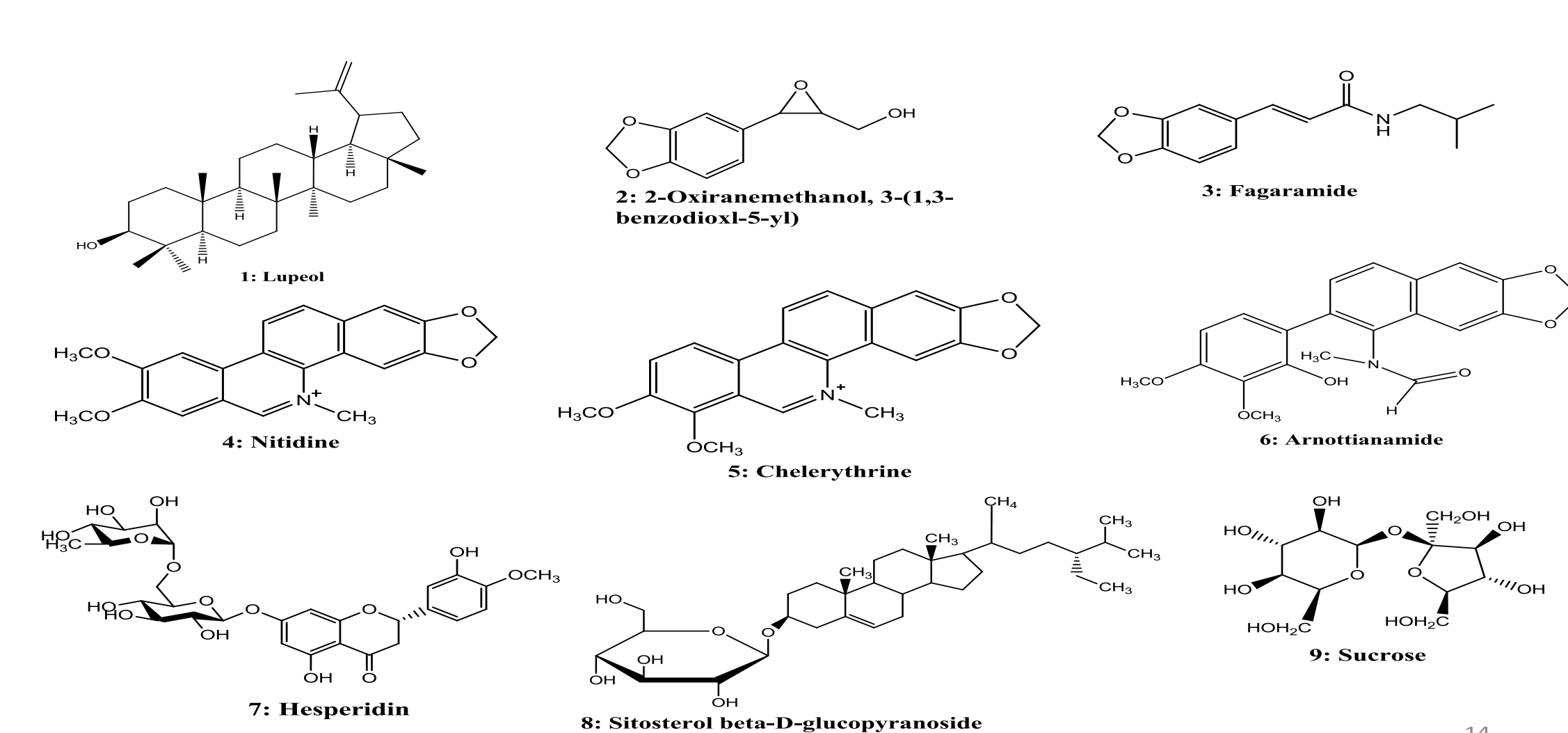


Figure 1: Compounds isolated from *Z. gillettii*

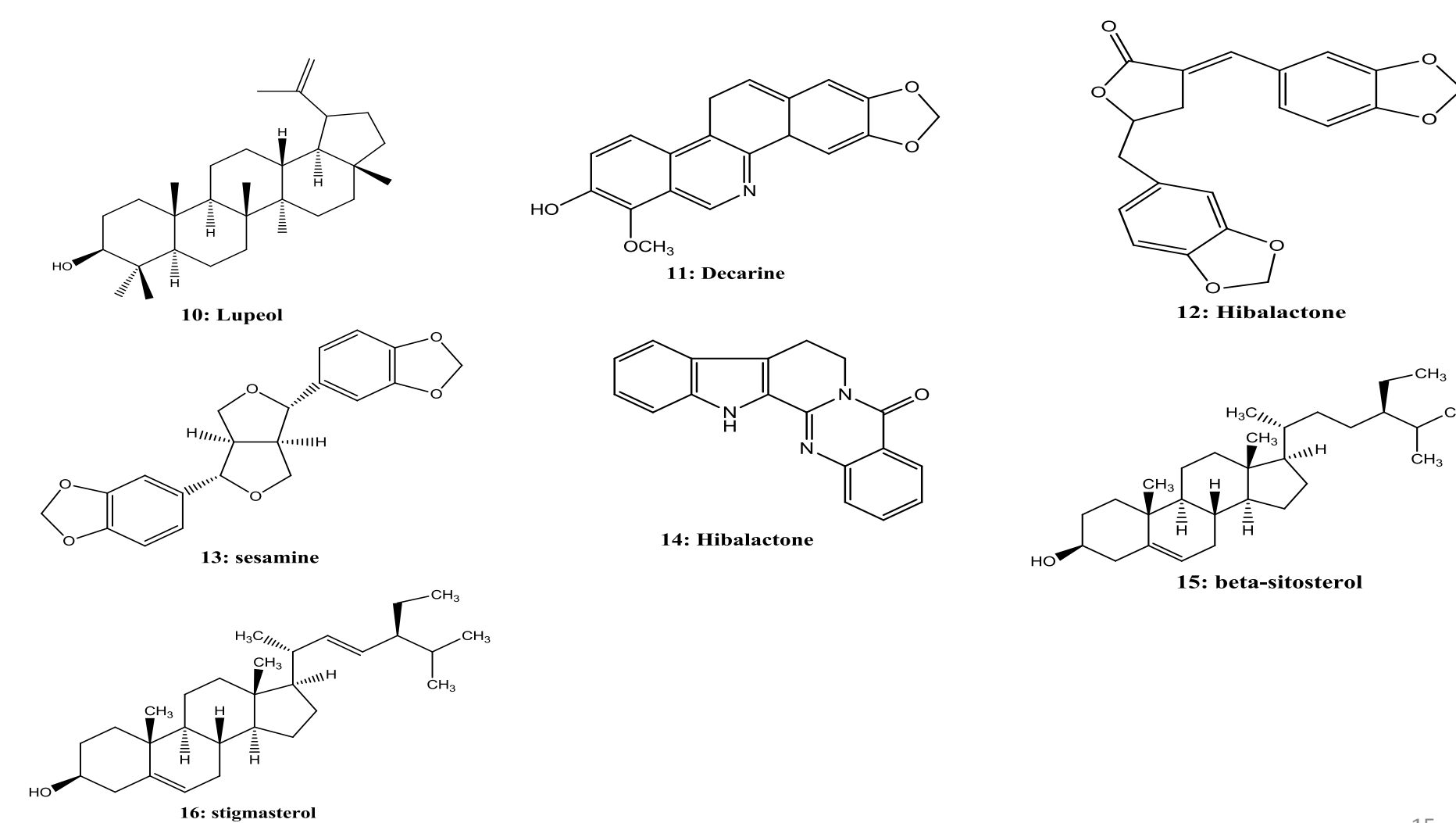


Figure 2: Compounds isolated from *Z. dinklagei*

RESULTS

Evaluation of the *in vitro* antiplasmodial activity against the chloroquine resistant strain W2 of *P. falciparum*

Plant	Extract/Compound	IC ₅₀ µg/ml
<i>Z. gillettii</i>	DCM/ MeOH (1:1) extract (ZM)	8.23
	Lupeol (1)	>100
	Corniferyl alcohol (2)	>100
	Fagaramide (3)	>100
	Nitidine (4)	1.32
	Chelerythrine (5)	1.35
	Arnottianamide (6)	90.61
	Hesperidin (7)	31.13
<i>Z. dinklagei</i>	DCM /MeOH (1:1) extract (ZD)	3.02
	Decarine (11)	1.58
Reference	Chloroquine	0.329±0.110

Activity criteria: highly active at IC₅₀ < **5 µg/ml**; promising activity at **5-15 µg/ml**; moderately active at **15-50 µg/ml**; inactive > **50 µg/ml** (Muganga et al., 2010)

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CONCLUSION

The DCM/MeOH (1:1) of the stem barks of *Z. dinklagei* and *Z. gillettii* have high and promising antiplasmodial activities against the W2 chloroquine resistant strain of *P. falciparum* respectively. This results can justify the use of the stem bark of *Z. gillettii* in traditional medicine for the treatment of malaria. To the best of our knowledge, this is the first report on the antiplasmodial activity of the DCM/MeOH (1:1) of the stem bark extract of *Z. dinklagei*

ACKNOWLEDGMENT

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