



Short report

## Larvicidal activity of *Cybistax antisiphilitica* against *Aedes aegypti* larvae

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Received 10 January 2005; accepted 29 August 2005

Available online 17 October 2005

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### Abstract

The larvicidal activity against *Aedes aegypti* larvae of a stem wood hexane extract of *Cybistax antisiphilitica* was evaluated. Bioassay-guided fractionation of the crude extract, monitored by larvicidal assay, led to the isolation of a natural quinone identified as 2-hydroxy-3-(3-methyl-2-butenyl)-1,4-naphthoquinone (lapachol). This compound was quite potent against *A. aegypti* larvae (LC<sub>50</sub> 26.3 µg/ml).

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*Keywords:* *Cybistax antisiphilitica*; Larvicidal activity; *Aedes aegypti*; Lapachol

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## 1. Plant

*Cybistax antisyphilitica* (Martius) Martius (Bignoniaceae), stem wood collected in Brasilia, the Federal District of Brazil, in 2002/2003 and identified by José Elias de Paula, Department of Botany, University of Brasilia where voucher specimens are deposited (UB 3696).

## 2. Uses in traditional medicine

*C. antisyphilitica*, popularly known in Brazil as “ipê-branco”, “cinco-folhas” and “pé-de-anta” [1], has been used in folk medicine as a depurative, antisyphilitic and diuretic agent [2].

## 3. Previously isolated constituents

Oleanolic acid (0.6%), 6- *O-p*-coumaryl-catalpol (0.15), macfadienoside (0.2) [3] and 25-hydroxyoleanolic acid [2] from leaves.

## 4. New isolated constituent

2-Hydroxy-3-(3-methyl-2-butenyl)-1,4-naphthoquinone (lapachol, yield: 1.22% on dried wt.)

## 5. Tested material

Lapachol [3].

## 6. Studied activity

Larvicidal against ten three-day-old (3rd-instar) larvae of *A. aegypti*, for 24 h, in triplicate [4].

## 7. Results and conclusions

The lapachol LC<sub>50</sub> value was 26.3 µg/ml, against *A. aegypti* larvae. Lapachol, in the LC<sub>50</sub> concentration, was active after only 30 min.

Several biological activities have been reported for this compound, such as anticancer [5], antiviral [3], antimicrobial [6], leishmanicidal [7], antimalarial [8], molluscicidal [9], schistosomicidal or trypanocidal [10].

## **Acknowledgements**

The authors are grateful to the Environmental Surveillance Service of the Federal District's Health Secretary that kindly provided us with the facilities.

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