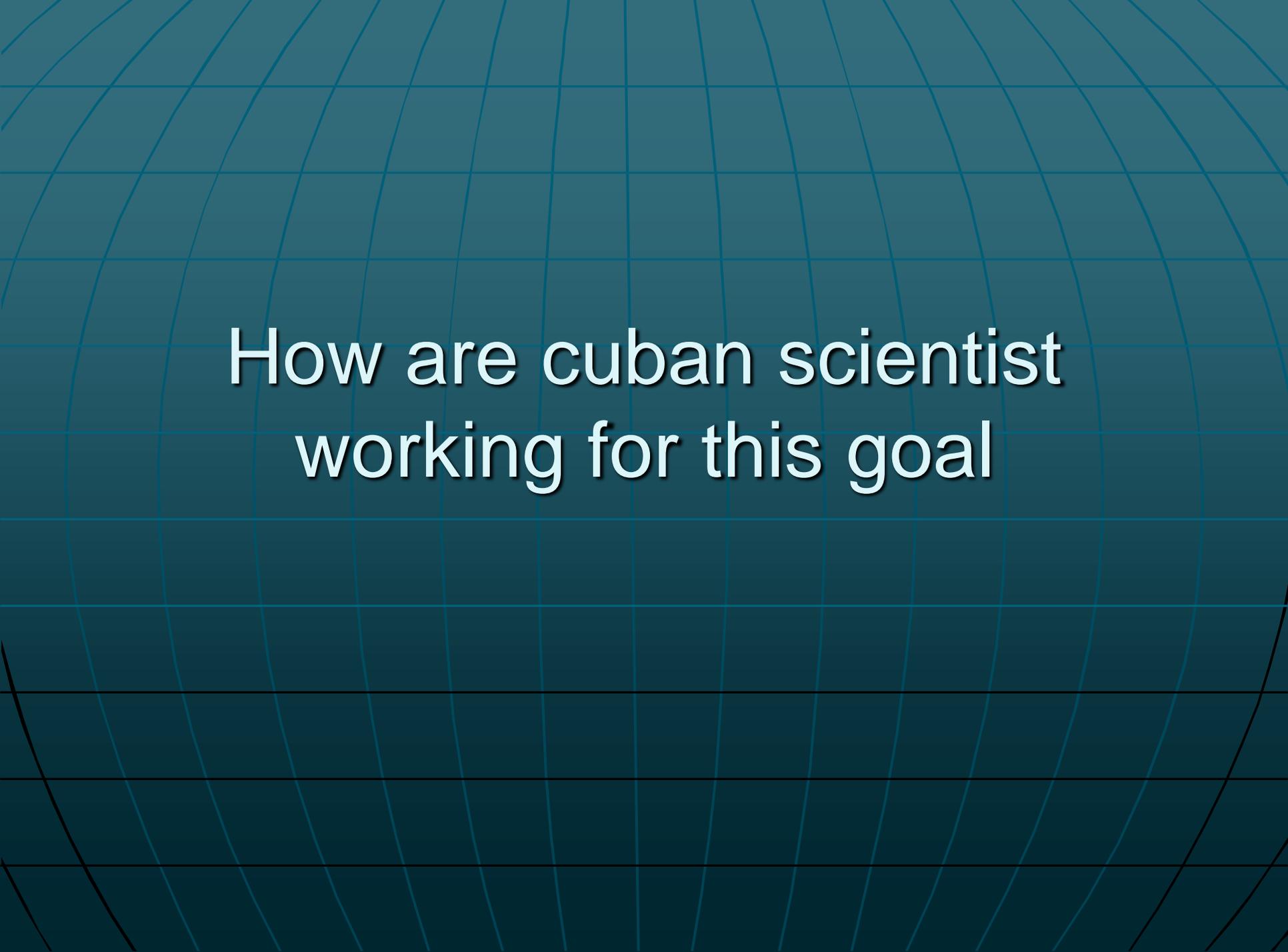


# Utilisation, Commercialisation and Bioprospection of Genetic Resources: cuban Examples



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How are cuban scientist  
working for this goal

## **Main topics to take into account in bioprospection studies.**

### **Minimal data**

- **Name of the Bioproduct:**
- **Name of the biological resource that originated the Bioproduct:**  
Scientific and vernacular name, Family and used part . Distribution, Endemism, native or Cultivated, Endangered degree type of **prospection:** Chemistry, genetic, or ecological
- **Form of the final product**
- **Pharmacological activity**
- **To what scale:** pilot, semipilot, or generalizated
- **Scientific publications asociated to the Bioproduct**
- **Patent. Name , number and date**
- **Contract**
- **Level of Commercialization**
- **Access Permission**
- **Benefits Sharing**
- **Level of introduction:** Lab, preclinic, clinic, or generalizated

# Characterization

BIOPRODUCT	NATURAL RESOURCE: SCIENTIFIC NAME	FAMILY	NATURAL RESOURCE: VERN. NAME	USED PART
VIDATOX	<i>Rhopalurus junceus</i> <b>Herbst</b>	Artropodae	Alacrán colorado	POISON
SALVANTIOXI	<i>Pluchea carolinensis</i> <b>(Jacq.) G. Don</b>	Asteraceae	Salvia of the beach	Leafs
VIMANG	<i>Mangífera indica</i> <b>L.</b>	Anacardeaceae	Mango	BARK

BIOPRODUCT	Level of Introduction	Patent
VIDATOX	Generalized commercialized and	yes
SALVANTIOXI	Laboratory Level	No
VIMANG	Generalized commercialized and	Yes

BIOPRODUCT	FORM of the finished product	Pharmacological activity
VIDATOX	Concentrated FLUID (sublingual drops)	Analgesic, anti-inflammatory, antitumoral and, antioxidant
SALVANTIOXI	Concentrated FLUID	Antioxidant
VIMANG	Concentrated FLUID, tablets and ointment	Antioxidant

<b>BIOPRODUCT</b>	<b>Revised literature</b>	<b>INSTITUTION</b>
<b>VIDATOX</b>	<b>3 (PATENTS)</b>	<b>BIOCUBAFARMA(now), CQF, CIDEM, LABIOFAM</b>
<b>SALVANTIOXI</b>	<b>23 scientific articles</b>	<b>IES, IEEM, CQF</b>
<b>VIMANG</b>	<b>221 scientific articles and 1 patent</b>	<b>BIOCUBAFARMA (now), CQF, CIDEM, LABIOFAM</b>

# Alacrán colorado de Cuba

***Rhopalurus junceus*** (Herbst, 1800), IS AN EXCLUSIVE ENDEMIC WIDESPREAD SPECIE FROM CUBA . Pocock (1893) AND Fet & Lowe (2000) CITED ALSO FROM Haití, BUT IT WAS A TAXONOMICAL IDENTIFICATON MISTAKE

IN DOMINICAN REPUBLIC LIVE 3 Species OF THE GEN *Rhopalurus*:

*Rhopalurus princeps* (Karsch, 1879)

*Rhopalurus abudi* Armas & Marcano Fondeur, 1987

*Rhopalurus bonettii* Armas, 1999

THE FIRST ONE IS THE MOST WIDESPREAD IN HISPANIOLA (HAITI AND DOMINICAN REPUBLIC) , THE OTHERS ARE ENDEMISM FROM DOMINICAN REPUBLIC.

## BASIC LITERATURE

- ARMAS, L. F. DE. 1981. Redescrición de *Rhopalurus princeps* (Karsch, 1879) (Scorpionida: Buthidae). *Poeyana* **227**:1-7.
- ARMAS, L. F. DE. 1982a. Distribución y biogeografía del género *Rhopalurus* Thorell (Scorpiones: Buthidae) en Cuba. Acad. Cien. Cuba, *Misc. Zool*, **17**:4.
- ARMAS, L. F. DE. 1982b. Algunos aspectos zoogeográficos de la escorpiofauna antillana. *Poeyana*, **238**:1-17.
- ARMAS, L. F. DE. 1988. *Sinopsis de los escorpiones antillanos*. Editorial Científico-Técnica, La Habana, 102 pp.
- ARMAS, L. F. DE. 1999. Quince nuevos alacranes de La Española y Navassa, Antillas Mayores (Arachnida: Scorpiones). *Avicennia*, **10-11**:109-144 .
- ARMAS, L. F. DE & E. J. MARCANO FONDEUR. 1987. Nuevos escorpiones (Arachnida: Scorpiones) de República Dominicana. *Poeyana* **256**:1-24.
- FET, V. Y G. LOWE. 2000. Family Buthidae C. L. Koch, 1837. Pp. 54-286.en *Catalog of the scorpions of the world (1758-1998)* (V. Fet et al., eds.). New York, The New York Entomological Society.
- TERUEL, R. 2005. Nuevos datos sobre la taxonomía, distribución geográfica y ecología de los escorpiones de la República Dominicana (Scorpiones: Liochelidae, Scorpionidae, Buthidae). *Bol. Soc.Entomol.Aragonesa.*,36: 165-176.

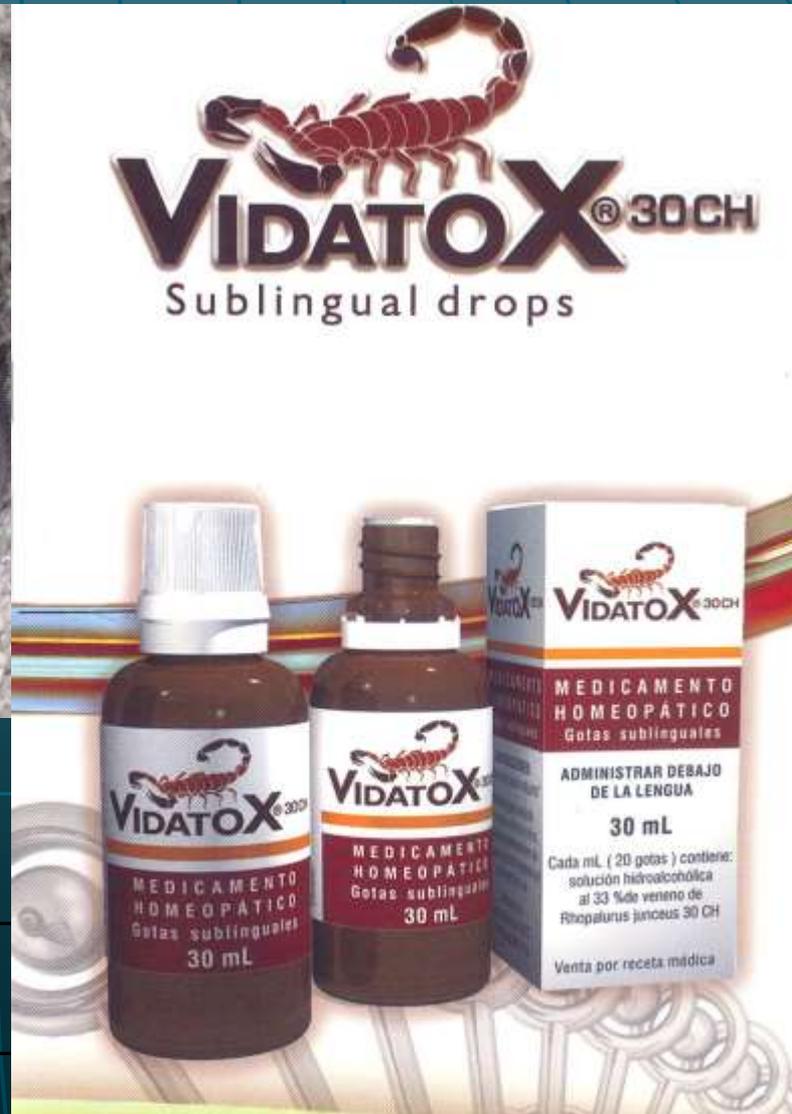


## ALACRÁN COLORADO

*Rhopalurus junceus* Herbst

Buthidae., Arthropodae

Product: VIDATOX





## SALVIA

*Pluchea carolinensis* (Jacq.) G.  
Don

Asteraceae

Preliminary name given to this  
product is : SALVANTIOXI



**MANGO** Mangífera índica L. Anacardeaceae

## PRODUCT - VIMANG



# Related Patents VIDATOX:

- Patent CU 22413, entitled "COMPOSICIÓN ANTITUMORAL" was presented in 1994 and finally accepted and valid as Invention author Certificate until 11.01.2014.
- No international applications have been asked.
- Patent Number 2010-186, entitled "PÉPTIDOS DEL VENENO DE ESCORPIÓN RHOPALURUS JUNCEUS, COMPOSICIÓN FARMACÉUTICA", was published on 21 june/ 2012.
- Application for the foreign was solicited by the System of Patents Subject Cooperation Contract.

# Related Patents to VIMANG

Number : 1998-203. Date of presentation:  
29.12.1998.

Title: COMPOSICIONES FARMACÉUTICAS Y  
NUTRICIONALES A PARTIR DE EXTRACTOS DE  
MANGIFERA INDICA L.

Publication: 22846. Application presented and  
approved to Centre of Pharmaceutical Chemistry,  
later transferred to LABIOFAM who has the  
Invention author Certificate until 29.12.2018

# Learned Lessons

- It is very important the scientific capacities and National Institutions developed to evaluate de GR and Biodiversity in Cuba.
- These Bioproducts obtained may serve as good examples to show in what a way GR may be converted into commercialized products with a direct high impact in health
- The importance of the use of traditional and popular knowledge.
- The value of chemical prospection taking into account the ecological prospection. Recognition of the high value of chemical and genetics prospectations by the communications media but not in the same way the ecological ones and the traditional knowledges.
- In the bioprospecting process it is not well established the relation with biodiversity conservation.

The information compendium obtained for these 3 cases of Cuba bioprospection evidence the sharing of benefits in the following way :

- Bioproducts have been commercialized successfully in the country and in foreign.
- The commercialization report an increase in the monetary inputs of the cuban State and also the medical treatments free in Hospitals for all our people. Also Publications and Informations were edited.
- Benefits have been used in health, education, foods and others to increase the life level of the people without any specific mechanism.

# Thanks



*Saving our resources,  
knowledges and the  
associated traditional  
practices.*