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Picaduras venenosas en el mundo tropical: accidente por mordeduras y picaduras de un enjambre de abejorros en una selva lluviosa venezolana

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RESUMEN

Se describen 2 casos de envenenamiento producidos por el ataque inusual de colonias de insectos de la familia Bombidae, conocidos de forma popular como abejorros. Este tipo de envenenamiento puede llegar a ser de toxicidad severa y se analiza a la luz de los últimos hallazgos, caracterizados por síntomas hemorrágicos tales como hematemesis y melena.

Descriptores DeCS: MORDEDURAS Y PICADURAS DE INSECTOS; VENENOS DE ABEJA/envenenamiento; ABEJAS; HEMATEMESIS/etología; MELENA/etología; MEDICINA TROPICAL; VENEZUELA.

The published literature in Venezuela on wasp-sting or bumblebees-bites (or sting) allows no mean of the determination of the incidence of this envenomation.

The literature about behavior of these insects reported it as animals of life in society, building its nets with vegetable litter in the ground, flying accompanied when they are going to mate.1 Since scientific point of view they belong to Bombus Latreille, 1802 genus. This genus is distributed from the Northern hemisphere with a deep penetration in South America, invading different habitats such as humid and hot climes in tropical zones to cold clines in high mountains. Bombus morio has been reported in Brasil, Ecuador and Bolívia (Moure and Sakagami), but as far as we known it has not been reported for Venezuela. Potentially, those insects are very hazardous, being able to provoke serious accidents and death with an alone stung.2,3 In the national or international literature4 has been reported swarm bumblebees massive attacks anywhere, such as it is seen in the africanized bees or common bees (Apis melifera).

The accidents produced by bees are generally of allergic or anaphylactic nature.5 As far we as known, it has not been described other toxic activities in bumblebee venom.

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In this paper we are reporting a swarm of bumblebees (*Bombus morio*) bites and stings accident occurred to a researchers team working in a Venezuelan rainforest, whom presented a non-described bumblebees venon activity clinical picture, characterized by hematemesis, melena as well as inflammatory and bites dermic lesions.

**METHODS**

*Bumblebees.* An specimen of bumblebee was collected by Dr. Ricardo Guerrero and classified as *Bombus morio* by the entomologist Matías Reyes.

*Locality.* Place named Madre Vieja, located at 1 km north from Puerto Catatumbo, Zulia state, Venezuela: 9° 7'56'' north latitude and 72°, 40'40'' west longitude. At 45 m of altitude.

The area is a typical humid tropical forest characterized by high pluviometric rate, dense vegetation, temperatures range between 28-36 °C. Animals were living in a colony built in the ground, which look like a termites nest.

*Cases.* Two (female and male) researchers suffered a massive attack when accidentally walked on the bumblebee nest, around a dozen of insects at a time were stinging and biting. Symptoms immediately appeared, characterized by strong intensity pain without concomitants located in arm, leg and abdominal regions, which in about 10 min, after topic application of ice began to decrease of intensity. The sting on the skin showed a small edema and erythema, letting an reddish-orange spots and two erythematous and bleeding traumatic lesions in the site of the bite.

Two hours after the accident began the nauseas, chills, vomits (in number of 6 or 7; clear at the beginning and then took dark reddish-brown coloration with a very bitter flavor). Vomits spontaneously slackened 5 h after the stings. Both patients presented profuse sweating, dizziness, hypothermia sensation, astenia, drowsiness and discreet headache. Urines were always normals. At 24 h, feces were also dark-brown stained.

Patients came to the Tropical Medicine Institute consultation when they leave the forest, 6 d after the accident. Both patients recovered well and they only presented small scabs in the bitten area.

**DISCUSSION**

In our country, the knowledge about the poisonous animals, always it has been surrounded of a superstition halo, fear or mystery. Most of the people feel a deep rejection by the wasps and bumblebees, based on atavistic sensations, that probably were originated in the first contacts of the man with these biological groups, where its bites or stings beside provoke pains and damages, in occasions very intensive. This fear is not exclusive of the individual injured, but in many occasions of the physician, who by ignorance of the topic, does not know to try the accidents, or even worse, they improvises, causing serious damages to the luckless patient.

Of all deaths in the United States from 1950-1959 as a result of attacks by venomous animals and insects, 50 % of deaths were caused by the stings of hymenopterous insects: of 229 of such deaths, 124 deaths resulted from bee-stings. Thus, after snakes, bees have been the third most common venomous animal to be responsible for human fatalities in the United States. As far as we known, this is the first report of a massive attack from a large group of bumblebees living in a multibored colony located in the land in Venezuela. Authors reported the bumblebees aggressive behavior. Normally, colonies attack when are disturbed; sometimes, even if only are being observed. These insects have pointed stings which are retained in victim skin; the venom induce transient local reactions; however, some allergic reactions can be systemic, rarely inducing severe morbidity and mortality due to allergic reactions. In addition, the venom can induce hemolysis and the secretagogue activity seems to be due to mechanisms that cause cell membrane disturbance and lysis with consequent serotonin release, producing one of the multiple allergic activities, as it has been described in wasp venom. If we accepted dark reddish-brown coloration with a very bitter flavor vomits as hematemesis and very dark-brown feces as melena, we would be in the presence of a hemorrhagic activity until now non-described in *Bombus* genus. Our laboratory will be involve in the bumblebee venom studies in order to describe and characterize such possible hemorrhagic fraction(s).

**SUMMARY**

Two cases of poisoning produced by the unusual attack of colonies of insects from the family Bombidae, commonly known as bumblebees, are described. This type of poisoning may become severe toxicity and
it is analyzed in the light of the latest findings. It is characterized by hemorrhagical symptoms, such as hematemesis and melena.

**Subject headings:** INSECT BITES AND STINGS; BEE VENOMS/poisoning; BEES; HEMATEMESIS/etiology; MELAENA/etiology; TROPICAL MEDICINE; VENEZUELA.

**REFERENCIAS BIBLIOGRÁFICAS**
