

Domestic infestation by *Sclerodermus sp.* with associated skin manifestation*

Hiram Larangeira de Almeida Jr.¹, Mariani Magnus de Andrade², Tialisson Scotti², Rodrigo Ferreira Krüger³

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Abstract: *Sclerodermus sp.* is an aculeate insect (Hymenoptera: Bethyilidae), measuring 2-4 mm in length. It is a parasitoid and needs termites as hosts to complete its life cycle. It is found in a wide variety of woods and may accidentally sting humans who come near affected wooden objects. A 50-year-old woman presented two episodes of intense pruritic lesions. Clinical diagnosis of insect bite was doubtful since there were no pets at home, lesions had not started during summer and the patient denied rural activities. During a night episode of itching, the patient examined her bed and found 8 insects likely to be responsible for the bites. Scanning electron microscopy revealed typical features of a female of the genus (wingless and with multiple stingers at the lower end of the abdomen).

Keywords: Insects bites and stings; Microscopy, electron, scanning; Skin diseases

INTRODUCTION

The genus *Sclerodermus* (Hymenoptera, Bethyilidae) has a worldwide distribution and comprises 80 described species. They are small wasps, measuring 2-4 mm, and vary in color from light to dark brown. There are apterous, micropterous and macropterous species.¹ They are idiobiont ectoparasitoids that feed on the larvae of xylophagous insects of the order Coleoptera (termites) that live in wood. The wasps find hosts by entering pre-existing galleries in the wood. They then feed on the larval hemolymph and lay eggs on the surface of the hosts, which are paralyzed by venom but remain alive, using them as a source of food.^{2,3}

The females may inject venom into humans that live in or come into contact with infested houses or furniture.

CASE REPORT

A 50-year-old woman presented with intense pruritic edematous lesions suggestive of insect bites and responded well to systemic prednisone therapy (Figure 1). Two months later, she presented a relapse, which was controlled by topical corticosteroid therapy with betamethasone.

Clinical diagnosis of insect bite was doubtful, since the patient did not have pets at home, the lesions had not appeared during summer, and she denied activities in a rural area. During a night episode of itching, the patient examined her bed and found eight insects of 2 mm in length (Figure 2). Subsequently, she identified the insects in the ceiling lamp hanging above the bed.

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¹ Department of Dermatology, Universidade Federal de Pelotas, Pelotas (RS), Brazil.

² Medical undergraduated student, Universidade Federal de Pelotas, Pelotas (RS), Brazil.

³ Graduate Program of Entomology, Universidade Federal de Pelotas, Pelotas (RS), Brazil.

MAILING ADDRESS:

Hiram Larangeira de Almeida Jr.

E-mail: hiramalmeidajr@hotmail.com

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FIGURE 1: Erythematous edematous lesions

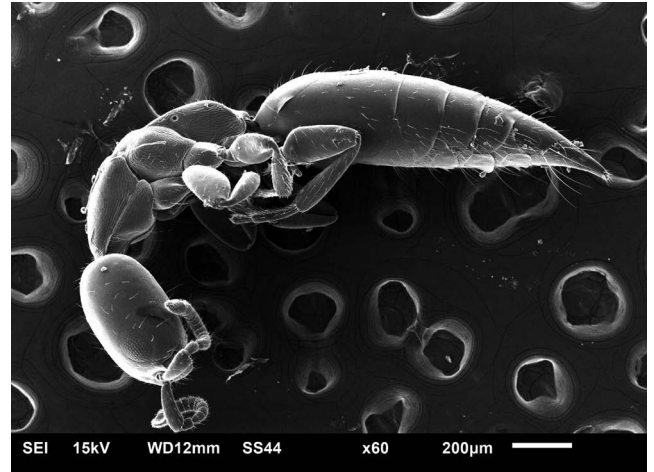


FIGURE 3: Scanning electron microscopy. general view of a small, wingless wasp (x60)



FIGURE 2: Insects measuring 2 mm

The collected specimens, likely to be responsible for the bites, were examined with scanning electron microscopy (SEM), showing the typical wingless aspect of the females of the genus (Figure 3). The examination of the lower end of the abdomen identified multiple stingers (Figure 4).

DISCUSSION

Sclerodermus sp. may accidentally sting humans who come near affected wooden objects. The main reports are from Italy⁴⁻⁶ and Spain,⁷ and, more recently, 3 cases were reported in Latin America, namely Costa Rica.⁸

Exposure to old wood furniture is a risk factor. A report of *Sclerodermus* stings in Italy described 9 affected individuals, 7 of them working with antiques, and 2 housewives. In all cases furniture or household dust were the source of environmental contamination.⁵

Some authors suggest that the skin lesions caused by *Sclerodermus* sp may be considered as an occupational disease for restorers, antique dealers, and those working with wooden products.^{6,9}

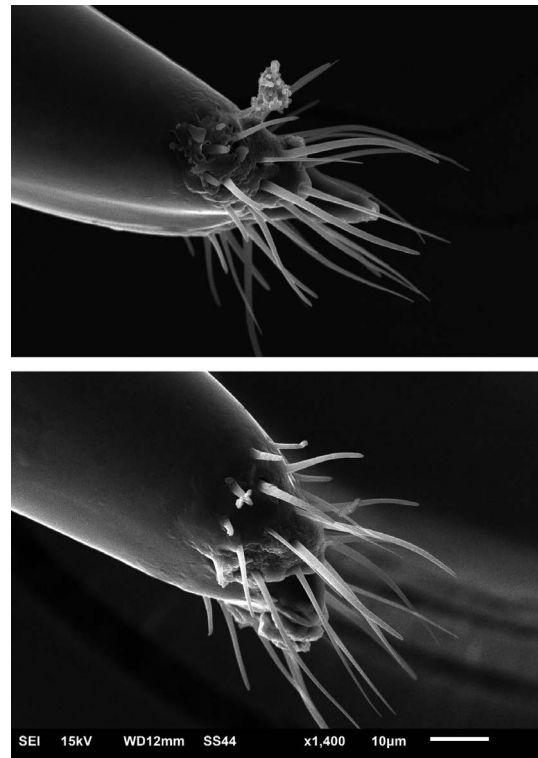


FIGURE 4: Scanning electron microscopy. Detail of the multiple abdominal stingers (x1600)


These insects sting the host larvae of wood borers, injecting their venom to paralyze them. The stinger identified by SEM is used for that purpose and is probably the cause of intense skin reactions. There have been reports of associated systemic symptoms such as discomfort and fever.

No cases of stings from *Sclerodermus* sp. have been reported in Southern Brazil, but new cases of this insect sting may emerge, and dermatologists should be aware of this possibility. □


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AUTHORS CONTRIBUTION

Hiram Larangeira de Almeida Jr.  ORCID 0000-0003-0705-1778


Approval of the final version of the manuscript; Conception and planning of the study; Elaboration and writing of the manuscript; Obtaining, analyzing and interpreting the data; Effective participation in research orientation; Intellectual participation in propaedeutic and/or therapeutic conduct of the cases studied; Critical review of the literature; Critical review of the manuscript

Mariani Magnus de Andrade  ORCID 0000-0003-4412-9757

Approval of the final version of the manuscript; Conception and planning if the study; Elaboration and writing of the manuscript; Critical review of the literature

Tialisson Scotti  ORCID 0000-0003-2849-5036

Approval of the final version of the manuscript; Elaboration and writing of the manuscript; Critical review of the literature

Rodrigo Ferreira Krüger  ORCID 0000-0003-1040-8299

Approval of the final version of the manuscript; Conception and planning if the study; Obtaining, analyzing and interpreting the data; Critical review of the literature, Critical review of the manuscript

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