

Similarities Among Complaints and Samples From Clients With Suspected Delusional Parasitosis: The OSU Plant Pest Diagnostic Clinic Experience

Barbara Bloetscher, Susan C. Jones, David J. Shetlar, and Celeste Welty
The Ohio State University

Abstract

Delusional parasitosis has been described as a condition in which a person suffers from the illusion that his/her body is infested with an insect or mite. Individuals become overwhelmed with the sensation of a tiny creature biting or burrowing into their skin and scalp.

Clients have either been referred to the Ohio State University's C. Wayne Ellett Plant and Pest Diagnostic Clinic (PPDC) to identify these pest(s), or they have found the Clinic by searching the internet. Convinced that they are not crazy, clients send a wide variety of items thought to contain the pest.

Despite the voluminous samples submitted however, most samples contained no arthropod. Instead, samples contained mostly skin, fabric fibers and inorganic debris. Clinic cases showed that females and people over 50 years of age submitted more samples. It was also noted that more samples were received in May (11%) and September (14%) and in the first two quarters of the moon phase.

Introduction

The C. Wayne Ellett Plant and Pest Diagnostic Clinic is a diagnostic laboratory at The Ohio State University, available to industry and residents for plant disease and insect identification. Clients find information about the Clinic through extension offices, OSU websites and fact sheets published at OSU, particularly the HYG FactSheet "Mystery Bugs".

This study is based upon for-fee samples submitted to the Clinic from 2002-2005 that contained unknown or unseen insects that bit and/or burrowed under the inquirers' skin, or were suspected to be caused by invisible mites, lice, spiders, chiggers, or biting midges. The purpose of the study was to classify the types of items submitted. The clients' demographics (age and sex) were then characterized. The timing of sample submission also was investigated.

FactSheet Extension

 HYG-2027-97

Mystery Bugs

Materials and Methods

70 cases involving one or more samples, which clients characterized as containing unknown and unseen insects were submitted to the Clinic from 2002-2005. Clients referred to these pests as no see-ums, invisible mites, lice, spiders, chiggers, or biting midges. Records were also kept of personal communication (letters, telephone calls) from each client.

Samples included:

- Human skin, scab fragments, body secretions and hair
- Cotton swabs, gauze and tape wiped on skin and scalp
- Dander, droppings, fur and feathers (from pets and livestock)
- Fabric, fuzz, lint, and similar debris/fragments
- Personal clothing items, bedding, carpet fragments
- Debris taped on cardboard, stuck on glueboards,
- Glass slides, vials of alcohol

Each sample was examined microscopically using an Olympus SZX12 stereoscope (10X-90X). Images were captured using a MicroPublisher 5.0 RTV camera.

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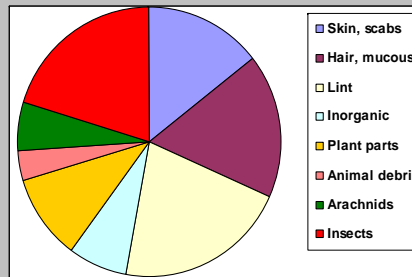


Figure 1. Items Identified in Samples

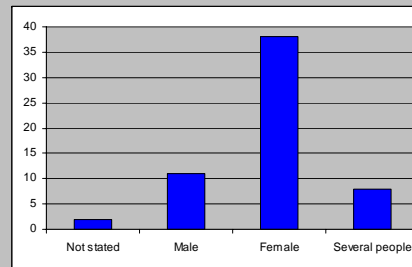


Figure 2. Number of Cases Submitted by Male vs. Female

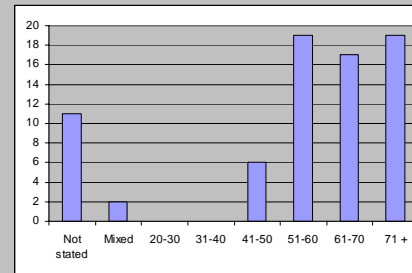


Figure 3. Number of Cases Submitted by Age Group

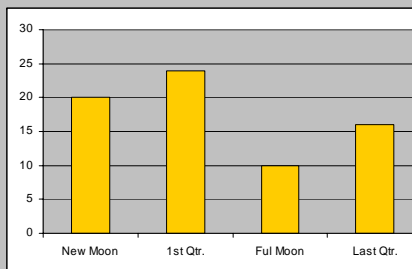


Figure 4. Number of Samples per Moon Phase

Results

Despite the numerous samples submitted, only 8% contained biting arthropods (Fig. 1). Furthermore, the clients' symptoms of excessive bites and rashes over extended periods of time were not consistent with arthropod-related injury. Mites occasionally invade homes and offices causing rashes and bites, however they cannot survive off their host for months to years. Other arthropods were also discounted.

Females (Fig 2), and people more than 50 years old (Fig 3) submitted a significant proportion of samples. It was also noted that more samples were received in May (11%) and September (14%) (Fig 5). Although it is rumored that people are more likely to suffer delusional problems during the new and full moon, the greatest number of samples were submitted during the first quarter (Fig. 4).

Items identified included (% of total samples):

Lint 20.97	Outdoor insects 6.91
Indoor insects 12.91	Scab 6.69
Plant parts 10.37	Mucous 6.0
Hair 11.29	Animal debris 3.46
Skin 7.83	Bed bug 2.3
Inorganic Matter 7.37	Arachnids 2.07

Discussion

Many of the samples from residences contained insects and arthropods commonly found indoors included springtails, drain flies, fungus gnats, millipedes and fungus beetles. Insects normally found outdoors included ground beetles and parasitic wasps. Arachnids identified included spiders and mites (4 dust mites). It is possible that skin sensitivity may be exacerbated when the moisture level is above normal, however the relative humidity was not tested and not all cases contained these insects.

The higher number of submissions from females may be due to the fact that they are more sensitive to bites, or more likely to seek help. We also suspect that older people may be more susceptible to symptoms due to changes in lifestyle, health problems and an increased likelihood of taking multiple medications. Although it is rational that symptoms increase in the fall, as humidity in the home drops and activity outside of the home declines, reasons for the upswing in complaints in the spring is not entirely understood. More research will be conducted in these areas, as well as the phases of the moon.

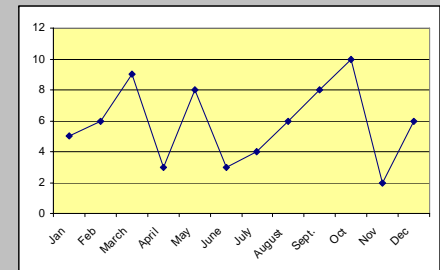


Figure 5. Number of Samples per Month

Conclusion

The Clinic did not find insects or mites as the source of the problem in almost all cases. Instead the samples contained inorganic, inanimate objects commonly found in residences or offices, yet complaints of these symptoms and visible rashes, sores, and bloody scabs plagued the inquirers. It is more likely that stress, contraindications of medication, and health problems contribute to the symptoms. Other causes may exist and should be considered by physicians and psychologists.