

A case of aetiological diagnosis of ectoparasitosis by crab louse *Pthirus pubis* through a microscopic examination of the indoor dust



P MASINI¹, S ZAMPETTI², F BIANCOLINI², R ROMANI³, G MIÑÓN LLERA⁴

¹Cani Anti Cimici©, Perugia, Italy, www.canianticimici.com; ²Ecotrade Solution Srl, Roma, Italy, www.glispecialistidelladisinfestazione.com; ³University of Perugia, Perugia, Italy, Department of Agricultural, Food and Environmental Sciences, University of Perugia, Perugia, Italy; ⁴Biologist freelancer, Oviedo, Spain.

INTRODUCTION

Pthirus pubis Linnaeus, 1758 (Anoplura: Pthiridae), also known as pubic louse or crab louse, is an obligate haematophagous ectoparasite of humans.¹ In an apartment placed in Rome (Italy), a man of 45 years old, with widespread body hair, had recurrent itching and papular lesions on the arms, legs, abdomen and pubic region. After a medical examination, the physician suspected an ectoparasitosis by *Cimex lectularius* (Linnaeus, 1758) (Hemiptera: Cimicidae). An olfactory inspection with bedbug detection dog was performed.^{2,3}

MATERIALS AND METHODS

Since the olfactory inspection did not detect the presence of the bedbugs, in November 2019, a collection of indoor dust was carried out from every room of apartment, using a vacuum cleaner modified (BuTure CR20, Shenzhen, Cina) according to the Sercombe method.⁴ A microscopic examination of samples was performed,⁵ in order to detect the arthropod responsible for clinical symptoms.

The samples were sieved (5 mm and 1 mm aperture meshes). Firstly, the sieved material has been observed under stereomicroscope (0,75X - 5X) (Motic SMZ 168, Milan, Italy) and then floated utilizing saturated solution of NaCl (20 min). Arthropods fragments were taken out under stereomicroscope using the tip of a pin and then placed in a drop of Berlese solution on a microscope slide with cover slip and observed by optical microscope (4X - 100X) (Motic BA 310, Milan, Italy).² Arthropods was identified taxonomically by an optical microscope or stereomicroscope (0,75X – 100 X).⁶

RESULTS AND DISCUSSION

In all the rooms examined, the microscopic examination of the indoor dust revealed the presence of dead specimens, body fragments and eggs, both empty eggshells and viable eggs of *P. pubis* (figs. 1 A-E). No other pathogenic arthropods potentially responsible for clinical symptoms were detected.

The microscopic examination of the indoor dust has allowed, in this case, to detect the environmental contamination by *P. pubis* and thus to reveal the ectoparasitosis in progress. The incorrect initial aetiological diagnosis may have been caused by the extensive body hair that covered the man's body.

Crab louse can infests, not only the pubis, groin, buttocks and perianal region, but in particular in hairy males, thighs, abdomen, chest, axillae and beard.⁷ The skin lesions spread in various regions of the body, and not only in the pubic region, would have misled the physician in the differential diagnosis.

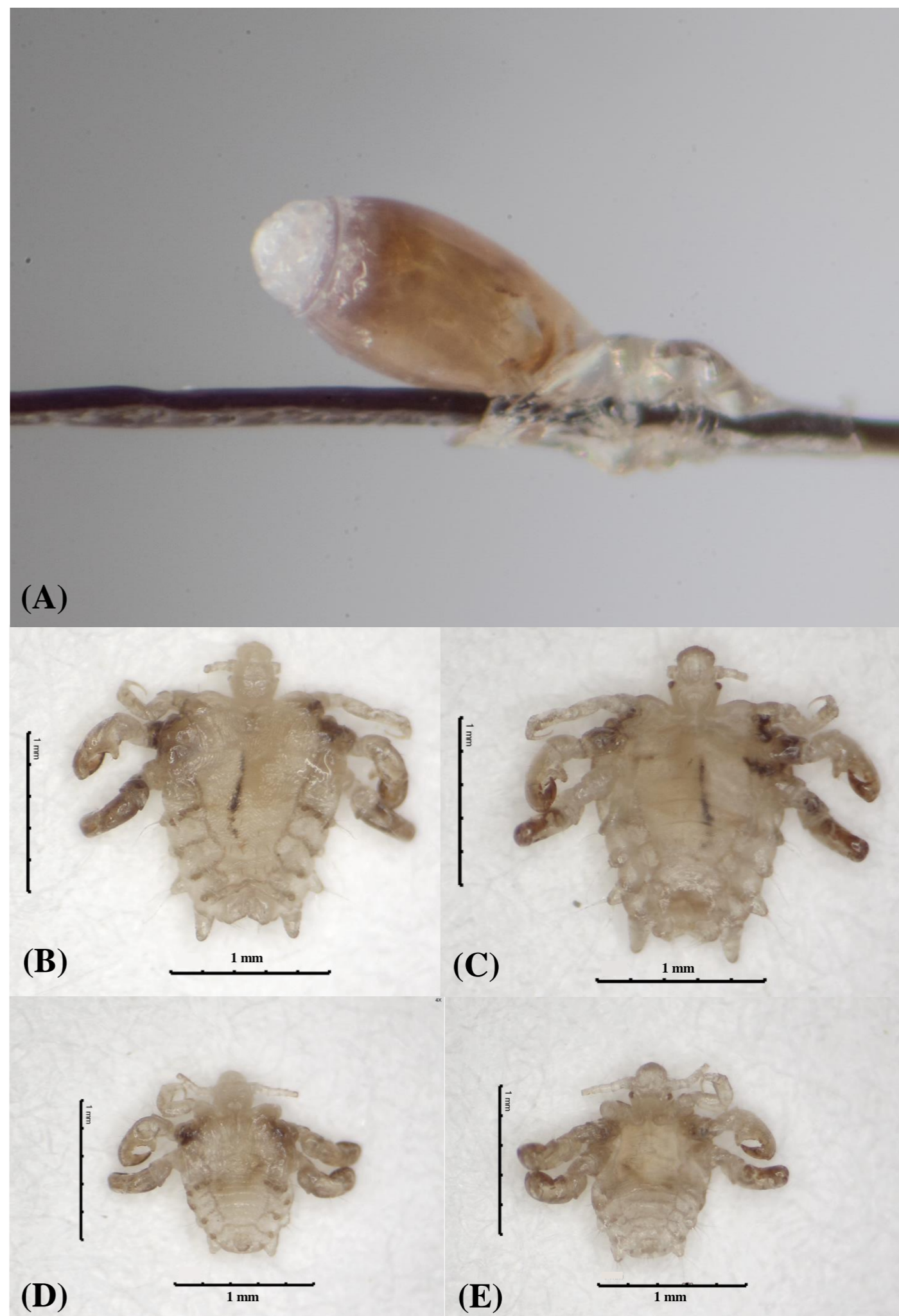


Fig. 1: Light micrographs of *Pthirus pubis*: (A) viable egg with nymph I inside glued onto hair-shaft. Perforated operculum typical of *Pthirus* genus, for exchanges of air and moisture to the embryo; (B) Female of *P. pubis* in dorsal (B) and ventral (C) view; Male of *P. pubis* in dorsal (D) and ventral (E) view [(Reflex SLR – Canon eos 80D, Milan, Italy) (Stereomicroscope - Motic SMZ 168, Milan, Italy) (Motic Image Plus 3.0, Milan, Italy)].

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