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Observations on physogastric females of *Pyemotes ventricosus* (Acarina: Pyemotidae) reared in laboratory conditions on *Anobium punctatum* (Coleoptera:Anobiidae)

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Mites of genus *Pyemotes* are known to be predators of insect larvae (Moser JC et al,1971 Entomophaga,16:367-379; Rack,G 1972, Zool.Anz.,188:157-174) and for their capacity of parasiting humans (Principato, M 1998, Ann.It.Dermatol.Clin.Sper., 52:60-72; Rycroft RJG et al,1981, Clin.Exper.Dermatol.,6:629-634). *Pyemotes ventricosus* (Newport 1850), in particular, causes the onset of red, oedematous papules on the upper body and arms (Mumcuoglu Y et al,1981 Schweiz.Rundschau Med.,70:860-865). For its frequency in dwellings in central Italy, it is one of the main causes of allergic dermatitis of environmental origin in humans (Principato,M 2000, 4th Symposium of the European Association of Acarologists, Siena, 431-434). Its lifecycle can perform on hymenopterous larvae *Apoidea* e *Chalcidoidea*, but also and mainly on *Coleoptera* of family *Anobiidae*, in particular *Anobium punctatum*. Other mites of *ventricosus* group, besides, such as *P.anobii*, *P.beckeri*, *P.herfsi* e *P.schwerdtfegeri*, can develop on this insect (Cross EA et al,1975 Ann.Entom.Soc.Am.,68: 723-732), but their biology and parasitological specificity is not yet well known. Our study started at the end of June by finding n.12 physogastric females of *P.ventricosus* in a wooden piece of an old chair infested by *Anobium punctatum*. This material was opened longitudinally in order to value the number of arthropods present in the burrows produced by woodworms and it was soon closed again, without damaging either mites or insects inside; then the wooden piece was placed in a glass container at 25°C and 60 % RH, and surrounded with a biadhesive tape. A week later, we obtained 425 females of *P.ventricosus* and a male. Later on, at the end of July, we counted 912 females and 3 males of the same species. At the end of August there were present 315 females and 3 males. We examined 4 beetles who had reached the adult stage in July, and in two of them, we found 3 physogastric females and 4 females not gravid under the beetles'elytrons. This phenomenon of phoresis, already recorded by ourselves (Principato M et al,1993 Praxis vet.,14:23-25), had never been observed in *Pyemotes* of *ventricosus* group, but only in those of *scolyti* group (*P.scolyti*, *P.parviscolyti* e *P.dimorphus*). If we make an average of all the females isolated on the biadhesive tape, besides, and if we consider that 3 physogastric females were eliminated and 2 had died before bringing forth, the number of adults dropped by each of the 7 females remaining was 236. The number of males dropped throughout the period was only the 0,42 % of the offspring. The high number of mites produced by few gravid females in the test demonstrates how *P.ventricosus* can colonize massively dwellings and be the first cause of indoor summer dermatitis in humans.s

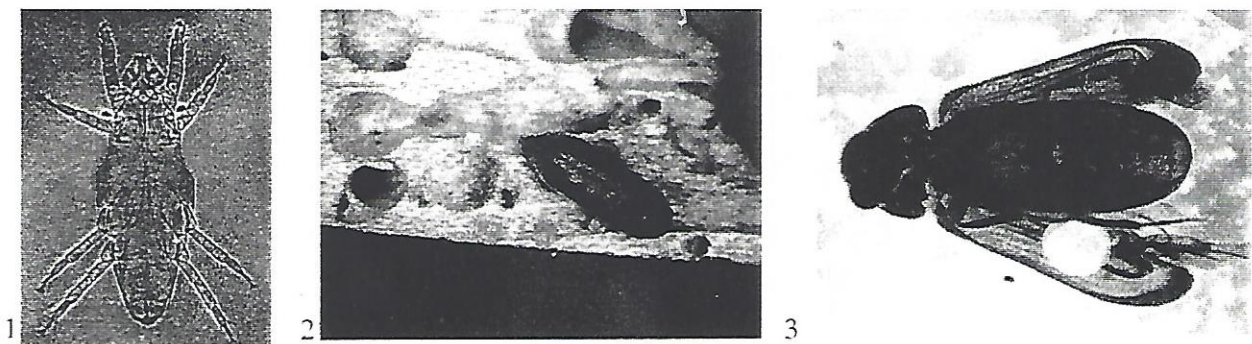


Fig.1: Female of *P.ventricosus* ; Fig.2: Physogastric females (arrows) of *P.ventricosus* in burrows dug by *A. punctatum*;
Fig.3: Physogastric females of *P.ventricosus* under *A. punctatum*'s elytrons