

## First report of a preadult instar of *Demodex brevis* Akbulatova (Acarina : Demodecidae)

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*Demodex brevis* is known to pass through four instars after eclosion: larva, protonymph, deutonymph and adult. Tritonymphal instar is absent. This kind of development is common to most mites, though three nymphal instars are frequently observed among *Actinetida*, *Astigmata* and *Oribatida*. The preadult instar, on the contrary, is very rare and it has been observed only in some groups of mites. Michener (1946), Imamura (1952) and Furumizo and Warthon (1975) reported cases of postimaginal molting in some species of *Trombidiidae* and *Arrenuridae* (*Actinedida*) and *Pyroglyphidae* (*Acaridida*). In *Demodecidae* mites the preadult instar has been never discovered before.

Reported herein for the first time is a preadult instar in *Demodex brevis* females removed from sebaceous glands of people suffering from rosacea or seborrheic alopecia. The instar of preadult, containing the adult inside (Fig.1), has the following sizes: 265-290 $\mu$  long; 66.4-74.7 $\mu$  large, measured at podosoma and 54-62 $\mu$  large, measured at the basis of opisthosoma.; gnathosoma: 24.9-29.05 $\mu$  x 20.75  $\mu$ ; opisthosoma 170-195  $\mu$  long.

The following characters are different from the adult (Figs.2-3): 1. subgnathosomal setae sited far from the pharyngeal bulb. 2. hypostome at least as long as or longer than palps (Fig.4a). 3. regular gnathosomal dorsal outline (Fig.4b). 4. third palpal segment protruding laterally. 5. legs III and IV nearly completely covered by podosoma (Fig.4 c,d). 6. short tarsal spine-like sensillum. 7. vestigial genital orifice.

The instar observed cannot be a tritonymph, since this one is generally a mobile instar, differently from all specimens observed by us. Moreover its aspect is not similar to the nymphal instar, but very similar to the adult and can therefore be easily mistaken for it. This quiescent preadult instar, gifted with long lasting double-cuticled (Fig.4e) walls is probably the cause of the extraordinary resistance of this mite to any acaricide treatments (Principato, 1996).

