1) Regarding the point of elastic deformation of the hairs themselves and

the possible contribution to adhesion:

In our model, dissipation occurs due to rupture of the liquid meniscus. A

considerable contribution to dissipation of the hairs themselves would only

occur, if their stiffness is comparable or lower than that of the liquid

bridge of the adhesive fluid.

2) Regarding impalement:

In our case, we always get only partial impalement during immersion of the

toe pad into the liquid, there is always a bubble forming. This bubble

itself is then very stable against further impalement due the combination of

stong contact line pinning within the hairy sturcture and the low

hydrostatic pressure, that cannot overcome the Laplace pressure of the

bubble. Therefore, full impalement occurs only in the case where we decassed

the water and the bubble then dissolved into water by gas diffusion.