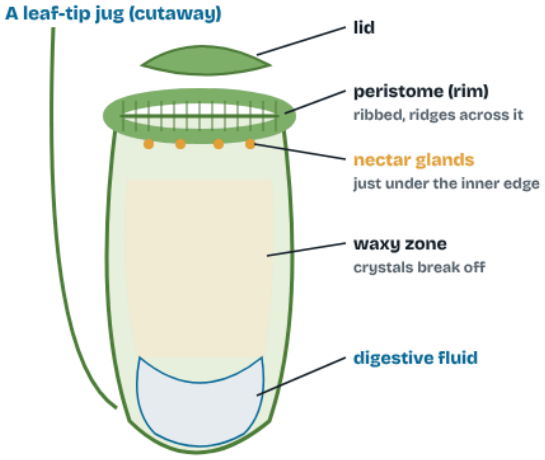
That is why

Why are pitcher plants so slippery?

Water spreads over the rim as a thin film, so insects' feet aquaplane and slide in, but only while the rim is wet.

A Inside a pitcher

A leaf-tip jug (cutaway)



Insects often fall straight over the rim, never touching the wax.

1 Lotus vs pitcher

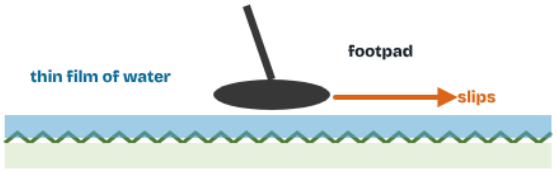
The lotus leaf keeps water out with tiny bumps and trapped air, so drops bead up. The pitcher rim does the reverse: it spreads water into a film and locks it in place.

B Dry rim vs wet rim

Dry: the footpad touches



Wet: the footpad floats



Ants caught (Brunei field tests)



Like tires on a wet road: aquaplaning. Water dripped on a dry rim spread into a film over the whole rim in seconds.

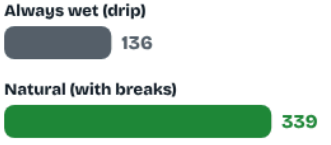
C A trap that takes breaks

A day on the rim (N. rafflesiana)



Wet early evening to early morning, even without rain. Nectar pulls water from the air, and more of it flows in the evening. Off for up to 8 h on dry days.

Ants caught: 23 plants, Borneo



A scout drinks safely on a dry rim, recruits nestmates, and the crowd slips in once the rim is wet again.

Another wet-weather trap: rain on the lid of N. gracilis flicks it like a springboard; about 40% of ants under it fell in once the drops began.

Like a freshly mopped floor: dry, you can walk on it; wet, your feet have nothing to grip.

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