A series of the [Pd(dmit)$_2$] salts provide triangular antiferromagnets, in which the $S = 1/2$ Heisenberg spins localized on the dimeric units [Pd(dmit)$_2$]$_2$ are frustrated [1]. Among them, the EtMe$_3$Sb salt has been found to behave as a gapless spin liquid at low temperature [2]. In the monoclinic EtMe$_3$P salt, spin-gapped phase appears below 25 K accompanied by spontaneous breaking of lattice translational symmetry, indicating the spatially ordered spin-singlet pairs (valence bonds, VB's) [3]. Suppression of the VB ordering by pressure affords superconductivity [4,5]. Some other salts with larger spatial anisotropy undergo antiferromagnetic long-range ordering (AF LRO). Crossover from a frustrated paramagnetic state to an antiferromagnetically correlated state is observed slightly above the transition temperature, due to the low-lying short-range spin excitations. These features can be explained in terms of the ordering, resonance and flipping of the VB's, manifesting quantum liquid nature of the frustrated spins on a two-dimensional triangular lattice.