abstract We propose a source of multimode squeezed light that can be used for the superresolving microscopy beyond the standard quantum limit. This source is an optical parametric amplifier with a properly chosen diaphragm on its output and a Fourier lens. We demonstrate that such an arrangement produces squeezed prolate spheroidal waves which are the eigen modes of the optical imaging scheme used in microscopy. The degree of squeezing and the number of spatial modes in illuminating light, necessary for the effective object field reconstruction, are evaluated.