Parasites in the genus *Plasmodium* are single-celled organisms that cause malaria. At one point in their life cycle, these single cells differentiate into male and female forms, and there are often more females than there are males. One branch of sex ratio theory, Local Mate Competition (LMC), predicts female-biased sex ratios in populations that are subdivided during mating, like malaria parasites in insect vectors. However, if there is not a direct correspondence between the number of females and the probability of transmission, the assumptions of LMC are not fulfilled and the equilibrium sex ratio may differ from LMC theory predictions. I developed a model that tests how biologically reasonable deviations from LMC theory assumptions would affect the equilibrium sex ratio. I then determined the sex ratio, sexual cell density, and male fecundity of single- and multiple-clone infections of the lizard malaria parasite *Plasmodium mexicanum* and compared these data with the predictions of standard LMC theory and the new model. The model predicts a range of possible equilibrium sex ratios, with the specific ratio influenced by sexual cell density, number of coexisting clones, male gametocyte fecundity, and the shape of the relationship between number of females and transmission success. The average sex ratio of P. mexicanum infections was 44% male. The number of clones in an infection and the density of sexual cells had no consistent effect on sex ratio. Male cells produce only a few gametes (2-3 gametes per cell on average), and gamete production is correlated with sex ratio in natural single-clone infections. With such low fecundity, the sex ratios observed (and lack of relationship with both number of clones and gametocytemia) are consistent with either LMC theory or the new model. Data from other malaria parasite species is also considered.