Social insects provide an ideal opportunity to study polyphenism and the impact of gene expression on the existence and maintenance of distinct phenotypes. Based on differential expression of the same set of genes, workers and queens develop morphological, physiological and behavioral differences. During social insect life cycles, differential expressions of still unknown sets of genes maintain the female caste differences. In order to understand the extent of the impact of developmental stage on caste biased expression in *Formica exsecta*, we used RNA sequencing (RNA-seq) to explore gene expression differences between queens and workers at several life stages. We performed a de novo transcriptome assembly of the ant *Formica exsecta*, with RNA-seq libraries constructed from queen and worker samples originating from three developmental classes, pupal, emerging adult and adult stages. The analyses revealed that the number of caste biased genes increases with age, with adults displaying the largest expression differences among castes. Furthermore, no genes were found to be consistently biased towards one caste across all three life stages. This suggests that the gene expression of caste differences is highly context specific. Despite obvious polymorphic differences between the queens and the workers, the differences in gene expression patterns among life stages were higher than between castes. These results indicate that high polymorphic divergences between castes may persist even with relatively small differences in gene expression. In addition, when comparing caste-biased expression with between-developmental stages expression, we determined a subclass of caste specific genes. These genes represent a small proportion of genes exclusively linked to caste bias for each studied developmental stage. Our results suggest that further studies on polyphenism, focusing on gene expression patterns and caste development, cannot overlook the importance of life stages.