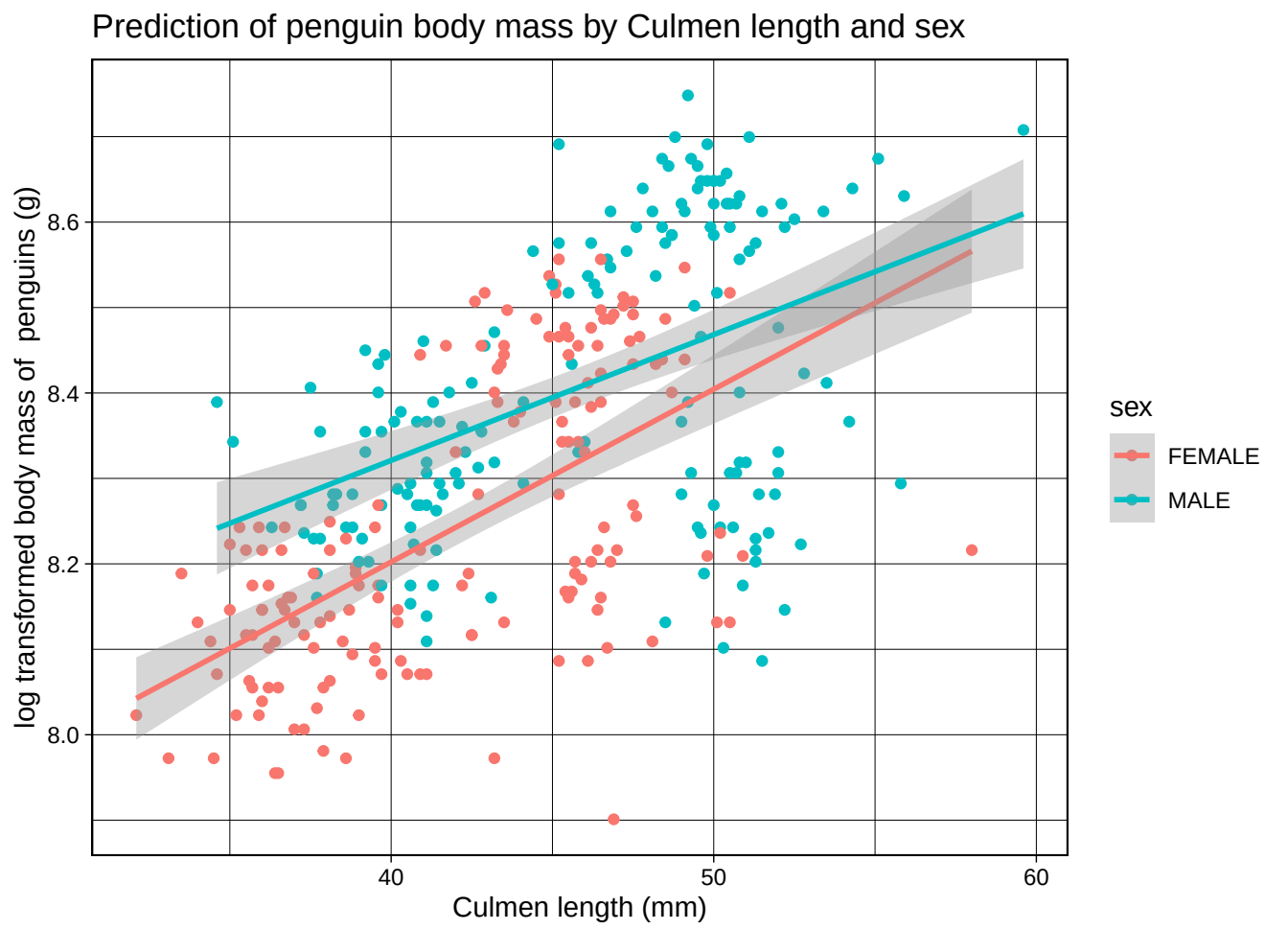

Figure 2: A linear regression plot showing the effects of the interaction between culmen length and sex on body mass with 95% confidence level. The plot includes data on 344 individuals from 3 species: Adelie Penguin (Pygoscelis adeliae), Gentoo penguin (Pygoscelis papua) and Chinstrap penguin (Pygoscelis antarctica), which are distibuted across 3 islands: Biscoe, Dream and Torgersen. The overall regression is statistically significant (R2 = 0.4066, F(3, 329) = 76.81, p = <2.2e−16), with a P−value <0.05.An ANOVA test revealed that the males (blue) show a significantly higher mass than the females (red) with an anova P−value for the main effects of sex being <0.05 (< 2.2e−16). The positive gradients also show significant main effects of culmen length on body mass with a p−value <0.05 (1.678e−08). The non parralel gradients suggest a weak interaction between the 2 factors; the anova P−value for the interaction (0.7925) is < 0.05 meaning the interaction is non significant and there is greater certainty around the main effects of the 2 independant variables.