

**Figure S3.** The relationship between laboratory assays and model-fitted values of pollen volume /floral unit. The table below shows the coefficients for the best-fit model, in which the missing anther size category (large) is the dummy variable. The plot shows the relationship between lab-measured and modelled values for the test data (red, n = 59) and the validation data (blue, n = 43). The fitted line shows  $x=y$ , to which both datasets show a good fit.

lm model specification for the test data:

$\log_e$  pollen volume per flower  $\sim$  1/number of stamens/flower + anther.size

Coefficients:

	Estimate	Std. Error	t value	p value
Intercept	2.3350	0.6029	3.873	0.0003
1/stamens per flower	-8.9835	1.9868	-4.521	<<0.0001
anther.size medium	-3.2777	0.6475	-5.062	<<0.0001
anther.size small	-5.5904	0.6617	-8.448	<<0.0001
anther.size tiny	-4.4862	0.6653	-6.743	<<0.0001

Residual standard error: 1.149 on 54 degrees of freedom

Multiple R-squared: 0.723, Adjusted R-squared: 0.7025

F-statistic: 35.23 on 4 and 54 DF, p-value <<0.0001

