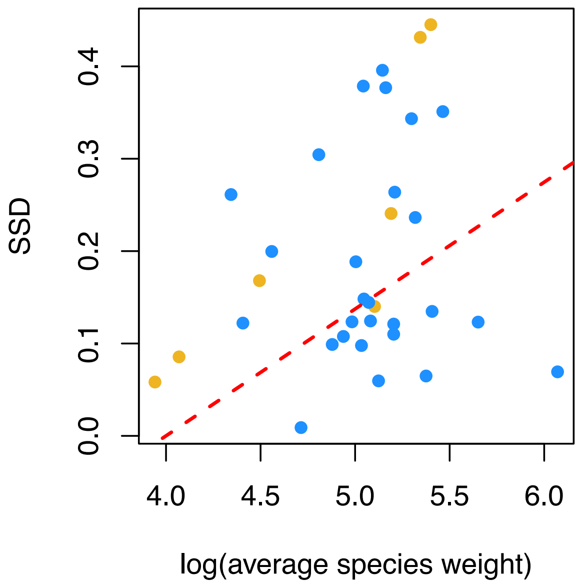
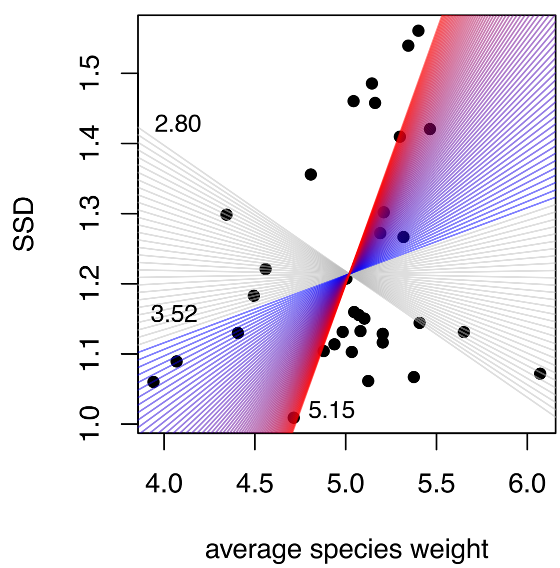
Size = weight
Rensch's Rule in body size



Coefficients:

	Value	Std.Error	t-value	p-value
(Intercept)	-0.5491947	0.26702688	-2.056702	0.0479
avg_weight	0.1373047	0.04997821	2.747292	0.0098

Is Rensch's Rule in body size dependent on relative male tail length?



Coefficients:

	Value	Std.Error	t-value	p-value
(Intercept)	7.60070	2.0186374	3.765263	0.0007
avg_weight	-1.27220	0.3947912	-3.222462	0.0031
rel_tail_length_M	-1.96228	0.5792810	-3.387441	0.0020
avg_weight:rel_tail_length_M	0.39088	0.1131698	3.453924	0.0017

Johnson-Neyman technique:
Relative tail length interval for which the SSD ~ size relationship is not significant:

2.80 – 3.52 (grey regression lines)

Relative tail length values > 3.52 make the SSD ~ size relationship significant (i.e. make Rensch's Rule true).

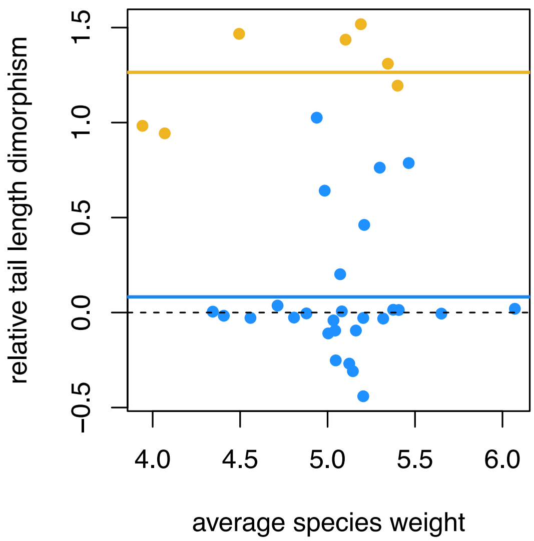
Max. relative tail length value in data: 5.15

Conclusion: The emergence of Rensch's Rule in the body size of birds of paradise is associated with the evolution of tail elongation in males. Species with relatively long male tails are more dimorphic when larger.

Rensch's Rule in tail length

Relative tail length dimorphism = relative tail length males - relative tail length females

Relative tail length = tail length - 0.33*average species weight (testing with 0.5 [empirical] doesn't change the results).

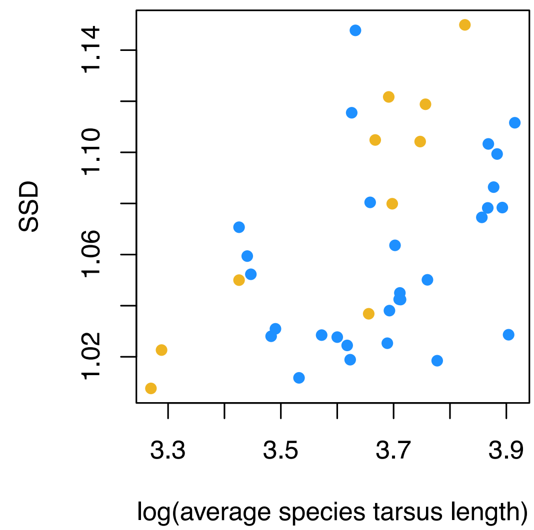



```
Coefficients:
                 Value Std.Error   t-value p-value
(Intercept) -0.6371069 0.7149910 -0.891070  0.3798
avg_weight   0.1412274 0.1397912  1.010274  0.3202
tail_wiresY  1.2247970 0.1468769  8.338935  0.0000
```

Conclusion: Body size, but not tail length, follows Rensch's Rule in paradise birds. This suggests that, although the evolution of SSD is linked to tail elongation, males from larger species don't have disproportionate long tails.

The evolution of wires (and maybe elongation in general) supposed an increase in the evolutionary intercept of relative tail dimorphism. The degree of relative dimorphism in this newly evolved trait, however, is independent of size.

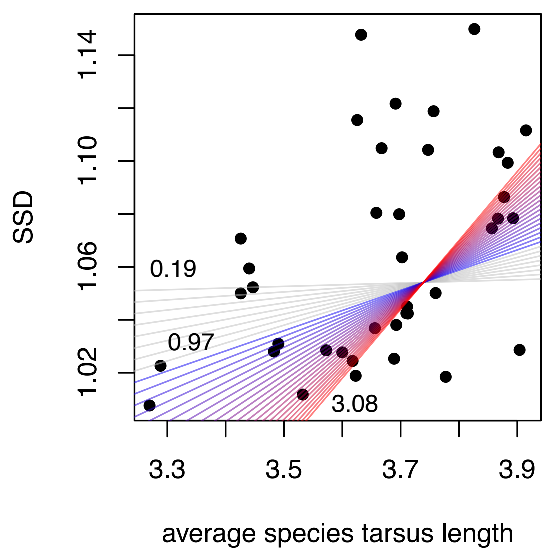
Size = tarsus length
Rensch's Rule in body size



Coefficients:

	Value	Std.Error	t-value	p-value
(Intercept)	-0.4141341	0.10341844	-4.004451	3e-04
avg_tarsus	0.1250322	0.02782448	4.493604	1e-04

Is Rensch's Rule in body size dependent on relative male tail length?



Coefficients:

	Value	Std.Error	t-value	p-value
(Intercept)	1.0955584	0.29096167	3.765301	0.0006
avg_tarsus	-0.0110773	0.07792832	-0.142147	0.8878
rel_tail_length_M	-0.3485563	0.17391927	-2.004127	0.0528
avg_tarsus:rel_tail_length_M	0.0932183	0.04631033	2.012906	0.0519

Johnson-Neyman technique:
Relative tail length interval for which the SSD ~ size relationship is not significant:

0.19 – 0.97 (grey regression lines)

Relative tail length values > 0.97 make the SSD ~ size relationship significant (i.e. make Rensch's Rule true).

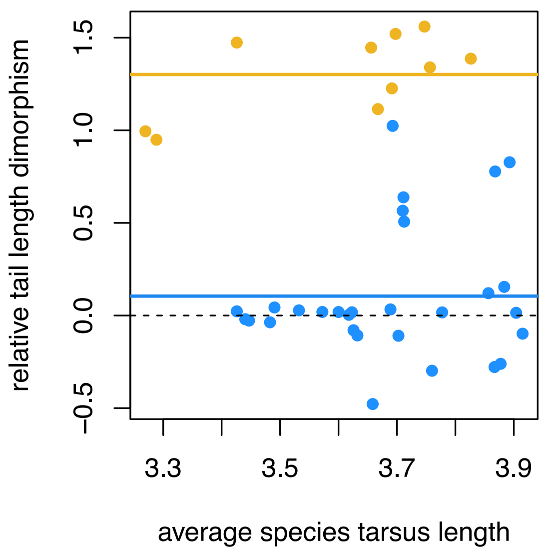
Max. relative tail length value in data: 3.08

Conclusion: The emergence of Rensch's Rule in the body size of birds of paradise is associated with the evolution of tail elongation in males. Species with relatively long male tails are more dimorphic when larger.

Rensch's Rule in tail length

Relative tail length dimorphism = relative tail length males - relative tail length females

Relative tail length = tail length - 0.33*average species weight (testing with 0.5 [empirical] doesn't change the results).




```
Coefficients:
                 Value Std.Error   t-value p-value
(Intercept) -2.5738375 1.4480004 -1.777512  0.0839
avg_tarsus   0.7062183 0.3881250  1.819564  0.0771
tail_wiresY  1.2636976 0.2575575  4.906467  0.0000
```

Conclusion: Body size, but not tail length, follows Rensch's Rule in paradise birds. This suggests that, although the evolution of SSD is linked to tail elongation, males from larger species don't have disproportionate long tails.

The evolution of wires (and maybe elongation in general) supposed an increase in the evolutionary intercept of relative tail dimorphism. The degree of relative dimorphism in this newly evolved trait, however, is independent of size.