

Supplementary materials

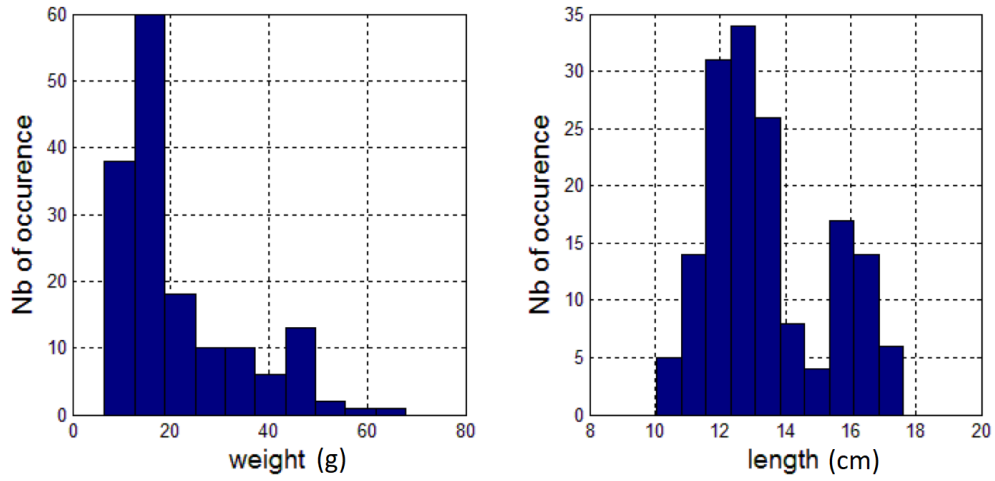


Figure S1: Experimental weight and length distribution

Weight - PIS1	
$Epar_{i1}(f_{j1})$	r
Xp(20384)	0.713
Mo(78880)	0.712
Rs(49632)	0.702
Ph(10635)	0.667
Rp(30133)	0.511
Xs(10635)	0.291

Weight - PIS2	
$Epar_{i1}(f_{j1})$	r
Xp(20384)	0.705
Mo(78880)	0.704
Rs(39883)	0.689
Ph(10635)	0.659
Rp(30133)	0.485
Xs(10635)	0.291

Length - PIS1	
$Epar_{m1}(f_{n1})$	r
Mo(78880)	0.828
Rs(39883)	0.805
Xp(10635)	0.793
Ph(10635)	0.669
Rp(30133)	0.646
Xs(10635)	0.209

Length - PIS2	
$Epar_{m1}(f_{n1})$	r
Mo(78880)	0.818
Rs(39883)	0.791
Xp(20384)	0.784
Ph(10635)	0.661
Rp(30133)	0.618
Xs(885)	0.287

Table S1: Top 6 Pearson's r with a single variable regression

Weight - ME-SF			Length - ME-SF		
$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	r
Xs(20.384)	Ph(20.384)	0.758	Xs(69.131)	Ph(69.131)	0.851
Rp(49.632)	Ph(49.632)	0.753	Rp(39.883)	Ph(39.883)	0.845
Mo(10.635)	Ph(10.635)	0.741	Mo(78.880)	Ph(78.880)	0.844
Rs(10.635)	Ph(10.635)	0.739	Rs(98.379)	Mo(98.379)	0.842
Rs(98.379)	Mo(98.379)	0.732	Rp(98.379)	Mo(98.379)	0.840
Xs(88.629)	Mo(88.629)	0.731	Xs(78.880)	Mo(78.880)	0.839

Weight - SE-MF			Length - SE-MF		
$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	r
Mo(20.384)	Mo(30.133)	0.812	Mo(20.384)	Mo(30.133)	0.887
Rs(10.635)	Rs(20.384)	0.783	Rs(10.635)	Rs(20.384)	0.854
Ph(49.632)	Ph(59.381)	0.752	Xp(20.384)	Xp(39.883)	0.823
Xp(30.133)	Xp(39.883)	0.744	Rp(10.635)	Rp(20.384)	0.820
Rp(10.635)	Rp(20.384)	0.737	Ph(49.632)	Ph(59.381)	0.740
Xs(0.885)	Xs(10.635)	0.598	Xs(0.885)	Xs(10.635)	0.584

Weight - ME-MF			Length - ME-MF		
$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	r
Ph(30.133)	Xs(78.880)	0.844	Ph(30.133)	Xs(59.381)	0.907
Rp(10.635)	Mo(49.632)	0.813	Rp(10.635)	Mo(49.632)	0.885
Ph(20.384)	Rp(49.632)	0.809	Ph(20.384)	Rp(49.632)	0.880
Ph(10.635)	Mo(98.379)	0.799	Ph(20.384)	Mo(98.379)	0.878
Xs(10.635)	Mo(78.880)	0.797	Xs(10.635)	Mo(78.880)	0.875
Xs(20.384)	Rp(39.883)	0.784	Rs(10.635)	Mo(39.883)	0.869

Table S2: Top 6 Pearson's r with a two variable regression

Weight with 3 variables				
	r	$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	$Epar_{i3}(f_{j3})$
ME-MF	0.854	Xp(10.635)	Ph(20.384)	Rp(39.883)
SE-MF	0.827	Rs(20.384)	Rs(39.883)	Rs(59.381)
ME-SF	0.793	Rs(30.133)	Mo(30.133)	Ph(30.133)

Length with 3 variables				
	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	$Epar_{m3}(f_{n3})$
ME-MF	0.907	Ph(20.384)	Xp(30.133)	Mo(78.880)
SE-MF	0.889	Mo(20.384)	Mo(39.883)	Mo(69.131)
ME-SF	0.864	Rs(30.133)	Mo(30.133)	Ph(30.133)

Table S3: Top 6 Pearson's r with a three variable regression

Weight with 4 variables					
	r	$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	$Epar_{i3}(f_{j3})$	$Epar_{i4}(f_{j4})$
ME-MF	0.867	Xp(10.635)	Ph(20.384)	Mo(39.883)	Rs(78.880)
SE-MF	0.831	Rs(20.384)	Rs(39.883)	Rs(78.880)	Rs(98.379)
ME-SF	0.813	Rs(49.632)	Rp(49.632)	Mo(49.632)	Ph(49.632)

Length with 4 variables					
	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	$Epar_{m3}(f_{n3})$	$Epar_{m4}(f_{n4})$
ME-MF	0.917	Xs(0.885)	Xp(10.635)	Ph(20.384)	Mo(59.381)
SE-MF	0.892	Mo(10.635)	Mo(20.384)	Mo(39.883)	Mo(69.131)
ME-SF	0.876	Rs(49.632)	Rp(49.632)	Mo(49.632)	Ph(49.632)

Weight with 5 variables						
	r	$Epar_{i1}(f_{j1})$	$Epar_{i2}(f_{j2})$	$Epar_{i3}(f_{j3})$	$Epar_{i4}(f_{j4})$	$Epar_{i5}(f_{j5})$
ME-MF	0.872	Xp(10.635)	Ph(30.133)	Mo(59.381)	Rs(78.880)	Rp(98.379)
SE-MF	0.833	Rs(20.384)	Rs(30.133)	Rs(49.632)	Rs(78.880)	Rs(98.379)
ME-SF	0.816	Rs(49.632)	Rp(49.632)	Xp(49.632)	Mo(49.632)	Ph(49.632)

Length with 5 variables						
	r	$Epar_{m1}(f_{n1})$	$Epar_{m2}(f_{n2})$	$Epar_{m3}(f_{n3})$	$Epar_{m4}(f_{n4})$	$Epar_{m5}(f_{n5})$
ME-MF	0.922	Xs(0.885)	Xp(10.635)	Ph(20.384)	Rs(30.133)	Mo(39.883)
SE-MF	0.895	Mo(0.885)	Mo(10.635)	Mo(20.384)	Mo(39.883)	Mo(69.131)
ME-SF	0.879	Rs(49.632)	Rp(49.632)	Xp(49.632)	Mo(49.632)	Ph(49.632)

Table S4: Best correlation equations with 4 and 5 variables