

## S9. Text Multi-species analysis of Proc-R

### Supporting Figure 11

CLUSTAL Line-ups; Genbank Reference IDs below

5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> Predicted TM domains in **YELLOW**

BBS sequences in **RED**

Grimshawi	-----MTT-----LTATSTAMPDGNAAAKMFSADVAEVRH	32
Mojavensis	--MSTLAA-----ATSTSTAMPVDIAIAAKMFSADVAEVRH	35
Virilism	---MTTLA-----ATSTSTAMPVDIGITAKMFSADVAEVRH	34
Bipectinate	MTMFSLLTATLTATATATATATATVTATATSTESEAEATLNETEAGTEMFSDADVVEVRR	60
Anannassae	MTMFSLLTATLTATATATATATATVTPAE-----AETEAEAGSEMFSADVAEVRH	52
Serrata	MTMSS-----TSSQSSDGNETVGMFSEADTAEVRH	31
Kikkawei	--MSS-----TSSQSSDGNETVGMFSEAEAEVRH	29
Fichsuphila	--MSSTSTS-----TTTATLTATEAATVGNATVGMFSDAEMAEVRH	40
Eugracilis	MTMSTSTLLTA-----TATATATELGNATVGMFSDADMAEVRH	40
Rhopaloo	-----MEVAATLGNATVGMFSDADMAEVRH	26
Elegans	--MS-----STSTSTEAPEAATLGNATVGMFSDADMAEVRH	36
Takahashi	MTMSTTSTATL-----TEAA-----AAAAEAATLGNATVGMFSDADMAEVRH	44
Suzuki	MTMSTTSTATL-----TEAAEAATAEAATLGNATVGMFSDADMAEVRH	46
Biarmipes	MTMSTVTATL-----TEAA-----AAEAEAATLGNATAGEMFSDADMAEVRH	44
Erecta	MTMSTSTATA-----TATST-----ATATLAEANATVGMFSDADMAEVRH	42
Melanogaster	MTMSS--TSTA-----TATST-----ATATLDEANATVGMFSDADMAEVRH	40
Simulans	MTM----SSTS-----TATST-----ATATLAEANATVGMFSDADMAEVRH	38
Mauritania	MTM----SSTS-----TATST-----ATATLAEANATVGMFSDADMAEVRH	38
Sechellia	MTM----SSTS-----TATST-----ATATLAEANATVGMFSDADMAEVRH	38
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Grimshawi	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLSALAITDIAYLTFVLILSLKH	92
Mojavensis	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTFVLILSLKH	95
Virilism	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLSALAITDIAYLTFVLILSLKH	94
Bipectinate	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTFQLILSFQHY	120
Anannassae	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLSALAITDIAYLTFQLILSLQHY	112
Serrata	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTFQLILSLQHY	91
Kikkawei	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTFQLILSLQHY	89
Fichsuphila	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSIQHY	100
Eugracilis	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	100
Rhopaloo	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	86
Elegans	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	96
Takahashi	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	104
Suzuki	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	106
Biarmipes	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	104
Erecta	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	102
Melanogaster	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	100
Simulans	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	98
Mauritania	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	98
Sechellia	VVQRILVPCVFVIGLLGNSVSIYVLRKRMRCTTNIYLTALAITDIAYLTCQLILSLQHY	98
	*****:***** ***:**	
Grimshawi	EYIKYHCELYWRLYGFVWMLCDACAYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	152
Mojavensis	EYIKYHCELYWLLYGFVWMLCDACAYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	155
Virilism	EYIKYHCELYWRLYGFIMWMLCDACAYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	154
Bipectinate	DYVKYHCEIYWQFYGYFVWMLCDSCAYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	180
Anannassae	DYFKYHSEIYWQLYGYFVWMLCDSSAYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	172
Serrata	DYVKYHCEIYWQLYGFVWMLCDSSGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	151
Kikkawei	DYVKYHCEIYWQLYGFVWMLCDSSGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	149
Fichsuphila	DYAKYHLQIFWELYGYFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	160
Eugracilis	DYTKFHVEIYWQLYGYFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	160
Rhopaloo	DYPKYHFEIYWQLYGFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	146
Elegans	DYPKYHLEIYWQLYGYFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	156
Takahashi	DYPKYHFKIYWQLYGFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	164
Suzuki	DYPKYHFKIYWQLYGFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	166
Biarmipes	DYPKYHFKIYWQLYGFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	164
Erecta	DYTKYHKLKYWQLYGFVWMLCDSSFGYISIIYIYAVCFIERFIAIRYPLKRQTFCTESLAKK	162

Melanogaster DYPKYHFKLYWQLYGYFVWLCDSEFGYISIIYIIVCFTIERFIAIRYPLKRQTFCTESLAKK 160  
 Simulans DYPKYHFKLYWQLYGYFVWLCDSEFGYISIIYIIVCFTIERFIAIRYPLKRQTFCTESLAKK 158  
 Mauritania DYPKYHFKLYWQLYGYFVWLCDSEFGYISIIYIIVCFTIERFIAIRYPLKRQTFCTESLAKK 158  
 Sechellia DYPKYHFKLYWQLYGYFVWLCDSEFGYISIIYIIVCFTIERFIAIRYPLKRQTFCTESLAKK 158  
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Grimshawi VIAAVALFCLLTTLSTAFEHTYDIDWKLIDGAYRPCNQLANVSPTPAH----- 201  
 Mojavensis VIAAVALFCLLTTLSTAFEHTYDINWKLIDGAYRPCNLTLANVSPMPTPTPTSTPMPTPA 215  
 Virilism VIAAVALFCLLTTLSTAFEHTYDINWKLIDGAYRPCNLTLANVSPTPAQ----- 203  
 Bipectinate VIAAVALFCLLSTLSTAFEHSFARKFRLIDDDYRPCNQLANVSPQPLALTPSLMQAPS 240  
 Anannassae VIAAVALFCLLSTLSTAFEHSYARGYRLIDDAYRPCNQLANVSPQQLPLPSLHMQAPS 232  
 Serrata VIAAVSLFCLLSTLSTAFEHTIKVDWKLIDGAYQPCNQLANVSPTPPSTS----- 202  
 Kikkawai VIAAVSLFCLLSTLSTAFEHTIKVDWKLIDGAYQNCNQLANVSPMPPTS----- 200  
 Fichsuphila VIAAVAVFCLLSTLSTAFEHTITVGWKLIDGAYQPCNQTEANFSPMPPSFALG-----T 214  
 Eugracilis VIAAVAFFCLLSTLSTAFEHTITVGSKLIDDAYQPCNQLANVSPMPTS--S----- 210  
 Rhopalao VIAAVAFCLLSTLSTAFEHTITVGKLIIDDAYQPCNLTANISPTPPAPFF----- 198  
 Elegans VIAAVAVFCLLSTLSTAFEHTITVGWKLIDDAYQPCNQTVANFSPTPVPSF----- 208  
 Takahashi VIAAVAFCLLSTLSTAFEHTITVGWKLIDDAYQPCNQTVANISPTPPP-S----- 214  
 Suzuki VIAAVAVFCLLSTLSTAFEHTITVGSKLIDDAYQPCNQTVANISPTPPP-S----- 216  
 Biarmipes VIAAVAVFCLLSTLSTAFEHTITVGSRLIDDAYQPCNQSIVANISPTPPA-F----- 214  
 Erecta VIAAVAFCLLSTLSTAFEHTITMGRQIDDAYQPCNQTVANISPTPPPS----- 213  
 Melanogaster VIAAVAFCLLSTLSTAFEHTITIGTRQIDDAYQPCNQTVANISPMPP-PP----- 210  
 Simulans VIAAVAFCLLSTLSTAFEHTITIGTRQIDDAYQPCNQTVANISPTPPPP----- 209  
 Mauritania VIAAVAFCLLSTLSTAFEHTITIGTRQIDDAYQPCNQTVANISPTPPPP----- 209  
 Sechellia VIAAVAFCLLSTLSTAFEHTITIGTRQIDDAYQPCNQTVANISPTPPPL----- 209  
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Grimshawi -----QTPGT-AWHVVENASMSN-----TTPS-----NVEPPLDLGSGA 234  
 Mojavensis -----QTMTT-AWHIEEPAGNPA-----TSRYLEPFDLSSDSGSGSGA 254  
 Virilism -----PTLAT-AWHVDEHANNAA-----TPRYLEPFDLSS----GSGSGA 238  
 Bipectinate PLDSTTPLPTAMLPVTPHMQDLT-----RKPEKPLGV--LVSDVFSGGSGD 287  
 Anannassae PSASTPLPTVMLPTVTPHWQDSRDSQD---LAGRSTKPLGLFLAADVFSGGSGD 288  
 Serrata ---LTPALSTPPLVTPAT-IWQEQQERESLQDFFTT-ESSVSKSRLLLDFGSGSG--D 255  
 Kikkawai ---VTPALSTPMPVTPPT-IWKEKEL---EQNFFTQ-ESSTAKSRLLLDFGSGSG--D 249  
 Fichsuphila PPLATPPLATPPLATPPT-VWQDFSTES-P-----TAIAGSSQLIDWGSAG--D 261  
 Eugracilis -VAATPPLATPPLTPAT-IWQSTELNTES-----TTAGKSNVLDWGSAG--D 257  
 Rhopalao -AVATPPLATPPRTPAT-I--SQDFTTES-----T-TAGSSNLLVDWGSAG--D 242  
 Elegans -AVATPPLATPPLTPAT-I--SQHFSTES-----T-TAGSSNLLVDWGSAG--D 252  
 Takahashi -AAATPPLVTPPLTPAT-IWQSQDLTTES-----T-TAGSSNLLADWGSAG--D 260  
 Suzuki -VAATPPLVTPPLTPAT-IWQSQDFTTES-----T-TAGSSNLLVDWGSAG--D 262  
 Biarmipes -VAATPPLVTPPLTPAT-IWKSQDSTTES-----T-TAGSSNLLVDWGSAG--D 260  
 Erecta -AAATPPLATPPLTPAT-IWQSQDYSTES-----T-TAGSTSLVDWGSAGDGD 261  
 Melanogaster -VAVTPPLATPPLTPAT-IWQSPDSAMES-----T-TSGSSNQLVDWGSAG--D 256  
 Simulans -VAATPPLATPPLTPAT-IWQSPDLAMES-----T-TAGSSNLLVDWGSAG--D 255  
 Mauritania -VAATPPLATPPLTPAT-AWQSPDFAMES-----T-TAGSSNLLVDWGSAG--D 255  
 Sechellia -GEATPPLATPPLTPAT-VWQSPDFAMES-----T-TAGSSNLLVDWGSAG--D 255  
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Grimshawi -GESDHI PSRQRLPASTSAFVG-----VTAPATEPTAAAAVSVFLHLS 277  
 Mojavensis -GEPDHI PSRQRLPAFTSASVG-----VTAAATEPTTASATASLLQLS 297  
 Virilism -GESDHI PSRQRLPASTSASVG-----VTAAATEPTAATAASLLQLS 281  
 Bipectinate GGVPEYKAEKRWPLHSPGFRTTPMSKVLQDDQDI DQDEDQ-----DQNPDHVTESLQFVS 342  
 Anannassae GGVPE----KRWHLPSGGFRTTPMSKVIQEQQDI DQD-----DQSPDVVTESLQFHS 337  
 Serrata -GEPVNI PRRRHWQSSGFVTPPTLRRTLQDQDRVLENRGKIGQKQEMVQVTTESLLQLL 314  
 Kikkawai -GEPVNI PRRRHWQSSGFVTPPTLRKTLQDQERELENGKIGQKQELVQVTTESLLQLL 308  
 Fichsuphila -GEPENI PRRRHWQSTGFVTLPALRRTLEEQQVVRQPAEEEEQDEGSRVTESELLQLL 320  
 Eugracilis -GEAENI PRRRHWQSRGFVTLPTLRKTLLEEQQDQDQ-----DEEQGSSATESLLQLL 310  
 Rhopalao -GEPDNI PRRRHWQSSGFVTLPLNRKTLLEEQQDQDQEV-----EEGEQGSRVTESELLQLL 296  
 Elegans -GEPENI PRRRHWQSSGFVTLPLNRKTLLEEQQDQDEAV-----E--EQGSRVTESELLQLL 304  
 Takahashi -GEPDNI PRRRHWQSSGFVTLPTLRKTLLEEQQDQDQVQ---EGEGELGSRVTESELLQLL 316  
 Suzuki -GEPENI PRRRHWQSSGFVTLPTLRKTLLEEQQDQEG-----DEEPEGSRVTESELLQLL 314  
 Biarmipes -GEPENI PRRRHWQSSGFVTLPTLRKTLLEEQQDQEG-----EAGEPGSRVTESELLQLL 312  
 Erecta -GEPENI PRRRHWQSSGLVTLPALRKTLLEEQQDQDQDQ---GEEEEEGSGVTESELLQLL 317  
 Melanogaster -GEPENI PRRRHWQSSGFVTLPTLRKTLLEEQQDQ---K---VADAAQRSGVTESELLQLW 308  
 Simulans -GEPENI PRRRHWQSSGFVTLPALRKTLLEEQQDQ---E---GADAGQSGVTESELLQLW 307  
 Mauritania -GEPENI PRRRHWQSSGFVTLPTLRKTLLEEQQDQ---E---GADAGQSGVTESELLQLW 307  
 Sechellia -GEPENI TRRRHWQSSGFVTLPTLRKTLLEEQQDQ---E---GADAGQSGVTESELLQLW 307  
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Grimshawi RARRNEENYDNDANFKNNYSNNNNNNNSNNNNNNNSNKNNSNSSAFEFNVTEYQCNM 337  
 Mojavensis RARRSEDNYNNDANNNNNN-----NNNDSGNDNNNNNNNSAFAFNITEYQCNM 349

Virilism	RARRSEDNYDSEASSN-----NNYNNNNNSAFAFNITEYCQNM	319
Bipectinate	RRKLSL-----SEVNTTEAFAFNITEYCQNM	368
Ananassae	RRLRST-----SDVNTTEAFAFNVTEYCQNV	363
Serrata	RRKRSTD-----HNITDAFAFNVTEYCQNM	339
Kikkawai	RSKRSTDH-----HNITDAFAFNVTEYCQNM	334
Fichsuphila	RSKRADNNNDY-----NNDNSNNTDAFAFNVTEYCQNM	354
Eugracilis	LRSKRSAENNNN-----NNNNNINNTDAFAFNVTEYCQNV	345
Rhopaloo	RRKRNNN-----INNTDAFAFNVTEYCQNV	321
Elegans	RRKRNNNDNNNNNNNNNNNN-----NNNNNNNNNNNNNNNNNNNTDAFAFNVTEYCQNV	362
Takahashi	RRKRSAQN-----SNSNNTDAFAFNVTEYCQNV	344
Suzuki	RRKRSAGNN-----SN-NNTDAFAFNVTEYCQNV	342
Biarmipes	RRKRSTGNN-----NNINNTDAFAFNVTEYCQNV	341
Erecta	RRKRRAEN-----HNINNTDAFAFNVTEYCQNV	345
Melanogaster	RRKRSAEN-----HNINNTDAFAFNVTEYCQNV	336
Simulans	RRKRSAEI-----HNINNTDAFAFNVTEYCQNV	335
Mauritania	RRKRSAEI-----HNINNTDAFAFNVTEYCQNV	335
Sechellia	RRKRSAEI-----HNINKTDAFAFNVTEYCQNV	335

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Grimshawi	TVYANDLSSLGQNALYINIVSVYSLIVFVLLPLLVLATFNCFLIILLVHRSKSLRGDLTNA	397
Mojavensis	TFYTNGLSSLGQNALYFNIWSVYTLIVFVLLPLFVLATFNCFLIILLVHRSKSLRGDLTNA	409
Virilism	TVYTNGLSSLGQNALYFNIWSVYTLIVFVLLPLFVLATFNCFLIILLVHRSKSLRGDLTNA	379
Bipectinate	TFFLHTSSELGMNDLYASVWNLFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	428
Ananassae	TYFFHASSELGMNYLYASVWNMFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	423
Serrata	TLYNHGLSELGMNELYGNIWNVFTLLVFLVLLPLLVTFNLSFLIILLVHRSKSLRGDLTNA	399
Kikkawai	TLYNHGPSELGMNELYANIWNVFTLLVFLVLLPLLVTFNLSFLIILLVHRSKSLRGDLTNA	394
Fichsuphila	TVFGHGSELGMDELYSNLWSMVTLIFVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	414
Eugracilis	TIYNHGLSELGQDELYSNLWNMFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	405
Rhopaloo	TIYNHGTSALANDELYSNLWNLFTLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	381
Elegans	TIYNHGTSELGKDELYSNLWNMFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	422
Takahashi	TFYNHGLSELGKDELYSNLWNMFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	404
Suzuki	TFYNHGPSELGMDELYSNLWNMFLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	402
Biarmipes	TFYNHGPSELGMDELYSNLWNLFTLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	401
Erecta	TFYNHGLSELGYDELYSYLWNLFTLLVFLVLLPLLATFNSFLIILLVHRSKSLRGDLTNA	405
Melanogaster	TYYNHGLSELGYDELYSYLWNLFTLLVFLVLLPLLATFNSILILLVHRSKSLRGDLTNA	396
Simulans	TYYNHGLSELGYDELYSYLWNLFTLLVFLVLLPLLATFNSILILLVHRSKSLRGDLTNA	395
Mauritania	TYYNHGLSELGYDELYSYLWNLFTLLVFLVLLPLLATFNSILILLVHRSKSLRGDLTNA	395
Sechellia	TYYNHGLSELGYDELYSYLWNLFTLLVFLVLLPLLATFNSILILLVHRSKSLRGDLTNA	395

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Grimshawi	SSMRRTKRK <b>STSGLT</b> GSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILVQYMDIELNIQR	457
Mojavensis	SSIRRTKRK <b>SNSGLT</b> GSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILVQYVDIEMNIQR	469
Virilism	SSIRRTKRK <b>SNSGIT</b> GSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILVQYVEIEMNIQR	439
Bipectinate	NSIRRTKRK <b>SNSGIT</b> GTVSQENRVTTITLIAVVLFFIVCQLPWAIYLIILGQYMEIAPSTQV	488
Ananassae	NSIRRTKRK <b>SNTGIT</b> GTVSQENRVTTITLIAVVLFFIVCQLPWAIYLIILEQYMEIHGSTQV	483
Serrata	SSIRRTKRKSSSGIKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILNTYMDIQVGTQL	459
Kikkawai	SSIRRTKRKSSSGIKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILSTYMEIQVGTQL	454
Fichsuphila	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVVVEQYMTIQVSTQV	474
Eugracilis	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVVQYMDIQVGTQV	465
Rhopaloo	SSIRRTKRKNSGLKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVLSQYMNFLGTQV	441
Elegans	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIILSQYMDFIQVGTQV	482
Takahashi	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVVQYMDIQVGTQV	464
Suzuki	SSIRRTKRKSSSGIKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVVQYMDIQVGTQV	462
Biarmipes	SSIRRTKRKSSSGIKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLVVQYMDIQVGTQV	461
Erecta	SSIRRTKRKNSGLKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIIVNQYKEIQVGTQV	465
Melanogaster	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIIVNQYMEIQVGTQV	456
Simulans	SSIRRTKRKNSGLKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIIVNQYMEIQVGTQV	455
Mauritania	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIIVNQYMEIQVGTQV	455
Sechellia	SSIRRTKRKNSGKGSVSVQENRVTTITLIAVVLFFIVCQLPWAIYLIIVNQYMEIQVGTQV	455

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Grimshawi	IAGNVCNLLVA <span style="background-color: yellow;">INAANFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNFSLYMPHTTTT	517
Mojavensis	IAGNVCNLLVA <span style="background-color: yellow;">INAANFFLYCVL</span> SDKYRKTVRELVITGYRYRRHRHARNNISLYVPHTSTT	529
Virilism	IAGNVCNLLVA <span style="background-color: yellow;">INAANFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNISLYAPHTTTT	499
Bipectinate	VAGNVCNLLAAFN <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	548
Ananassae	VAGNICNLLAAFN <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	543
Serrata	VAGNVFNLLAALN <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	519
Kikkawai	VAGNVFNLLAALN <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	514
Fichsuphila	VAGNVCNLLASLH <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	534
Eugracilis	VAGNVCNLLASLH <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	525
Rhopaloo	VAGNVCNLLASLH <span style="background-color: yellow;">AASNFFLYCVL</span> SDKYRKTVRELIITGYRYRRHRHARNNNTSLYVPHTTTT	501

Elegans	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSVYVPHTTTT	542
Takahashi	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	524
Suzuki	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	522
Biarmipes	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	521
Erecta	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	525
Melanogaster	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	516
Simulans	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	515
Mauritania	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	515
Sechellia	VAGNVCNLLASLHAASNFFLYCVLSDKYRKTVRELITGYRYRRRHARNNTSLYVPHTTTT	515
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Grimshawi	TNGDSASASGGASGYGSYRNANSRRCR-----PTGRLIA	551
Mojavensis	LNGDGASSVGGGGYNAYGGASSRRCRGKAAV--ARRLIA	567
Virilism	LNGDGAGGGGASGYGSSYSGASSRRCRAKSAV--ARRLIA	537
Bipectinate	LTHINGDR---GGGGSYGGAGNRRSRNKSA--ALGRLIA	583
Anannassae	LTHINGDR---GGGGSYGGAGNRRSQNKSA--AMGRLIA	578
Serrata	LSHINGHD-----NYGGTGSRRSRNNNKSMATGRLIA	551
Kikkawei	LSHINGHD--H--GGSHYGGAGSRSRNNNKSMATGRLIA	550
Fichsuphila	LTQINGDH-YGGGGHYGGAGSRTRN-----TTGRLIA	567
Eugracilis	LTQINGDH--YG---SNYGGAGSRNR-----NINRLIA	554
Rhopalooa	LTQINGDH--YG---SNYGGAGSRRSR-----NTSRLIT	530
Elegans	LTQINGDH--YG---SNYGGAGSRRSR-----NTSRLIT	571
Takahashi	LTQINGDH--YG---SNYGGAGSRNR-----NTNRLIA	553
Suzuki	LTQINGDH--YG---SNYGGAGSRNR-----NTNRLIA	551
Biarmipes	LTQINGDH--YG---SNYGGAGSRNR-----NTNRLIA	550
Erecta	LTQINGDH--YG---SNYGGAGSRNR-----NTARLIA	554
Melanogaster	LTQINGDH--YG---SNYGGAGSRNR-----NTGRLIA	545
Simulans	LTQINGDH--YG---SNYGGNGSRNR-----NTGRLIA	544
Mauritania	LTQINGDH--YG---SNYGGNGSRNR-----NTGRLIA	544
Sechellia	LTQINGDH--YG---SNYGGNGSRNR-----NTGRLIA	544

#### Melanogaster [NP\\_001014723.1](#)

```

1 mtmsststat atstatatld eanatvgemf sdadmaevrh vvqrilvpcv fvigllgnsv
  61 siyvltrkrm rcttniylta laitdiaylt cqlilslqhy dypkyhfkly wlygyfvlw
 121 cdsfgyisiy iavcftierf iairyplkrq tfcteslakk viaavaifcl lstlstafeh
 181 titigtrqid dayqpcnqtv anispmpppp vavtpplatp pltpatiwq spdsamestt
 241 gssnqlvdw gsgsgdgepe nprhrrhwq ssgfvtlptl rktleeqdk vadaaqrgsv
 301 tesllqlwrr krseaenhnin ndafafnvt eycqnvtyyn hgltselgyde lysylwnlft
 361 llvfvfplll latfnsilil llvhrsknlr gdltassir rtkrksnsgl kgsvsqenrv
 421 titliavvlm fivcqlpwai ylivnqyimei qigtqvavn vcnllasla asnflycvl
 481 sdyrktvre litgyryrrr harnntslv phtttltqi ngdhygsnyg gagsrrnrnt
 541 grlia

```

#### Simulans [XP\\_016038098.1](#)

```

1 mtmsststat statatlaea natvgemfsd admaevrhv qrilvpcfv igllgnsvsi
  61 yvltrkrmrc ttniyltala itdiayltcql lislslqhydy pkyhfklywq lygyfvlwcd
 121 sfgyisiyia vcttierfia iryplkrqtf cteslakkvi aavaifclls tlstafehi
 181 tigtrqidda yqpcnqtlan isptpppppv aatpplatpp lptpatvwqs pdlamestta
 241 gssnllvdwg gsgsgdgepen iprhrhwqs sgfvtlpalr ktleeqdeg adagqsgsvt
 301 esllqlwrrk rsaeihnin ndafafnvt eycqnvtyynh gltselgydel ysylwnlftl
 361 lvfvfplll latfnsilil lvhrsknlr gdltassir rtkrksnsgl kgsvsqenrv
 421 itliavvlm fivcqlpwai ylivnqyimei vgtqvavn cnllaslaa snflycvls
 481 dkyrktvre litgyryrrr arnntslv phtttltqin gdhygsnyg ngsrrnrntg
 541 rlia

```

#### Suzuki [XP\\_016939418.1](#)

```

1 mtmsststat lteaaaaaa aeaatlgn tvgemfsdad maevrhvqr ilvpcfvig
  61 llgnsvsiyv ltrkrmrcct niyltalait diayltcqli lslqhydyk yhlkiywqly
 121 gyfvlwcdsf gyisiyavc ftierfiar yplkrqtfct eslakkviaa vavfcllstl
 181 stafehitv gsklidayq pcnqtvanis ptpppsmaat pplvtplst patiwqsqdf
 241 ttesttagss nllvdwsgs gdgepenipr hrrhrqsgf vtlptlrktl eeqdegdee
 301 epgsrvtel lqllrrkrsa gnnsnntda fafnvtqyc nvtfynhgps elgmdelysn
 361 lwnmftllvf vvfpllllat fntflillvh rsknlrgdlt nassirtrk ksssgikgsv
 421 sqenrvtitl iavvlmfivc qlpwaiylv nqymdiqvt qvavnvcnl laslaasnf
 481 flycvlsdky rktvrelitg yrykrrharn ntslyvpqt tlltqingdh ygsnyggags

```

541 rrrnrntnrli a

Mauritania [XP\\_033170840.1](#)

```
1 mtmsststat statatlaea natvgemfsd admaevrhvv qrilvpcvfv igllgnsvsi
  61 yvltrkrmrc ttniyltala itdiayltcq lilsdqhydy pkyhfklywq lygyfwwlcd
 121 sfgyisiyia vcftierfia iryplkrqtf cteslakkvi aavaifcfls tlstafehti
 181 tigtrqidda yqpcnqtlan isptpppppv aatpplatpp lptpatawqs pdfameستا
 241 gssnllldwg sgsgdgepen iprhrhrwqs sgfvltptlr ktleeqdpeg adagqgsgvt
 301 qsilqlwrk rsaeihnnn tdafafnvte ycnvtyynh glselgydel ysylwnlftl
 361 lvfvvfp111 latfnsilil lvhrsknlrg dltassirr tkrksnsglk gsvsqenrvt
 421 itliavv1mf ivcqlpwaiy livnqymeiq vgtqvagnv cnllas1haa snfflycvls
 481 dkyrktvrel itgyryrrrh arnntslyvp htttltqin gdhygsnygg ngsrrnrntg
 541 rlia
```

Sechellia [XP\\_002036980.1](#)

```
1 mtmsststat statatlaea natvgemfsd admaevrhvv qrilvpcvfv igllgnsvsi
  61 yvltrkrmrc ttniyltala itdiayltcq lilsdqhydy pkyhfklywq lygyfwwlcd
 121 sfgyisiyia vcftierfia iryplkrqtf cteslakkvi aavaifcfls tlstafehti
 181 tigtrqidda yqpcnqtlan isptpppplg eatpplatpp lptpatvwqs pdfameستا
 241 gssnllldwg sgsgdgepen itrhrhrwqs sgfvltptlr ktleeqdpeg adagqgsgvt
 301 esllqlwrk rsaeihnink tdafafnvte ycnvtyynh glselgydel ysylwnlftl
 361 lvfvvfp111 latfnsilil lvhrsknlrg dltassirr tkrksnsglk gsvsqenrvt
 421 itliavv1mf ivcqlpwaiy livnqymeiq vgtqvagnv cnllas1haa snfflycvls
 481 dkyrktvrel itgyryrrrh arnntslyvp htttltqin gdhygsnygg ngsrrnrntg
 541 rlia
```

Serrata [KAH8385187.1](#)

```
1 mtmsstssqs sdgnetvgem fseadtaevr hvvqrilvpc vfvigllgns vsiyvltrkr
  61 mrccttniylt alaitdiayl tfqlilslq ydyvkyhcei ywqlygifw lcdssgyisi
 121 yiavcftier fiairyplkr qtfcteslak kviaavslfc llstlstafe htikvdwkli
 181 dgayqpcnqt lanvsptpps ts1tpalstp plvtpatiwq eqdgeres1q dfftesssv
 241 kssr11ldfg sgsgdgepvn iprhrhrwqs sgfvtpptlr rtlqddrvl enrgkigqkq
 301 emvqvtt1esl lqllrrkrst dhnitdafaf nvteycnmt lnhglselg mnelygniwn
 361 vftllvfv1 pllllvtfns flillvhrsk slrgdltnas sirtrkrkss sgikgsvsqe
 421 nrvtitliav v1mfivcqlp waiylilnty mdiqvgtqlv agnvfnllaa lnaasnfly
 481 cvlsdkyrkt vrelitgyry rrrharnts lyvphttttl shinghdnyg gtgsrrsrnn
 541 nksmatgrli a
```

Erecta [XP\\_001976911.1](#)

```
1 mtmsststat atatstatat laeanatvge mfsdadmaev rhvvqrilvp cvfvigllgn
  61 svsiyvltrk rrccttniyl talaitdiay ltcqlilslq hydytkyhk lywqlygyfv
 121 wlcdsfgyis iyiavcftie rfiairyplk rqtfc1esla kkviaavaif cl1stl1staf
 181 ehtitmsrq iddayqpcnq tvanisptpp ppsaaatpp atppltpat iwqsqdyste
 241 sttagstsl1 vdwgsgsgdg dgepeniprr rhrwqssglv tlpalrkte eqdqddqdeg
 301 geeegsgvt esllqlrrk rraehninn tdafafnvte ycnvtfynh glselgydel
 361 ysylwnlftl lvfvvfp111 latfnsflil lvhrsknlrg dltassirr tkrksnsglk
 421 gsvsqenrvt itliavv1mf ivcqlpwaiy livnqykeiq vgtqvagnv cnllas1haa
 481 snfflycvls dkyrktvrel itgyryrrrh arnntslyvp htttltqin gdhygsnygg
 541 agsrrnrnta rlia
```

Takahashi [XP\\_017013816.2](#)

```
1 mtmsttstat lteaaaaaaaa eatlgnatv gemfsdadma evrhvvqril vpcvfvigll
  61 gnsvsyivlt rkrmrccttni yltalaitdi ayltcqlils lqhydypkyn fkiywqlygy
 121 fwwlcdsfgy isiyiavcft ierfiairypl lkrqtfctes lakkviaava ifc11stl1st
 181 afehtitvgw kqiddayqpc nqtvanispt ppsaaatpp lvtpp1tpa tiwqsqdl1t
 241 esttagssnl ladwsgsgdg gepdniprqr rhwqssgfv1 lptlrktee qeqddvqdeg
 301 ege1gsrvte s1lqlrrkr saqnsnnt dafafnvte ycnvtfynh lselgkdely
 361 snlwnmft11 vfvvfp1111 atfntflil1 vhrsknlrg dltassirr1 tkrksnsgikg
 421 svsqenrvti tliavv1mf1 vqqlpwaiyl vvnqymdiqv gtqvagnv1 nllas1haas
 481 nfflycvl1sd kyrktvrel1 tgyryrrrha rnttslyvph ttttltqing dhygsnygga
 541 gsrnrntnr lia
```

Biarmipes [XP\\_016946298.1](#)

```
1 mtmsstvtat lteaaaaaea eaatlgnata gemfsdadma evrhvvril vpcvfvigll
  61 gnsvsyivlt rkrmrcttni yltalaitdi ayltcqlils lqhydypkyh lkiywqlygy
 121 fwlcdsfgy isiyiavcft ierfiairyplkrqtfcetes lakkviaava vfc11st1st
 181 afehtitvgs rlideayqpc nqsvanispt ppafvaatpp lvtpp1stpa tiwksqd1st
 241 esttagssnl lvdwgsqsgd gepeniprhr rhwhssgfvt lptlrktlee qdqegeagep
 301 gsrvtesllq llrrkrstgn nnninntdaf afnvteycqn vtfynhgpse lgmde1ysnl
 361 wnlftllvfv vpllllatf ntflillvhr sknlrgd1tn assirrtkrk sssgikgsvs
 421 qenrvtitli avvlmfivcq lpwaiylvvn qymdiqfgtq vvagnvcnll aslhaasnff
 481 lycvlsdkyr ktvrelitgy rykrrharnn tslyvpq1tt tltqingdhy gsnyggagsr
 541 rnrntnr1ia
```

Eugracilis [XP\\_017074826.1](#)

```
1 mtmsttstlt atatatetet lgnatvgemf sdadmaevrh vvqrilvpcv fvigllgnsv
  61 siyvltrkrm rcttniylta laitdiaylt cqlilslqhy dytkfhveiy wqlygyf1vwl
 121 cdsfgyisiy iavcftierf iairyplkrq tfcteslakk viaavaffcl 1st1stafeh
 181 titvgsklid dayqpcnqtl anyspmtss vaatpplatp plptp1tiwq stelntestt
 241 tagksnvlid wgsqsgdgea eniprhrqws qsrqfv1t1pt lrktleeqet dq1qd1deeggs
 301 satesllq1ll lrskrsaenn nnnnnnninn tdafafnvte ycqnv1tiyh glselq1del
 361 ysnlwnmftl lvfvvpl1ll latfnsflil lvhrsknlrg d1tnassirr tkrksntgik
 421 gsvsqenrvt itliavvlmf ivcqlpwaiy lvvnqymdiq vgtqv1vagnv cnllaslhaa
 481 snfflycvls dkyrktvrel itgyryrrrh arnntslyvp ht1tt1t1qin gdhygsnygg
 541 agsrrnrnin r1ia
```

Rhopaloea [XP\\_044317201.1](#)

```
1 mevaatlgnatvgemfsdadmaevrhvvrilvpcvfvigllgnsvsiyv ltrkrmrctt
  61 niyltalait diayltcqli lslqhydypk yhfeiyq1lf gyf1vwlcdsf gyisiy1iavc
 121 ftierfiair yplkrqtfcet eslakkviaa valfcl1st1st1stafehitv gyklid1dayq
 181 pcnlteanis ptpappfav atppl1tppr ptpatisqdf ttesttagss n1lvdwgsqgs
 241 gdgepdn1pr hrrhwqssgf vtlpnlrktl ee1qd1qdeve egeqgsrvte s1lq1llrkr
 301 nnninntdaf afnvteycqn vtiynhgtsa landelysnl wnlftllvfv v1fpl1llatf
 361 nsflillvhr skslrgd1tn assirrtkrk sng1kgsvs qenrvtitli avvlmfivcq
 421 lpwaiylvls qymn1fqlgtq vvagnvcnll aslhaasnff lycvlsdkyr ktvrelitgy
 481 ryrrrh1rnn tslyvpq1tt tltqingdhy gsnyggagsr rsrntsrlit
```

Fichsuphila [XP\\_017038922.1](#)

```
1 msstststtt atltateaat vgnatvgemf sdaemaevrh vvqrilvpcv fvigllgnsv
  61 siyvltrkrm rcttniylta laitdiaylt cqlilsiqhy dyakyhlqif welygyf1vwl
 121 cdsfgyisiy iavcftierf iairyplkrq tfcteslakk viaavavfcl 1st1stafeh
 181 titvgwk1lid gayqpcnqte anfspmpsf algtp1latp platp1latp ptvwqdfste
 241 sptaiagsss qlidwgsqsg dgepenipr hrrhwqstgfv tlpalr1tle e1eq1qvrqpa
 301 eeeeqd1egs rvtesllq1ll rskrsadnnn dynndnsnt dafafnvtey cqnm1tvfghg
 361 yselgmdely snlwsmt1ll ifv1vpl1ll atfnsflil vhrsknlrgd ltnassirr
 421 krksngikys svsqehrvti tliavvlmfi vc1p1waiyl vveqymtiq stqv1vagnv
 481 nllaslhaas nfflycvl1sd kyrktvrelitgyryrrrharn rntslyvph t1tt1t1qing
 541 dhyggg1ghy ggagsr1rtn t1gr1ia
```

Elegans [XP\\_017114263.2](#)

```
1 msststst1steaapeaatlgnatvgemfsdadmaevrhvvrilvpcvfvigllgnsvsiyv
  61 ltrkrmrctt niyltalait diayltcqli lslqhydypk yhleiyq1ly gyf1vwlcdsf
 121 gyisiy1iavc ftierfiair yplkrqtfcet eslakkviaa vavfcl1st1stafehitv
 181 gwklid1dayq pcnqtvanfs ptpvpsfav atppl1tppl ptpatisqhf stesttagss
 241 nllfdwgsqgs gdgepenipr hrrhwqssgf vtlpnlrktl ee1qd1qdeave eqgsrvtesl
 301 lq1llrkrnn ndnnnnnnnn nnnnnnnnnn nnnnnnnntda fafnvteycq
 361 nvtiynhgts elgkdelysn lwnmft1llv v1fpl1llat fnsflillvhr rskslrgd1t
 421 nassirrtkr ksngikgsv sqenrvtitl iavvlmf1fc qlp1waiyl sqymdf1qgt
 481 qvvagnvcn1l laslhaasnf flycvl1sdy rktvrelitgyryrrrharn ntsv1vp1ht
 541 t1lt1qingdh ygsnyggags rsrntsrlit t
```

Kikkawei [XP\\_017024118.1](#)

```
1 msstssqsd gnetvgemfs eaetaevrhvvrilvpcvfvigllgnsvsiyv ltrkrmr
  61 ctniyltalaitdiayltf qlilslqhyd yvkyhceiyw qlygifv1lc dssgyisiyi
 121 avcftierfi airyplkrqt fceteslakkv iaavslfcl1st1stafehitv ikvdwklidg
 181 ayqncnq1tla nvspmpstst vtpalstppm vtpptiwkeq eleqnf1tq1e sstakssr1l
```

241 fdfgsgsgdg epvniprlrr hwqssgfvtp ptlrktlqdg erelenggki gkqqlvqvt  
301 tesllqllrs krstdhhnit dafafnvtey cqnmtlynhg pselgmnelly aniwvftll  
361 vfvvplllll vtfnslflll vhrskslrgd ltnassirrt krksssgikg svsqnrvti  
421 tliavvlmfi vcqlpwaiyl ilstymeiqv gtqlvagnvf nllaalnaas nfflycvlsvd  
481 kyrktvrelt tgyryrrrha rnntslvph ttttlshing hdhgshygg agsrrsrnns  
541 ksmatgria

**Bipectinate** [XP\\_043066026.1](#)

1 mtmfslltat ltatatatat atvtatatst eseaeaatln eteaagtemf sdadvvevrr  
61 vvqrilvpcv fvigllgnsv siyvltrkrm rcttniylta laitdiaylt fqlilsfghy  
121 dyvkyhceiy wqfygyfowl cdscayisiy iavcftierf iairyplkrq tfcteslakk  
181 viaavalflcl lstlstafeh sfarkfrlid ddyrpnqtl anvspqplal tpslsmqaps  
241 pldsttplt amlptpvtp mqltrkpek plglvsvdvf sggsgdggv peykaekrwp  
301 lhspgfrtpp pmskvlqqd idqdedqdn pdhvtelqf vsrrlkslse vntteafafn  
361 iteycqnmf flhtsselgm ndlyasvwnl ftllvfvllp llllatfnf lllvhrskn  
421 lrgdltans irrtkrksns gitgtvsqen rvtitliav llfivcqlpw aiylilgqym  
481 eiapstqvva gnvcnllaaf naasnfflyc vlsdkyrktv relitgyryr rhrmrntsl  
541 yvphttttlt hingdrgggg syygagarr srnksaalgr lia

**Anannassae** [XP\\_032309300.1](#)

1 mtmfslltat ltatatatat atatvtpaea eteaeaaagse mfsdadvaev rrvvqrilvp  
61 cvfvigllgn svsiyvltrk rmrcttniyl salaitdiay ltfqlilsiq hydyfkyhse  
121 iywqlygyv wldssayis iyiavcftie rfiairyplk rqtfcetesla kkviaavalf  
181 cllstlstaf ehsyaryryrl iddayrpnq tlanvspqpq plipslhmqa pspsttptl  
241 ptvmlptvpt phwqdsrdsq dlagrstekp lggflaadv fsgsgdggv vpekrwhlps  
301 sgfrttpsms kviqeqdid dqdqsdpvvt eslqfhsrrl rstsdvntte afafnvteyc  
361 qnvtyffhas selgmnylya svwnmftllv fvlsplllla tfnsflillv hrsknlrgdl  
421 tnansirrtk rksntgitgt vsqenrvtit liavvllfiv cqlpwaiyli leqymeihgs  
481 tqvvagnicn llaafnaasn fflycvlsdk yrktvrelit gyryrrrhm nntslvphpt  
541 tttlthingd rggggyygg agnrqsqns aamgria

**Mojavensis** [XP\\_015016788.1](#)

1 mstlaaatst stampvdaia aakmfsdadv aevrhvvqri lvpvfvigll gnsvsiyvl  
61 trkrmrcttni iyltalaitd iayltfvlil slkhyeyiky hcelywlllyg fvwlcadaca  
121 yisiyiavcft tierfiairy plkrqtfcte slakkviaav alfcllttlst tafedydin  
181 kllidgayrpn nltlanvsp mptptstst mptpaqmtt awhieepagn patsrylep  
241 dlssdsdsgsg gsgagepdhi psrqrllpaf tsasvgtvaa atepttasat asllqlsrr  
301 rsednynynn dnnnnnnnn ndsgndnnnn nnnnsafaf niteycqnmf fytnglssl  
361 qnalyfniws vytlivfvll plfvlatfnc flillvhrsk slrgdltnas sirrtkrksn  
421 sgltsvsqen nrvtitliav vllfivcqlp waiylilvqy vdiemniqri agnvcnllva  
481 inaaanffly cvlsdkyrkt vrelvtgyry rhrharnnis lyvphtsttl ngdgassvgs  
541 gggynaygga srrrcrgkaa varria

**Virilism** [XP\\_015026487.1](#)

1 mttlaatsts tampvdgigt akmfsdadva evrhvvqril vpcvfvigll gnsvsiyvl  
61 rkrmrcttni ylsalaitdi ayltfvlils lkhyeyiky celywrylyg imwlcadacay  
121 isiyiavcft ierfiairy plkrqtfcte lakkviaava lfcllttlst afehtydw  
181 kllidgayrpn nltlanvsp paqptlataw hvdehanna tprylepfdl ssgsgsgage  
241 sdhipsqrhr lpastsasvgtaaatepat aaatasllql srarsedny dseassnny  
301 nnnnsafaf niteycqnmf vytnglssl qnalyfniws vytlivfvll plfvlatfnc  
361 flillvhrsk slrgdltnas sirrtkrksn sgitgsvsqen nrvtitliav vllfivcqlp  
421 waiylilvqy veiemniqri agnvcnllva inaaanffly cvlsdkyrkt vrelitgyry  
481 rhrharnnis lyaphttttl ngdgagggga sgygssysga srrrcraksa varria

**Grimshawi** [XP\\_043072003.1](#)

1 mttltaata mpgdgnaaak mfsdadvaev rhvvqrilvp cvfvigllgn svsiyvltrk  
61 rmrcttniyl salaitdiay ltfvlilslk hyeyikyhce lywrylygvm wlcadacayis  
121 iyiavcftie rfiairyplk rqtfcetesla kkviaavalf clltltstaf ehtydidwkl  
181 idgayrpnq tlanvsptpa hqtptgawhv nenasmntt psnveppldl gsgagesdhi  
241 psqrllpas tsafvgtap ateptaaat vsflhlsrar rneenyndnda nfknysnns  
301 nnnnsnnsn nnnnsnknn snssafefnv teycqnmty andlsslqgn alyiniwsvy  
361 slivfvllpl llatfncfl illvhrsksl rgdltnasm rrtkrkstsg ltgsvsqenr  
421 vtitliavvl lfivcqlpwa iylilvqymd ielniqriag nvcnllvain aaanfflycv  
481 lsdkyrktvr elitgyryhh rharnnfsly mphtttttng dsasaggas gygsyrnans  
541 rrcrptgrli a

