

S17 Text. Multi-species analysis of CG33639 R
Supporting Figure 20

CLUSTAL Line-ups; Genbank Reference IDs below

Predicted TM domains in **YELLOW**

BBS sequences in **RED**

| | | |
|--------------|--|----|
| Grimshawi | -----MITRLYNTEEDPVYCSFVWGANVSNRGS-----HAANSSALY | 37 |
| Mojavensis | MERIVRNHQSKTMITRLYNTEEDPAYCSVIWGANLTSSSD-----LVLGTATNATHIY | 53 |
| Virilism | -----MITRLYNTEEDPAYCSFIWGANLTSSND-----LVLGTTANSTHIY | 41 |
| Bipectinate | -----MITRLYHTEEDPAYCSFIWGSNLS-----SSDVLATSANATPVF | 40 |
| Anannassae | -----MITRLYHTEEDPAYCSFIWGSNLSISSSSSSISSSDVLATSANATPVF | 48 |
| Serrata | -----MITRLYNTEEDPAYCSFIWGSNLSSTT-----DVLA-AAGNSSPV | 39 |
| Kikkawei | -----MITRLYNTEEDPAYCSFIWGSNLSSTT-----DVLA-AAGNSSPV | 39 |
| Fichsuphila | -----MITRLYNTEEDPAYCSFIWGSNLTAT-----AAEVLAANATSIF | 40 |
| Eugracilis | -----MITSLYTTQEDPAYCSFIWGSNL--TT-----SADVLTANATSVF | 38 |
| Rhopalao | -----MITRLYNTEEDPAYCSFIWGANL--TS-----SADVLA-NATSVF | 37 |
| Elegans | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SADVLA-NATSAF | 37 |
| Erecta | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SVDVLAANATSVF | 38 |
| Suzuki | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SAEVLAANATSVF | 38 |
| Biarmipes | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SAEVLAANATSIF | 38 |
| Takahashi | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SADVLAANATSVF | 38 |
| Sechellia | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SVDVLAANATSVF | 38 |
| Melanogaster | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SVDVLAANATSVF | 38 |
| Simulans | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SVDVLAANATSVF | 38 |
| Mauritania | -----MITRLYNTEEDPAYCSFIWGSNL--TS-----SVDVLAANATSVF | 38 |

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|--------------|--|-----|
| Grimshawi | PDDMRDDWFADAEDPRTELLRQYCYGYFLPFICASGIIGNVLNLIIVLTRRNMRGPSYIYM | 97 |
| Mojavensis | ANDLRDDLYADVEDPRTEALREYCYGLMLPIICALGIIGNVLNLIIVLTRRNMRGTAYIYM | 113 |
| Virilism | ANDLRDDLYADVEDPRTESLREYCYGLMLPVICALGIIGNVLNLIIVLTRRNMRGTAYIYM | 101 |
| Bipectinate | GSDLRDDFYRDVEDPRTESLREYCYGLLLPIICAMGIIGNVLNLIIVLTRRNMRGIAYIYM | 100 |
| Anannassae | GSDLRDDFYRDVEDPRTESLREYCYGLLLPIICAMGIIGNVLNLIIVLTRRNMRGIAYIYM | 108 |
| Serrata | FTDLRDDFYRDVEDPRTESLREYCYGLLLPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 99 |
| Kikkawei | FTDLRDDFYRDVEDPRTESLREYCYGLLLPITCAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 99 |
| Fichsuphila | GTDLRDDFYRDVEDPRTESLREYCYGLLLPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 100 |
| Eugracilis | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Rhopalao | NTDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVFNLIIVLTRRNMRGTAYIYM | 97 |
| Elegans | SSDMRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 97 |
| Erecta | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Suzuki | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Biarmipes | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Takahashi | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Sechellia | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Melanogaster | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Simulans | GSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |
| Mauritania | SSDLRDDFYRDVEDPRTESLREYCYGLVLPPIICAMGIIGNVLNLIIVLTRRNMRGTAYIYM | 98 |

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| Grimshawi | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLEFLGNGCLGVGMMLLV | 157 |
| Mojavensis | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLEFLGNGCLGVGMMLLV | 173 |
| Virilism | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLEFLGNGCLGVGMMLLV | 161 |
| Bipectinate | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 160 |
| Anannassae | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 168 |
| Serrata | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 159 |
| Kikkawei | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 159 |
| Fichsuphila | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 160 |
| Eugracilis | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGIGVMMLLV | 158 |
| Rhopalao | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 157 |
| Elegans | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 157 |
| Erecta | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Suzuki | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Biarmipes | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Takahashi | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Sechellia | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Melanogaster | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Simulans | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |
| Mauritania | RAYSTAALLAIVFAIPFGIRMLVHKDRGQWEEFGPAFYTAHLELYLGNGCLGVGMMLLV | 158 |

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|--------------|---|-----|
| Grimshawi | LTIERVSVCRPGATRAIPAIGQPGVVIFIIICVLTFIFYLPSIFRGELIKCLMTSKNVVYVYL | 217 |
| Mojavensis | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLVTFIIYLPSIFRGELIKCLMTSNNVYVYL | 233 |
| Virilism | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLCFATFIIYLPSIFRGELIKCLMTSNNVYVYL | 221 |
| Bipectinate | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 220 |
| Anannassae | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 228 |
| Serrata | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 219 |
| Kikkawai | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 219 |
| Fichsuphila | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLVHASDVYVYL | 220 |
| Eugracilis | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCMYGRSDVYVYL | 218 |
| Rhopaloo | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCIFGSSDAFVYL | 217 |
| Elegans | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCIFGSSDVYVYL | 217 |
| Erecta | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 218 |
| Suzuki | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCIFGSSDVYVYL | 218 |
| Biarmipes | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCIFGSSDVYVYL | 218 |
| Takahashi | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCIFGSSDVYVYL | 218 |
| Sechellia | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 218 |
| Melanogaster | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 218 |
| Simulans | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 218 |
| Mauritania | LTIERVSVCHPGFTRPVMGPPGVVVVFTCLATVIVYLPSIFRGELIKCLMGSSDVYVYL | 218 |

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|--------------|---|-----|
| Grimshawi | RRDNIIYQQTIFYR VYKVLVEIIFKLIPTFIIAGLNL RIMVYRRTCARRRQMVLR--- | 274 |
| Mojavensis | RRDNIIYQRTIFYR VYKIMLEVIKLVPTVVIAGLNL RIMLVYRRTCERRRQMVLSR--- | 290 |
| Virilism | RRDNIIYQRTIFYR VYKIMLEVIKLIPTVLIAGLNL RIMLVYRRTCERRRQMVLR--- | 278 |
| Bipectinate | RRDNIIYQQTIFYR VYKIMLEVIKLIPTVLIIGLNM RIMMVYRRTCERRRQMVLSRPHQ | 280 |
| Anannassae | RRDNIIYQQTIFYR VYKIMLEVIKLIPTVLIIGLNM RIMMVYRRTCERRRQMVLSRPHQ | 287 |
| Serrata | RRDNIIYQQTIFYR VYKIMLEVIKLVPTVLIIGLNM RIMMVYRRTCERRRQMVLSRPHG | 279 |
| Kikkawai | RRDNIIYQQTIFYR VYKIMLEVIKLVPTVLIIGLNM RIMMVYRRTCERRRQMVLSRPHG | 279 |
| Fichsuphila | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 279 |
| Eugracilis | RRDNIIYQQTIFYR VYKIMLEVIKLIPTVLIIGLNM RIMMVYRRTCERRRQMVLSRPH | 277 |
| Rhopaloo | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 277 |
| Elegans | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPHG | 277 |
| Erecta | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Suzuki | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Biarmipes | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Takahashi | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNL RIMMVYRRTCERRRQMVLSRPH | 278 |
| Sechellia | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Melanogaster | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Simulans | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |
| Mauritania | RRDNIIYQQTIFYR VYKIMLEVIKLVPTLVIGLNM RIMMVYRRTCERRRQMVLSRPH | 278 |

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|--------------|---|-----|
| Grimshawi | -----AIYAKNEDPRKFAEERL FLLLGSTSI LFLLCISPM | 310 |
| Mojavensis | -----ATYVKDDDDPRKFAEERL FLLLGSTSI LFLLCVSPM | 326 |
| Virilism | -----ANYVKDDDDPRKFAEERL FLLLGSTSI LFLLCVSPM | 314 |
| Bipectinate | HHHHHHN-----ANGPGYVKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 326 |
| Anannassae | ---AHHH-----QNGPGYVKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 330 |
| Serrata | HGHGSHGQGHQAQGH-----HTNGYVKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 333 |
| Kikkawai | HGHGSHHAQQAQGH-----HTNGYVKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 333 |
| Fichsuphila | -----AHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 316 |
| Eugracilis | -----AHGYMKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 314 |
| Rhopaloo | HAHGHHGHAHQGHG-----HSHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 329 |
| Elegans | HGHGHHGHHGHHGHAQGHGHAHGGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 337 |
| Erecta | YGHG-----G-HGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 322 |
| Suzuki | -----HGYMKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 314 |
| Biarmipes | -----HGYMKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 314 |
| Takahashi | HGHGHHGHHGHHGHHG---GHG-HGHGYMKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 334 |
| Sechellia | QGHGHHG---GHG---GHA-HGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 330 |
| Melanogaster | QGHGHHGHHGHHGHHG---GHA-HGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 334 |
| Simulans | QGHGHHGHHGHHGHHG---GHA-HGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 334 |
| Mauritania | QGHGHHGHHGHHGHHG---GHA-HGHGYLKDDDDPRKFAEERL FLLLGSTSI LFLVCVSPM | 334 |

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|------------|--|-----|
| Grimshawi | AILHMTIASEVLPSFFQVFRALANLLEL INYSITFYIYCLFSED FRNTLLRTRFNWPWVK | 370 |
| Mojavensis | AILHMTIASEVLPSFFQVFRAMANLLEL INYSITFYIYCLFSED FRNTLMRTIKWPWLK | 386 |
| Virilism | AILHMTIASEVLPSFFQVFRALANLLEL INYSITFYIYCLFSED FRNTLMRTIKWPWLK | 374 |

Simulans [XP_016039903.1](#)

```
1 mitrlyntee dpaycsfiwg snltssvdlv anatsvfgs dlrddfyrdv edprteslre
  61 ycyglvlpil camgiignvl nlvvltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhdrqwee fgpafytahl elylngcclg vgvmmllvlt ieryvsvchp gfarpmgpp
 181 gvvvfltcla tvivylpsif rgelikcilg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrtrcerrrk mvlrsphaqg hghghghghg hghghahghg
 301 ylkdddprkf aeerrflill gstsilflvc vspmailhmt iasevypsfp fqvfrasanl
 361 lelinysltf yiyclfsef rntlvrtikw pwlkgkfchq aehevsaspp atagtavag
 421 tgtghvsnfh paipaltltp aepderprca ngvlh
```

Suzuki [XP_036676037.1](#)

```
1 mitrlyntee dpaycsfiwg snltssaevl anatsvfss dlrddfyrdv edprteslre
  61 ycyglvlpil camgiignvl nlvvltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhdrqwee fgpafytahl elylngcclg vgvmmllvlt ieryvsvchp gfarpmgpp
 181 gvvvfltcla tvivylpsif rgelikcifg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrtrcerrrk mvlrsphahg ymkkdddprkf aeerrflill
 301 gstsilflvc vspmailhmt iasevypsfp fqvfrasanl lelinysltf yiyclfsef
 361 rntlvrtikw pwlkgkfchq aehevsgspp atagtavag igigpgtgng pgtssrtksn
 421 fhpaipaltl tpaepedrpr langvlh
```

Mauritania [XP_033171498.1](#)

```
1 mitrlyntee dpaycsfiwg snltssvdlv anatsvfss dlrddfyrdv edprteslre
  61 ycyglvlpil camgiignvl nlvvltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhdrqwee fgpafytahl elylngcclg vgvmmllvlt ieryvsvchp gfarpmgpp
 181 gvvvfltcla tvivylpsif rgelikcilg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrtrcerrrk mvlrsphaqg hghghghghg hghghahghg
 301 ylkdddprkf aeerrflill gstsilflvc vspmailhmt iasevypsfp fqvfrasanl
 361 lelinysltf yiyclfsef rntlvrtikw pwlkgkfchq aehevsaspp atagtavag
 421 tgtghvsnfh paipaltltp aepderprca ngvlh
```

Sehelia [XP_002039256.1](#)

```
1 mitrlyntee dpaycsfiwg snltssvdlv anatsvfss dlrddfyrdv edprteslre
  61 ycyglvlpil camgiignvl nlvvltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhdrqwee fgpafytahl elylngcclg vgvmmllvlt ieryvsvchp gfarpmgpp
 181 gvvvfltcla tvivylpsif rgelikcilg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrtrcerrrk mvlrsphaqg hghghghghg hahghgylkd
 301 dprkfkaeer rlflllgsts ilflvcvspm ailhmtiase vypsfpfvf rasanlleli
 361 nysltfyiyc lfsedfrntl vrtikwpwlk gkfchqaehe vsasppatag tvavagtgtg
 421 hvsnfhpaip altltpaed erprcangvl h
```

Serrata [KAH8362383.1](#)

```
1 mitrlyntee dpaycsfiwg snlssstdvl aagnsspvf tdlrddfyrd vedprteslr
  61 ecyglillpi icamgiignv lnvltrnm mrgtayimr aystaallai vfaipfgirm
 121 lvkhdrqwee fgpafytahl leylngcclg vgvmmllvl tieryvsvch pgfarpmgpp
 181 pgvvvfltcl atvivylpsi frgelikcil gssdvvyvlr rdntiyqqtif fryiykimle
 241 vifklvptvl iglnmrimm vyrtrcerrr qmvlrsrhgh ghghshgqgh aqghahtngy
 301 vkdddprkfa eerrflillg stsilflvcv spmailhmti asevypsfpf qvfrasanll
 361 elinysltfy iyyclfsef ntlvrtikwp wlkgkfchqa ehevssappa tagtvavava
 421 vghgtgvsn pppipaipav tftpadpedh trpangvlr
```

Erecta [XP_026837687.1](#)

```
1 mitrlyntee dpaycsfiwg snltssvdlv anatsvfss dlrddfyrdv edprteslre
  61 ycyglvlpil camgiignvl nlvvltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhdrqwee fgpafytahl elylngcclg vgvmmllvlt ieryvsvchp gfarpmgpp
 181 gvvvfltcla tvivylpsif rgelikcilg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrtrcerrrk mvltrshayg hghghghghg kdddprkfae
 301 errlflillg tsilflvcv pmailhmtia sevypsfpf vfrasanlle linsltfyi
 361 yclfsedfrn tlrvrtikwp lkgkfchqge hevssppat agtvavagig tgtgtgtgnv
 421 shfhpvipal tltpaepkdr hrcangvlh
```

Takahashi [XP_017002450.2](#)

```
1 mitrlyntee dpaycsfiwg snltssadvl aanatsvfss dlrrddfyr dv edprteslre
  61 ycyglvlp ii camgiignvl nli vltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhkdr gwee fgpafytahl elylgngclg vgvml llvlt ieryvs vchp gfar pvmgpp
 181 gvvvfltcla tvivylpsif rgelikcifg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnlrimmv yrrtcerrrq mvl srphahg hghghghghg hghghghghg
 301 ymkdddprkf aeerrlfl ll gstsilflvc vspmailhmt iasevypsfp fqvfrasanl
 361 lelinysltf yiyclfsedf rntlrvrtikw pwlkgkfchq aehevsaspp atagtavag
 421 lgtgtgigqv snfhpaipal tltpaepeer prlangvlh
```

Biarmipes [XP_016962943.1](#)

```
1 mitrlyntee dpaycsfiwg snltssaevl aanatsifss dlrrddfyr dv edprteslre
  61 ycyglvlp ii camgiignvl nli vltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhkdr gwee fgpafytahl elylgngclg vgvml llvlt ieryvs vchp gfar pvmgpp
 181 gvvvfltcla tvivylpsif rgelikcifg ssdvvyvlrr dntiyqqtif yrvykimlev
 241 ifklvptlvi glnmrimmv yrrtcerrrq mvl srphahg ymkdddprkf aeerrlfl ll
 301 gstsilflvc vspmailhmt iasevypsfp fqvfrasanl lelinysltf yiyclfsedf
 361 rntlrvrtikw pwlkgkfchq aehevsaspp atagtavag ivagtgpgtg tksnfhpaip
 421 altltpaepe drprlangvl h
```

Eugracilis [XP_017074309.1](#)

```
1 mitslyttqe dpaycsfiwg snlttsadvl tanatsvfss dlrrddfyr dv edprteslre
  61 ycyglvlp ii camgiignvl nli vltrnm rgtayimra ystaallaiv faipfgirml
 121 vkhkdr gwek fgpafytahl elylgngclg igvml llvlt ieryvs vchp gfar pvmgpp
 181 gvvvfltcla tvivylpsif rgelikcm yg srdvyvlrr dntiyqqtif yrvykimlev
 241 ifkliptlvi glnmrimmv yrrtcerrrq mvl srphahg ymkdddprkf aeerrlfl ll
 301 gstsilflvc vspmailhmt iasevypsfp fqvfrasanl lelinysltf yiyclfsedf
 361 rntlrvrtikw pwlkgklchq aehevsaspp atagtavaa gtgtghisky haasipaltl
 421 tpaepaedrr priangvhh
```

Rhopaloea [XP_016979814.1](#)

```
1 mitrlyntee dpaycsfiwg anltsadvl anatsvfntd lrddfyr dv dprteslrey
  61 cyglvlp iic amgiignvfn livl trnmr gtayimray staallaivf aipfgirmlv
 121 hkdr gweef gpafytahle lylgngclgv gvml llvlti eryvs vchpg far pvmgppg
 181 vvvfftclat vivylpsifr gelikcifgs sdafvylrrd ntiyqqtif yvykimlevi
 241 fklvptlvig glnmrimmv yrrtcerrrqm vlsrphahah ghghahgqgh ghshgylkdd
 301 dprkfaeerr lfillgstsi lflvcvspma ilhmtiasev ypsfpfqvfr asanllelin
 361 ysltfyiycl fsedfrntlv rtikwpwlkg kcchqaehev sasppatagt vavavavagt
 421 gtapghvtnf npaipalilt paeheerpir langvlh
```

Fichsuphila [XP_017042138.2](#)

```
1 mitrlyntee dpaycsfiwg gsnltataae vlaanatsif gtdlrrddfyr dvedprtesl
  61 reycygl llp iicamgiign lnlvltrr nmrgtayim raystaalla ivfaipfgir
 121 mlvkhkdr gwee eefgpafyta hl elylgngclgv lgvvml llvlti eryvs vchpg hpgfvrpvmg
 181 ppgvvvfltcl at vivylpsifr gelikcifgs lhasdvvyvl rrdntiyqqt ifyrvykiml
 241 evifklvptl vigflnmrim mvyrrtcerr rqmvl srpha hgylkdddpr kfaeerrlfl
 301 llgstsilfl vcvspmailh mt iasevyps ffpfqvfrasa nll elinysl tfyiyclfse
 361 dfntlvrti kwplkgkfc hqvehevsas ppatagtav agtgtgaghv syhpaipsl
 421 tftpaepayr ppvcqwptsl swqrdntnit
```

Elegans [XP_017113339.1](#)

```
1 mitrlyntee dpaycsfiwg snltssadvl anatsafss mrdddfyr dv dprteslrey
  61 cyglvlp iic amgiignvln livl trnmr gtayimray staallaivf aipfgirmlv
 121 hkdr gwee fgpafytahle lylgngclgv gvml llvlti eryvs vchpg far pvmgppg
 181 vvvfltclat vivylpsifr gelikcifgs sdvfyvlrrd ntiyqqtif yvykimlevi
 241 fklvptlvig glnmrimmv yrrtcerrrqm vlsrphghgh ghghghghgh gagghghghg
 301 ghgylkddd rkfaeerrl lllgstsilf lvcvspmail hmtiasevyp sfpfqvfras
 361 anllelinys ltfyiyclfs edfrntlvrt ikwpwlkgkf chqgehevsas sspatagtva
 421 vavaatgtas ghvsnlhpai pal ttpaep edrdprnrla ngvlh
```

Kikkawei [KAH8343513.1](#)

```
1 mitrlyntee dpaycsfiwg snlssstdvl aaagnsspvf tdlrrddfyr vedprteslr
  61 eycygl llpi tcamgiignv lnli vltrnm mrgtayimr aystaallai vfaipfgirm
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121 lvhkdrqgwe efgpafytah lelylgnqcl gvgvmmllvl tieryvsvch pgfarpvmpg
181 pgvvvfltbl atvivylpsi frgelikcil gssdvvyvyl rdntiyqgti fyriykimle
241 vifklvptvl igglmrimm vyrtrcerrr qmvlsrnhgh ghghshaqqg aqghahtngy
301 vkdddprkfa eerrlflllg stsilflvcv spmailhmti asevyvpsfpf qvfrasanll
361 elinysltyf iyclfsedfr ntlvrtikwp wlkgkfchqa ehvsvasppa tagtvavava
421 vghgtgpvsn pppipaipav tftpadpedh arppngvrl

Bipectinate [XP_017097721.2](#)

1 mitrlyhtee dpaycsfigg snlssssdvl atsanatpvf gsdlrddfyrdvedprtesl
61 reycyglillp iicamgign vlnliviltrr nmrgiayiy raystaalla ivfaipfgir
121 mlvkhkdrqgw eefgpafyta hlelylgnqcl gvgvmmllvl tieryvsvch hpgfsrvmg
181 ppgvvvftcl latvivylpsi ifrgelikcm lgssdvvyvyl rdntiyqgti lfyrykiml
241 evifkliptv ligglmrim mvyrrtcerr rqmvlsrpqa hhhhhhnang pgyvkdddpr
301 kfaeerrlfl llgstsilfl vcvspmailh mtiasevyps ffpqvfrasa nlelinysl
361 tfyiyclfse dfrntlvrtil kwpwlkgkfc hqahevsvas ppatagtvaa agtattatan
421 pspaipanpa pilptdphge eperlangtv r

Ananassae [XP_044573352.1](#)

1 mitrlyhtee dpaycsfigg snisssssss sissdsvlat sanatpvfsgs dlrddfyrdv
61 edprtesire ycyglillpii camgiignvl niviltrrnm rgiayiyra ystaallaiv
121 faipfgirmv vkhkdrqgwe efgpafytahl elylgnqclg vgvmmllvlt ieryvsvchp
181 gfsrvmgppp gvvvftcla tvivylpsif rgelikcmllg sssdvvyvylrr dntiyqgtlf
241 yrvykimlev ifkliptvli gglmrimmv yrtrcerrr qmvlsrpqahh hqngpgyvkd
301 ddprkfaeer rlflllgsts ilflvcvspm ailhmtiase vypsfpfqvf rasanlleli
361 nysltyfiyc lfsedfrntl vrtikwpwlk gklchqadqh evsvaspata gtvaagigta
421 patanpspai panpapilpt dhphgekspq ripngtvr

Mojavensis [XP_015016833.1](#)

1 merivrnghs ktmitrlynt eedpaycsvi wganltsssd lvlgtatnat hiyandlrdd
61 lyadvedprt ealreycygl mlpiicalgi ignvlnlivil trrnmrgtay iymraystaa
121 llaivfaipf girmvlhkdrg qweefgpaf ytahleflg ngclgvgvmm llvltieryv
181 svchpgftrp vmgppgvvfv vtclvtfiiy lpsifrgeli kmcltsnnyv yllrrdnny
241 qrtifysvyk imlevifklv ptvviaglnl rimlvyrtrc errrqmvlsr atyvkdppr
301 kfaeerrlfl llgstsilfl lcvspmailh mtiasevyps ffpqvframa nlelinysi
361 tfyiyclfse dfrntlmrti kwpwlkgkfc hqvdeqqai mgvpmvrfek vnmrnhhitt
421 tsigirsssi

Virilism [XP_032295448.1](#)

1 mitrlyntee dpaycsfiwg anltsndlv lgttansthi yandlrddly advedprtes
61 lreycyglml pvicalgiig nvliviltr rnmrgtayiy mraystaall aivfaipfqi
121 rmlvkhkdrqg weefgpafyt ahleflgnq clgvgvmmll vltieryvsv chpgftrpvm
181 gppgvvfltbl cfatfiiypl sifrgelick mltsnnyvy lrrdnnyqr tifysvykim
241 levifklipt vliaglnlri mlvyrtrcrr rrmvltran yvkdddprkf aeerrlflll
301 gstsilflllc vspmailhmt iasevpsfp fqvfralanl lelinysitf iyyclfsedf
361 rntlmrtikw pwlksklchq vdetqtikgv pmvrfdkvtl rnhhitttsq igrsssi

Grimshawi [XP_032597329.1](#)

1 mitrlyntee dpvycsfvvg anvsngrsha anssalyppd mrddwfadae dprtelrlyq
61 cygyflpfic asgiignvln livlrrnmr gpsiyymray staallaivf aipfgirmvl
121 hkdrqgweei gpafytahle lflgnqclgv gvmllvlti eryvsvcrpg atrpaigqpg
181 vvificvlt fifylpsifr gelickmlts knvyvylrrd niyqgtlfy svykviveii
241 fkiiptfiia glnlrmmvvy rrtcarrmqm vltraiyakn edprkfaeer rlflllgsts
301 ilfllcispml ailhmtiase vlpsfpfqvf ralanlleli nysitfyiyc lfsedfrntl
361 lrtfnwpvkv sklfrqrqde vsasppatat aavcnpvcpt ihiehsnhpe hangpfrkqg
421 ya

