



http://app.pan.pl/SOM/app62-Holloway_etal_SOM.pdf

SUPPLEMENTARY ONLINE MATERIAL FOR

A new species of the neopterygian fish *Enchodus* from the Duwi Formation, Campanian, Late Cretaceous, Western Desert, central Egypt

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Published in *Acta Palaeontologica Polonica* 2017 62 (2): 603–611.
<https://doi.org/10.4202/app.00331.2016>

Supplementary Online Material

SOM 1. An interactive 3D PDF of a digital reconstruction of MUV 59 available at http://app.pan.pl/SOM/app62-Holloway_etal_SOM/SOM_1.pdf

SOM 2. Data matrix with 29 taxa and 92 characters.

SOM 2. Data matrix with 29 taxa and 92 characters, along with the Paup* block used in this analysis.

0 = plesiomorphic state, 1–4 = apomorphic state, ? = missing.

#NEXUS

begin data;

dimensions ntax=29 nchar=92;

format datatype=standard symbols="0 1 2 3 4" missing=?;

matrix

Diplophos	000010010	0000?0?000	0000000001	101010100?	0000000000	0100002100	0000101000	0000000000	0?00000	?????
Myctophum	0?00000000	0000000000	0000010100	0000000000	0000000000	0000000000	1000020000	0000000000	000{0,1}{0,1}00	?????
Synodus	1000110111	1000001111	0000020000	0020000002	0000000000	0000000010	0000002201	1000000000	0001002	?????
Alepisaurus	2?000?0?00	1010111111	1111101010	02?0002001	1001110011	10000?0111	1013114212	1101101011	0111011	?????
Omosudis	?1?001?000	1010111111	11111010?0	0220102001	1001110011	10000?0111	1012114212	1101101011	0111011	?????
Paralepis	0?0?010?00	1010001111	1011100110	022000100?	0001000000	1000?00111	1001114212	1102201010	0101001	?????
Coccorella	0100000?00	?010?01111	1111200010	022010210?	0001000000	1010103111	1101210102	1010311010	2101101	?????
Evermannella	0100000?01	1010?01111	1011100010	022010101?	0001100000	1010103111	1101210102	1010311010	2101101	?????
Chlorophthalmus	0000?10?00	101000?110	0000000010	0020002001	0000000000	000?03011	0001210101	100000?000	0101001	?????
Bathysaurus	10110?0?00	??00001111	0001000110	011?00000?	0000000000	0000?03011	0000003102	1020201000	1101001	?????
Cimolichthys	2111000000	1100000???	??????????2	3230000000	110?100001	110?0?0???	???31?????	??????12??	???????	00110
Palaeolycus	1??1??1?1?	1221101???	??????????2	?2?0101101	101?111111	10?100????	?1031?????	??????11??	???????	0??0
Rharbichthys	?1?????1?0	1121310???	??????????1	0200002000	0003010101	0100003???	?1031?????	??????10??	???????	01010
Eurypholis	1131201000	1221110???	??????????2	3201011102	3012122133	0002221???	?1031?????	??????12??	???????	01110
Saurorhamphus	22312?10?0	?1?011????	??????????2	3201011002	301?122133	0002221???	?1031?????	??????12??	???????	31010
Parenchodus	?0212??10	022?111???	??????????2	2200111100	201?211122	1100001???	??0020???	??????12??	???????	3?110
Enchodus_lewesiensis	1121210110	0221110???	??????????2	?2?0011110	11?????????	???????????	???????????	??????11??	???????	01010
Enchodus_venator	0121?10110	1221200???	??????????2	2230011110	211?211122	110112?????	?1?3???????	??????11??	???????	01010
Enchodus_marchesettii	1131110110	1221110???	??????????2	3230011100	3112211133	1100121???	?10120?????	??????11??	???????	01010
Enchodus_petrosus	1021110111	1221210???	??????????2	3200012100	211?211122	1100111???	?10310?????	??????11??	???????	01010
Enchodus_gladiolus	0021110111	0220321???	??????????2	3200011100	211?211122	???111?????	???3?0?????	??????11??	???????	01010
Enchodus_shumardi	?21110?10	?221310???	??????????2	3200011110	211?211122	?0112?????	???????????	??????1???	???????	01010
Enchodus_dirus	?????????10	?221321???	??????????2	3200012100	011?21?10?	???????????	???????????	??????1???	???????	01010
Enchodus_gracilis	0?21?11110	1221310???	??????????2	3200012100	211?211122	1101121???	?1?320?????	??????11??	???????	01010
Enchodus_brevis	?21?010100	0221110???	??????????2	2200011100	2113211122	11021?????	?1012?????	??????11??	???????	01010
Enchodus_zimapanensis	?12??1?000	022130????	??????????2	3200011100	211?211122	1101112???	?131??????	??????10??	???????	01010
Enchodus_faujasi	101??10110	02?1310???	???????????	3?000?1100	?1?????????	???????????	???????????	???????????	???????	?????
Enchodus_Gavdos	001??011?	?2?1321???	???????????	??00?2100	11??2?0?11	???????????	???????????	???????????	???????	?????
Enchodus_teneidae	???????????	?2?????????	???????????	??011102	01??????01	???????????	???????????	???????????	???????	01010

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end;

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begin paup;  
  hsearch start=stepwise addseq=random nrep=1000;  
  savetrees file=hsearch5.all.tre brlen=yes;  
  filter best=yes permdel=yes;  
  savetrees file=hsearch5.best.tre brlen=yes;  
  gettrees file=hsearch5.best.tre;  
  describe;  
  contree all/strict=no maj=yes treefile=MajRule10005.tre;  
  
end;
```