

## APPENDIX I

A long snout enchodontid fish (Aulopiformes: Enchodontidae) from the Early Cretaceous deposits at the El Chango quarry, Chiapas, southeastern Mexico: A multi-approach study

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This appendix contains all the data matrices used in the phylogenetic study of *Vegrandichthys coitecus* gen. et sp. nov. Here, we present the matrices in the order they appear in the main manuscript.

Table 1. Morphological data set of 32 taxa and 96 characters used in this work

TAXA	Character codification
Diplophos	00000100100000?0?000000000001101010100?0000?1-???0000010000210000001010000000000000?00000????
Myctophum	0?000000000000000000000010100000000000000001-???0000000000000010000200000000000000(2 3)(2 3)00????
Synodus	100011011110000011110000020000020000002000001-???00000000000010000000220110000000000001002????
Alepisaurus	2?000?0?0101011111111110101002?0002001100110? ???001110000?0111101311421211011010110111011? ???
Omosudis	?1?001? ?0010101111111111010?002201020011001?0? ???001110000?0111101211421211011010110111011? ???
Paralepis	0?0?010?001010001111011100110022000100?0001?1-???00001000?00111100111421211022010100101001? ???
Coccorella	0100000?00?010?011111111200010022010210?0001?1-???000001010103111110121010210103110102101101? ???
Evermannella	0100000?011010?01111011100010022010101?0001?0? ???000001010103111110121010210103110102101101? ???
Chlorophthalmus	0000?10?00101000?11000000000100020002001000001-???0000000?030110001210101100000?0000101001? ???
Bathysaurus	10110?0?0? ?00001110001000110011?00000?000001-???00000000?03011000000310210202010001101001? ???
Cimolichthys	21110000021100000? ??????????23230000000110?11102100001110? ?0? ??????3? ??????????12 ??????????0100
Palaeolycus	1??1?? ?1??1221101 ???????????22?2?0101101101?111000011110?100 ??????1031 ???????????1 ???????????00
Rharbichthys	?1 ??????1?01121310 ???????????10200002000000311-???01010100003????1031 ??????????10 ??????????1000
Eurypholis	11212010000221110? ???????????232010111023012111111021330002221????1031 ??????????12 ??????????1100
Parenchodus	?0212???10022?111 ???????????22200111100201?111010011221100001 ?????0020 ??????????12 ??????????130
Unicachichthys	??21?0? ?01?100?10 ???????????2313001000211131111111112110102?0???003100? ?10021??110 ??????????20
Veridagon	?1?????0? ?0?1100 ???????????202223001211210? ?111020011121001100010?1001?0? ?00000? ?120? ??????????20
Enchodus lewesiensis	11212101100221110? ???????????2?2?001111011??1110000 ??????????????????????????????11 ??????????1000
Enchodus venator	0121?101101221200 ???????????22230011110211?1111????1122110112 ??????1?3 ??????????????11 ??????????1000
Saurorhamphus	22312?10?0?1?011 ???????????23201011002301?111110021330002221????1031 ??????????12 ??????????1030
Enchodus marchessetti	11211101101221110? ???????????232300111003112111010011331100121????10120 ??????????11 ??????????1000
Enchodus petrosus	10211101111221210? ???????????23200012100211?111020011221100111????10310 ??????????11 ??????????1000
Enchodus gladiolus	00211101110220321 ???????????23200011100211?01101001122???111 ??????23?0 ??????????11 ??????????1000
Enchodus shumardi	??21110?10?221310 ???????????23200011110211?011????1122? ?0112 ??????????????????????1 ??????????1000
Enchodus dirus	?????????10?221321 ???????????23200012100011?0110200?10? ??????????????????????????????1 ??????????1000
Enchodus brevis	??21? ?01000221110 ???????????2220001110021131110100112211021 ??????1012 ??????????11 ??????????1000
Enchodus faujasi	101? ?1011002?1310 ???????????23?000?1100?1 ??
Enchodus gavidos	001? ? ?011??2?1321 ???????????????00?210011? ?01100000?11 ??
Enchodus zimapanensis	?12??1?0000221300 ???????????023200001100211?111010011221101112 ??????131 ??????????10 ??????????1000
Enchodus tineidae	??????????2 ???????????????????????01110201??1?1000?? ?01 ??1000
Enchodus gracilis	0?21?111101221310 ???????????23200012100211??11010011221101121????1?320 ??????????11 ??????????1000
Vegrandichthys	?13?2?1101??1011 ??????????????00200001100201?1110101112(1 3)10?222??0?00 ??????????????120?1 ??????1020

Table 2. Matrix of the landmark configuration to run Phylogenetic Morphometrics analysis. This data set includes 20 landmarks of Enchodontids preopercle

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<b>&amp;[ landmark 2d ]</b>	
<i>Alepisaurus</i>	854.000000,340.000000 854.000000,379.000000 855.000000,416.000000 854.000000,456.000000 855.000000,494.000000 854.000000,530.000000 853.000000,560.000000 849.000000,597.000000 862.000000,585.000000 869.000000,540.000000 883.000000,502.000000 900.000000,487.000000 892.000000,439.000000 882.000000,389.000000 876.000000,331.000000 892.000000,286.000000 883.000000,295.000000 874.000000,301.000000 865.000000,303.000000 854.000000,302.000000
<i>Cimolichthys</i>	209.000000,201.000000 240.000000,222.000000 248.000000,258.000000 249.000000,357.000000 268.000000,446.000000 268.000000,544.000000 272.000000,657.000000 273.000000,736.000000 319.000000,708.000000 343.000000,590.000000 363.000000,504.000000 365.000000,423.000000 360.000000,344.000000 350.000000,271.000000 313.000000,178.000000 310.000000,145.000000 283.000000,126.000000 250.000000,125.000000 199.000000,119.000000 168.000000,169.000000
<i>Palaeolycus</i>	1459.000000,197.000000 1539.000000,326.000000 1603.000000,427.000000 1629.000000,574.000000 1635.000000,733.000000 1626.000000,905.000000 1607.000000,1077.000000 1614.000000,1183.000000 1696.000000,1103.000000 1748.000000,923.000000 1764.000000,747.000000 1764.000000,598.000000 1782.000000,419.000000 1803.000000,325.000000 1798.000000,250.000000 1766.000000,181.000000 1707.000000,138.000000 1638.000000,118.000000 1541.000000,97.000000 1476.000000,111.000000
<i>Eurypholis</i>	1418.000000,290.000000 1446.000000,377.000000 1445.000000,462.000000 1429.000000,569.000000 1409.000000,661.000000 1393.000000,756.000000 1384.000000,827.000000 1394.000000,875.000000 1432.000000,838.000000 1472.000000,764.000000 1502.000000,664.000000 1525.000000,576.000000 1551.000000,449.000000 1553.000000,293.000000 1635.000000,237.000000 1761.000000,178.000000 1692.000000,183.000000 1626.000000,180.000000 1532.000000,197.000000 1427.000000,231.000000
<i>Parenchodus</i>	443.000000,130.000000 471.000000,186.000000 487.000000,237.000000 499.000000,295.000000 508.000000,373.000000 513.000000,462.000000 504.000000,503.000000 502.000000,554.000000 521.000000,505.000000 530.000000,463.000000 551.000000,371.000000 563.000000,292.000000 570.000000,230.000000 572.000000,186.000000 597.000000,136.000000 617.000000,75.000000 571.000000,68.000000 521.000000,66.000000 478.000000,73.000000 430.000000,91.000000
<i>Unicachichthys</i>	1397.000000,465.000000 1424.000000,539.000000 1435.000000,615.000000 1431.000000,693.000000 1427.000000,792.000000 1426.000000,854.000000 1425.000000,932.000000 1437.000000,987.000000 1483.000000,941.000000 1512.000000,863.000000 1520.000000,786.000000 1522.000000,700.000000 1509.000000,571.000000 1506.000000,470.000000 1606.000000,460.000000 1739.000000,459.000000 1660.000000,430.000000 1573.000000,409.000000 1453.000000,393.000000 1360.000000,410.000000
<i>Veridagon</i>	3359.000000,846.000000 3514.000000,1090.000000 3665.000000,1311.000000 3729.000000,1623.000000 3714.000000,1920.000000 3676.000000,2155.000000 3617.000000,2422.000000 3636.000000,2643.000000 3757.000000,2432.000000 3806.000000,2171.000000 3852.000000,1934.000000 3881.000000,1638.000000 3876.000000,1333.000000 3893.000000,1093.000000 3919.000000,858.000000 3918.000000,673.000000 3803.000000,608.000000 3679.000000,579.000000 3490.000000,588.000000 3405.000000,635.000000

*Enchodus lewesiensis* 480.000000,267.000000 561.000000,370.000000 668.000000,490.000000 723.000000,622.000000 ? ? ? ? ? 890.000000,645.000000  
933.000000,488.000000 985.000000,329.000000 996.000000,234.000000 993.000000,133.000000 923.000000,66.000000 784.000000,54.000000  
649.000000,93.000000 471.000000,178.000000

*Saurorhamphus* 1902.000000,514.000000 1947.000000,574.000000 1960.000000,657.000000 1958.000000,751.000000 1953.000000,853.000000  
1939.000000,935.000000 1935.000000,994.000000 1947.000000,1038.000000 1977.000000,999.000000 1990.000000,941.000000 2003.000000,855.000000  
2011.000000,754.000000 2027.000000,669.000000 2062.000000,602.000000 2113.000000,554.000000 2193.000000,513.000000 2122.000000,479.000000  
2041.000000,457.000000 1946.000000,439.000000 1862.000000,447.000000

*Enchodus marchessetti* 2421.000000,1205.000000 2498.000000,1306.000000 2613.000000,1464.000000 2644.000000,1705.000000  
2657.000000,1933.000000 2656.000000,2138.000000 2611.000000,2344.000000 2587.000000,2566.000000 2667.000000,2349.000000  
2739.000000,2147.000000 2788.000000,1937.000000 2794.000000,1714.000000 2810.000000,1478.000000 2875.000000,1281.000000  
2919.000000,1179.000000 2981.000000,1084.000000 2906.000000,1038.000000 2762.000000,1045.000000 2563.000000,1056.000000  
2411.000000,1107.000000

*Enchodus petrosus* 2428.000000,784.000000 2530.000000,956.000000 2618.000000,1206.000000 2689.000000,1485.000000 2731.000000,1665.000000  
2723.000000,1875.000000 2698.000000,2073.000000 2719.000000,2146.000000 2758.000000,2072.000000 2794.000000,1877.000000  
2820.000000,1665.000000 2822.000000,1485.000000 2833.000000,1172.000000 2837.000000,931.000000 2852.000000,771.000000  
2824.000000,605.000000 2715.000000,598.000000 2581.000000,613.000000 2501.000000,640.000000 2466.000000,711.000000

*Enchodus gladiolus* 739.000000,297.000000 834.000000,373.000000 900.000000,501.000000 934.000000,649.000000 927.000000,793.000000  
917.000000,941.000000 900.000000,1058.000000 913.000000,1113.000000 942.000000,1062.000000 976.000000,945.000000 997.000000,800.000000  
1011.000000,657.000000 1044.000000,502.000000 1090.000000,361.000000 1122.000000,245.000000 1126.000000,132.000000 1039.000000,118.000000  
941.000000,147.000000 811.000000,161.000000 765.000000,234.000000

*Enchodus dirus* 981.000000,128.000000 1011.000000,218.000000 1024.000000,327.000000 1023.000000,431.000000 1003.000000,531.000000  
976.000000,616.000000 948.000000,680.000000 940.000000,706.000000 965.000000,680.000000 995.000000,627.000000 1039.000000,538.000000  
1080.000000,432.000000 1105.000000,334.000000 1139.000000,216.000000 1144.000000,151.000000 1148.000000,82.000000 1105.000000,72.000000  
1055.000000,65.000000 1007.000000,76.000000 990.000000,104.000000

*Enchodus brevis* 726.000000,160.000000 742.000000,263.000000 747.000000,362.000000 766.000000,454.000000 769.000000,540.000000  
773.000000,616.000000 774.000000,677.000000 779.000000,724.000000 791.000000,677.000000 800.000000,624.000000 815.000000,545.000000  
831.000000,454.000000 827.000000,367.000000 834.000000,265.000000 859.000000,150.000000 887.000000,118.000000 847.000000,98.000000  
807.000000,90.000000 752.000000,83.000000 711.000000,89.000000

*Enchodus gavdos* 2007.000000,700.000000 2061.000000,779.000000 2052.000000,856.000000 2036.000000,974.000000 2025.000000,1103.000000  
2010.000000,1166.000000 1989.000000,1229.000000 1976.000000,1318.000000 2048.000000,1258.000000 2084.000000,1184.000000  
2106.000000,1116.000000 2128.000000,996.000000 2155.000000,875.000000 2165.000000,819.000000 2200.000000,743.000000 2189.000000,647.000000  
2142.000000,596.000000 2092.000000,533.000000 2014.000000,561.000000 2002.000000,630.000000

*Enchodus zimapanensis* 1228.000000,721.000000 1304.000000,819.000000 1336.000000,911.000000 1378.000000,1027.000000 1415.000000,1119.000000  
 1467.000000,1211.000000 1461.000000,1316.000000 1516.000000,1371.000000 1544.000000,1328.000000 1514.000000,1203.000000  
 1476.000000,1114.000000 1442.000000,1024.000000 1419.000000,926.000000 1416.000000,817.000000 1425.000000,732.000000 1439.000000,654.000000  
 1372.000000,635.000000 1306.000000,637.000000 1265.000000,646.000000 1194.000000,626.000000

*Enchodus tineidae* 1966.000000,1020.000000 1964.000000,1124.000000 1969.000000,1246.000000 1963.000000,1405.000000 ? ? ? ? ?  
 2074.000000,1410.000000 2109.000000,1234.000000 2187.000000,1125.000000 2213.000000,1046.000000 2212.000000,966.000000  
 2171.000000,935.000000 2109.000000,938.000000 2061.000000,943.000000 2005.000000,959.000000

*Enchodus gracilis* 101.000000,188.000000 115.000000,241.000000 129.000000,333.000000 141.000000,419.000000 140.000000,474.000000  
 128.000000,534.000000 119.000000,570.000000 129.000000,584.000000 144.000000,574.000000 156.000000,538.000000 172.000000,479.000000  
 183.000000,418.000000 202.000000,330.000000 201.000000,236.000000 234.000000,176.000000 276.000000,125.000000 223.000000,102.000000  
 169.000000,101.000000 115.000000,111.000000 59.000000,126.000000

*Vegrandichthys* 954.000000,165.000000 967.000000,178.000000 974.000000,209.000000 977.000000,239.000000 989.000000,287.000000  
 995.000000,327.000000 1001.000000,353.000000 1008.000000,375.000000 1015.000000,351.000000 1019.000000,326.000000 1024.000000,285.000000  
 1029.000000,241.000000 1032.000000,207.000000 1027.000000,180.000000 1020.000000,149.000000 1042.000000,122.000000 1012.000000,114.000000  
 982.000000,111.000000 961.000000,129.000000 941.000000,142.000000

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Table 3. Combined data set that includes information of 20 landmarks of enchodontids preopercle plus the discrete morphological data set. A total of 32 taxa and 97 characters (one configuration of landmark) were used with the Standard Maximum Parsimony Analysis

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&[ landmark 2d ]	
<i>Alepisaurus</i>	854.000000,340.000000 854.000000,379.000000 855.000000,416.000000 854.000000,456.000000 855.000000,494.000000 854.000000,530.000000 853.000000,560.000000 849.000000,597.000000 862.000000,585.000000 869.000000,540.000000 883.000000,502.000000 900.000000,487.000000 892.000000,439.000000 882.000000,389.000000 876.000000,331.000000 892.000000,286.000000 883.000000,295.000000 874.000000,301.000000 865.000000,303.000000 854.000000,302.000000
<i>Cimolichthys</i>	209.000000,201.000000 240.000000,222.000000 248.000000,258.000000 249.000000,357.000000 268.000000,446.000000 268.000000,544.000000 272.000000,657.000000 273.000000,736.000000 319.000000,708.000000 343.000000,590.000000 363.000000,504.000000 365.000000,423.000000 360.000000,344.000000 350.000000,271.000000 313.000000,178.000000 310.000000,145.000000 283.000000,126.000000 250.000000,125.000000 199.000000,119.000000 168.000000,169.000000
<i>Palaeolycus</i>	1459.000000,197.000000 1539.000000,326.000000 1603.000000,427.000000 1629.000000,574.000000 1635.000000,733.000000 1626.000000,905.000000 1607.000000,1077.000000 1614.000000,1183.000000 1696.000000,1103.000000 1748.000000,923.000000 1764.000000,747.000000 1764.000000,598.000000 1782.000000,419.000000 1803.000000,325.000000 1798.000000,250.000000 1766.000000,181.000000 1707.000000,138.000000 1638.000000,118.000000 1541.000000,97.000000 1476.000000,111.000000
<i>Eurypholis</i>	1418.000000,290.000000 1446.000000,377.000000 1445.000000,462.000000 1429.000000,569.000000 1409.000000,661.000000 1393.000000,756.000000 1384.000000,827.000000 1394.000000,875.000000 1432.000000,838.000000 1472.000000,764.000000 1502.000000,664.000000 1525.000000,576.000000 1551.000000,449.000000 1553.000000,293.000000 1635.000000,237.000000 1761.000000,178.000000 1692.000000,183.000000 1626.000000,180.000000 1532.000000,197.000000 1427.000000,231.000000
<i>Parenchodus</i>	443.000000,130.000000 471.000000,186.000000 487.000000,237.000000 499.000000,295.000000 508.000000,373.000000 513.000000,462.000000 504.000000,503.000000 502.000000,554.000000 521.000000,505.000000 530.000000,463.000000 551.000000,371.000000 563.000000,292.000000 570.000000,230.000000 572.000000,186.000000 597.000000,136.000000 617.000000,75.000000 571.000000,68.000000 521.000000,66.000000 478.000000,73.000000 430.000000,91.000000
<i>Unicachichthys</i>	1397.000000,465.000000 1424.000000,539.000000 1435.000000,615.000000 1431.000000,693.000000 1427.000000,792.000000 1426.000000,854.000000 1425.000000,932.000000 1437.000000,987.000000 1483.000000,941.000000 1512.000000,863.000000 1520.000000,786.000000 1522.000000,700.000000 1509.000000,571.000000 1506.000000,470.000000 1606.000000,460.000000 1739.000000,459.000000 1660.000000,430.000000 1573.000000,409.000000 1453.000000,393.000000 1360.000000,410.000000
<i>Veridagon</i>	3359.000000,846.000000 3514.000000,1090.000000 3665.000000,1311.000000 3729.000000,1623.000000 3714.000000,1920.000000 3676.000000,2155.000000 3617.000000,2422.000000 3636.000000,2643.000000 3757.000000,2432.000000 3806.000000,2171.000000 3852.000000,1934.000000 3881.000000,1638.000000 3876.000000,1333.000000 3893.000000,1093.000000 3919.000000,858.000000 3918.000000,673.000000 3803.000000,608.000000 3679.000000,579.000000 3490.000000,588.000000 3405.000000,635.000000

*Enchodus lewesiensis* 480.000000,267.000000 561.000000,370.000000 668.000000,490.000000 723.000000,622.000000 ? ? ? ? ? 890.000000,645.000000  
933.000000,488.000000 985.000000,329.000000 996.000000,234.000000 993.000000,133.000000 923.000000,66.000000 784.000000,54.000000  
649.000000,93.000000 471.000000,178.000000

*Saurorhamphus* 1902.000000,514.000000 1947.000000,574.000000 1960.000000,657.000000 1958.000000,751.000000 1953.000000,853.000000  
1939.000000,935.000000 1935.000000,994.000000 1947.000000,1038.000000 1977.000000,999.000000 1990.000000,941.000000 2003.000000,855.000000  
2011.000000,754.000000 2027.000000,669.000000 2062.000000,602.000000 2113.000000,554.000000 2193.000000,513.000000 2122.000000,479.000000  
2041.000000,457.000000 1946.000000,439.000000 1862.000000,447.000000

*Enchodus marchessetti* 2421.000000,1205.000000 2498.000000,1306.000000 2613.000000,1464.000000 2644.000000,1705.000000  
2657.000000,1933.000000 2656.000000,2138.000000 2611.000000,2344.000000 2587.000000,2566.000000 2667.000000,2349.000000  
2739.000000,2147.000000 2788.000000,1937.000000 2794.000000,1714.000000 2810.000000,1478.000000 2875.000000,1281.000000  
2919.000000,1179.000000 2981.000000,1084.000000 2906.000000,1038.000000 2762.000000,1045.000000 2563.000000,1056.000000  
2411.000000,1107.000000

*Enchodus petrosus* 2428.000000,784.000000 2530.000000,956.000000 2618.000000,1206.000000 2689.000000,1485.000000 2731.000000,1665.000000  
2723.000000,1875.000000 2698.000000,2073.000000 2719.000000,2146.000000 2758.000000,2072.000000 2794.000000,1877.000000  
2820.000000,1665.000000 2822.000000,1485.000000 2833.000000,1172.000000 2837.000000,931.000000 2852.000000,771.000000  
2824.000000,605.000000 2715.000000,598.000000 2581.000000,613.000000 2501.000000,640.000000 2466.000000,711.000000

*Enchodus gladiolus* 739.000000,297.000000 834.000000,373.000000 900.000000,501.000000 934.000000,649.000000 927.000000,793.000000  
917.000000,941.000000 900.000000,1058.000000 913.000000,1113.000000 942.000000,1062.000000 976.000000,945.000000 997.000000,800.000000  
1011.000000,657.000000 1044.000000,502.000000 1090.000000,361.000000 1122.000000,245.000000 1126.000000,132.000000 1039.000000,118.000000  
941.000000,147.000000 811.000000,161.000000 765.000000,234.000000

*Enchodus dirus* 981.000000,128.000000 1011.000000,218.000000 1024.000000,327.000000 1023.000000,431.000000 1003.000000,531.000000  
976.000000,616.000000 948.000000,680.000000 940.000000,706.000000 965.000000,680.000000 995.000000,627.000000 1039.000000,538.000000  
1080.000000,432.000000 1105.000000,334.000000 1139.000000,216.000000 1144.000000,151.000000 1148.000000,82.000000 1105.000000,72.000000  
1055.000000,65.000000 1007.000000,76.000000 990.000000,104.000000

*Enchodus brevis* 726.000000,160.000000 742.000000,263.000000 747.000000,362.000000 766.000000,454.000000 769.000000,540.000000  
773.000000,616.000000 774.000000,677.000000 779.000000,724.000000 791.000000,677.000000 800.000000,624.000000 815.000000,545.000000  
831.000000,454.000000 827.000000,367.000000 834.000000,265.000000 859.000000,150.000000 887.000000,118.000000 847.000000,98.000000  
807.000000,90.000000 752.000000,83.000000 711.000000,89.000000

*Enchodus gavdos* 2007.000000,700.000000 2061.000000,779.000000 2052.000000,856.000000 2036.000000,974.000000 2025.000000,1103.000000  
2010.000000,1166.000000 1989.000000,1229.000000 1976.000000,1318.000000 2048.000000,1258.000000 2084.000000,1184.000000  
2106.000000,1116.000000 2128.000000,996.000000 2155.000000,875.000000 2165.000000,819.000000 2200.000000,743.000000 2189.000000,647.000000  
2142.000000,596.000000 2092.000000,533.000000 2014.000000,561.000000 2002.000000,630.000000

*Enchodus tineidae* 1966.000000,1020.000000 1964.000000,1124.000000 1969.000000,1246.000000 1963.000000,1405.000000 ? ? ? ? ? ?  
2074.000000,1410.000000 2109.000000,1234.000000 2187.000000,1125.000000 2213.000000,1046.000000 2212.000000,966.000000  
2171.000000,935.000000 2109.000000,938.000000 2061.000000,943.000000 2005.000000,959.000000

*Vegrandichthys* 954.000000,165.000000 967.000000,178.000000 974.000000,209.000000 977.000000,239.000000 989.000000,287.000000  
995.000000,327.000000 1001.000000,353.000000 1008.000000,375.000000 1015.000000,351.000000 1019.000000,326.000000 1024.000000,285.000000  
1029.000000,241.000000 1032.000000,207.000000 1027.000000,180.000000 1020.000000,149.000000 1042.000000,122.000000 1012.000000,114.000000  
982.000000,111.000000 961.000000,129.000000 941.000000,142.000000

8



*Enchodus petrosus* 10211101111221210????????23200012100211?111020011221100111????10310????????11????????1000  
*Enchodus gladiolus* 00211101110220321????????23200011100211?01101001122???111?????3?0????????11????????1000  
*Enchodus shumardi* ??21110?10?221310????????23200011110211?011???1122?0112????????????????1????????1000  
*Enchodus dirus* ???????10?221321????????23200012100011?0110200?10????????????????????1????????1000  
*Enchodus brevis* ??21??01000221110????????2220001110021131110100112211021?????1012????????11????????1000  
*Enchodus faujasi* 101??1011002?1310????????3?000?1100?1?????????????????????????????????????  
*Enchodus gados* 001??011??2?1321?????????00?210011?01100000?11?????????????????????????????  
*Enchodus zimapanensis* ?12??1?0000221300????????023200001100211?111010011221101112????131????????10????????1000  
*Enchodus tineidae* ?????????2?????????????????01110201??1?1000??01????????????????????????????????1000  
*Enchodus gracilis* 0?21?111101221310????????23200012100211?111010011221101121???1?320????????11????????1000  
*Vegrandichthys* ?13?2?1101??1011????????00200001100201?1110101112[1 3]10??22??0?00????????120?1????1020

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