

Supplementary Material

1 Supplementary Data

All supplementary data files are deposited in FigShare: 10.6084/m9.figshare.19446992.

2 Supplementary Figures and Tables

Supplementary Table 1: Overview of tRNA-Phe, 12S ribosomal RNA, tRNA-Val, and the 16S ribosomal RNA sequences used for the phylogenetic placement of *Etmopterus litvinovi*.

ETMOPTERUS CLADE*	GENUS	SPECIES	LOCALITY	TISSUE SAMPLE NUMBER	GENBANK ACCESSION NUMBER
<i>E. spinax</i>	<i>Etmopterus</i>	<i>compagnoi</i>	South Africa, Southeast Atlantic	GN10443	ON185649
<i>E. spinax</i>	<i>Etmopterus</i>	<i>unicolor</i>	Japan, Northwest Pacific	GN7422	KF861683
<i>E. spinax</i>	<i>Etmopterus</i>	sp. B.	New Zealand, Southwest Pacific	GN7398	ON185640
<i>E. spinax</i>	<i>Etmopterus</i>	<i>viator</i>	New Zealand, Southwest Pacific	GN7412	ON185624
<i>E. spinax</i>	<i>Etmopterus</i>	<i>benchleyi</i>	Indonesia, Eastern Indian Ocean	GN4952	KF861670
<i>E. spinax</i>	<i>Etmopterus</i>	<i>litvinovi</i>	Southeast Pacific	ZMH24994	ON185643
<i>E. spinax</i>	<i>Etmopterus</i>	<i>benchleyi</i>	Costa Rica, Pacific Ocean	GN14570	ON185660
<i>E. spinax</i>	<i>Etmopterus</i>	<i>spinax</i>	Northeast Atlantic	GN5162	JQ518961
<i>E. spinax</i>	<i>Etmopterus</i>	<i>princeps</i>	Northeast Atlantic	GN1077	ON185638
<i>E. spinax</i>	<i>Etmopterus</i>	<i>princeps</i>	Northeast Atlantic	GN13688	ON185637
<i>E. spinax</i>	<i>Etmopterus</i>	<i>granulosus</i>	New Zealand, Southwest Pacific	GN1447	KF861663
<i>E. spinax</i>	<i>Etmopterus</i>	<i>dianthus</i>	New Caledonia, Southwest Pacific	GN12123	ON185648
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>bigelowi</i>	New Caledonia, Southwest Pacific	GN12121	ON185658
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>bigelowi</i>	Gulf of Mexico, Atlantic Ocean	GN3582	JQ518959

<i>E. lucifer</i>	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN7423	ON185655
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>bullisi</i>	USA, Northwest Atlantic	GN12246	ON185653
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>burgessi</i>	Taiwan, Northwest Pacific	GN10018	KF927840
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>carteri</i>	Belize, Northwest Atlantic	GN12728	ON185652
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>samadiae</i>	Papua New Guinea, Southwest Pacific	GN17195	ON185634
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>brachyurus</i>	Papua New Guinea, Southwest Pacific	GN17196	ON185654
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>dislineatus</i>	New Caledonia, Southwest Pacific	GN12124	ON185647
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>fusus</i>	New Caledonia, Southwest Pacific	GN12125	ON185645
<i>E. pusillus</i>	<i>Etmopterus</i>	cf. <i>fusus</i>	Papua New Guinea, Southwest Pacific	GN17206	ON185651
<i>E. gracilispinis</i>	<i>Etmopterus</i>	<i>gracilispinis</i>	USA, Northwest Atlantic	GN7458	ON185644
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>lucifer</i>	New Zealand, Southwest Pacific	GN2697	ON185642
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>molleri</i>	Australia, Southwest Pacific	GN11327	ON185641
<i>E. gracilispinis</i>	<i>Etmopterus</i>	<i>polli</i>	Angola, Southeast Atlantic	GN7421	ON185639
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>pseudosqualiolus</i>	New Caledonia, Southwest Pacific	GN12127	ON185636
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>pusillus</i>	Taiwan, Northwest Pacific	GN10140	KF927857
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>pusillus</i>	South Africa, Southeast Atlantic	GN10424	ON185635
<i>E. gracilispinis</i>	<i>Etmopterus</i>	<i>schultzi</i>	Gulf of Mexico, Northwest Atlantic	GN7418	ON185633
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sculptus</i>	Mozambique, Southwestern Indian Ocean	GN10404	ON185632
<i>E. gracilispinis</i>	<i>Etmopterus</i>	<i>sentosus</i>	South Africa, Southeast Atlantic	GN7402	ON185627
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sheikoi</i>	Taiwan, Northwest Pacific	GN12278	KF927860
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>alphus</i>	Madagascar Ridge, Western Indian Ocean	GN11825	ON185661

<i>E. gracilispinis</i>	<i>Etmopterus</i>	sp.	Puerto Rico, Northwest Atlantic	GN18931	ON185626
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>splendidus</i>	Taiwan, Northwest Pacific	GN10139	KF927866
<i>E. gracilispinis</i>	<i>Etmopterus</i>	<i>virens</i>	Gulf of Mexico, Northwest Atlantic	GN12403	ON185623
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>evansi</i>	Papua New Guinea, Southwest Pacific	GN17202	ON185646
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Western Indian Ocean	GN19168	ON185630
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Western Indian Ocean	GN19169	ON185629
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Western Indian Ocean	GN19170	ON185628
n.a.	<i>Etmopterus</i>	sp.	Locality unknown	GN19628	ON185625
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>brachyurus</i>	Taiwan, Northwest Pacific	GN10158	KF927838
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>bigelowi</i>	Gulf of Mexico, Northwest Atlantic	GN12406	ON185657
<i>E. lucifer</i>	<i>Etmopterus</i>	cf. <i>molleri</i>	Japan, Northwest Pacific	GN8081	ON185650
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>bigelowi</i>	South Africa, Southeast Atlantic	GN14849	ON185656
<i>E. pusillus</i>	<i>Etmopterus</i>	<i>bigelowi</i>	Australia, Southwest Pacific	GN10752	ON185659
<i>E. lucifer</i>	<i>Etmopterus</i>	<i>sculptus</i>	Australia, Southwest Pacific	GN11316	ON185631
n.a.	<i>Oxynotus</i>	<i>bruniensis</i>	New Zealand, Southwest Pacific	GN1844	JQ518965

Supplementary Table 2: Overview of NADH2 sequences used for the phylogenetic placement of *Etmopterus pycnolepis*.

ETMOPTERUS CLADE*	E. LUCIFER CLADE SUBCLADE**	GENUS	SPECIES	LOCALITY	TISSUE SAMPLE NUMBER	GENBANK ACCESSION NUMBER
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN2615	ON185671
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN2616	KF861690
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN11311	ON185690

<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN11312	ON185691
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN11313	ON185692
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN11314	ON185693
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	Australia, Southwest Pacific	GN11317	ON185694
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	South Africa, Southeast Atlantic	GN10409	ON185684
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	South Africa, Southeast Atlantic	GN10402	ON185711
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	South Africa,, Southeast Atlantic	GN10408	ON185713
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	South Africa Southeast Atlantic	GN10413	ON185714
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>lucifer</i>	South Africa, Southeast Atlantic	GN10403	ON185712
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN996	ON185672
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN997	JQ519179
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN10013	ON185706
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN10014	KF927845
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN10174	KF927855
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN10175	KF927856
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN10168	ON185697
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>molleri</i>	Taiwan, Northwest Pacific	GN19664	ON185724
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>molleri</i>	Australia, Southwest Pacific	GN11327	ON185695
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>molleri</i>	Australia, Southwest Pacific	GN11320	ON185696

<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10404	ON185673
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN7406	ON185678
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN11386	ON185679
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10405	ON185681
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10406	ON185682
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10407	ON185683
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10408	ON185713
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10410	ON185685
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10411	ON185686
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10412	ON185687
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	South Africa, Southeast Atlantic	GN10413	ON185714
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	Australia, Southwest Pacific	GN11316	ON185709
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>sculptus</i>	Mauritius, Western Indian Ocean	GN11999	ON185710
<i>E. lucifer</i>	<i>E. burgessi</i> subclade	<i>Etmopterus</i>	<i>burgessi</i>	Japan, North West Pacific	GN7938	ON185674
<i>E. lucifer</i>	<i>E. burgessi</i> subclade	<i>Etmopterus</i>	<i>burgessi</i>	Taiwan, Northwest Pacific	GN10176	KF927843
<i>E. lucifer</i>	<i>E. burgessi</i> subclade	<i>Etmopterus</i>	<i>burgessi</i>	Taiwan, Northwest Pacific	GN10178	ON185677
<i>E. lucifer</i>	<i>E. burgessi</i> subclade	<i>Etmopterus</i>	<i>burgessi</i>	Taiwan, Northwest Pacific	GN10019	KF927841
<i>E. lucifer</i>	<i>E. burgessi</i> subclade	<i>Etmopterus</i>	<i>burgessi</i>	Taiwan, Northwest Pacific	GN10020	KF927842
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN7423	ON185675

<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN7424	ON185676
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Taiwan, Northwest Pacific	GN10137	KF927837
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN7939	ON185703
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN7940	ON185704
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Taiwan, Northwest Pacific	GN10156	ON185705
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>brachyurus</i>	Japan, Northwest Pacific	GN18187	ON185717
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	cf. <i>decacuspidatus</i>	Taiwan, Northwest Pacific	GN12122	ON185680
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>dislineatus</i>	New Caledonia, Southwest Pacific	GN12124	ON185688
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>alphus</i>	Mauritius, Western Indian Ocean	GN11825	ON185698
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>alphus</i>	Mauritius, Western Indian Ocean	GN11826	ON185689
<i>E. lucifer</i>	n.a.	<i>Etmopterus</i>	<i>sheikoi</i>	Taiwan, Northwest Pacific	GN7385	ON185699
<i>E. lucifer</i>	n.a.	<i>Etmopterus</i>	<i>sheikoi</i>	Taiwan, Northwest Pacific	GN7440	ON185700
<i>E. lucifer</i>	n.a.	<i>Etmopterus</i>	<i>sheikoi</i>	Taiwan, Northwest Pacific	GN10268	ON185701
<i>E. lucifer</i>	n.a.	<i>Etmopterus</i>	<i>sheikoi</i>	Taiwan, Northwest Pacific	GN10270	ON185702
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>samadiae</i>	Papua New Guinea, Southwest Pacific	GN17211	ON185715
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>samadiae</i>	Papua New Guinea, Southwest Pacific	GN17212	ON185716
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>bullisi</i>	Locality unknown	GN18313	ON185718
<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>bullisi</i>	Locality unknown	GN18314	ON185719

<i>E. lucifer</i>	<i>E. molleri</i> subclade	<i>Etmopterus</i>	<i>bullisi</i>	Locality unknown	GN18315	ON185720
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>brosei</i>	South Africa, Western Indian Ocean	GN19168	ON185721
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>brosei</i>	South Africa, Western Indian Ocean	GN19170	ON185628
<i>E. lucifer</i>	<i>E. lucifer</i> subclade	<i>Etmopterus</i>	<i>brosei</i>	South Africa, Western Indian Ocean	GN19169	ON185629
<i>E. lucifer</i>	n.a.	<i>Etmopterus</i>	<i>pycnolepis</i>	Southeast Pacific	ZMH24995	ON185670
<i>E. spinax</i>	n.a.	<i>Etmopterus</i>	<i>viator</i>	New Zealand, Southwest Pacific	GN7412	ON185624
<i>E. spinax</i>	n.a.	<i>Etmopterus</i>	<i>spinax</i>	Azores, Atlantic	GN5164	ON185664
<i>E. gracilispinis</i>	n.a.	<i>Etmopterus</i>	<i>schantzi</i>	Gulf of Mexico Northwest Atlantic	GN7418	ON185666
<i>E. gracilispinis</i>	n.a.	<i>Etmopterus</i>	<i>gracilispinis</i>	USA, Northwest Atlantic	GN3723	ON185668
<i>E. pusillus</i>	n.a.	<i>Etmopterus</i>	<i>pusillus</i>	Azores, Atlantic	GN6543	ON185667
<i>E. pusillus</i>	n.a.	<i>Etmopterus</i>	<i>bigelowi</i>	Atlantic	GN5026	ON185669
n.a.	n.a.	<i>Oxynotus</i>	<i>bruniensis</i>	New Zealand, Southwest Pacific	GN1844	ON185662

* According to Straube, N., Iglésias, S. P., Sellos, D. Y., Kriwet, J., & Schlieven, U. K. (2010). Molecular phylogeny and node time estimation of bioluminescent Lantern Sharks (Elasmobranchii: Etmopteridae). *Molecular Phylogenetics and Evolution*, 56(3), 905–917. doi: 10.1016/j.ympev.2010.04.042

** According to Ebert, D. A., Leslie, R. W., & Weigmann, S. (2021). *Etmopterus brosei* sp. nov.: a new lanternshark (Squaliformes: Etmopteridae) from the southeastern Atlantic and southwestern Indian oceans, with a revised key to the *Etmopterus lucifer* clade. *Marine Biodiversity*, 51(3). doi: 10.1007/s12526-021-01173-0

Supplementary Table 3: K2p distances obtained from species delimitation analysis in Geneious® based on the RAxML trees from A) the *E. spinax* clade B) the *E. lucifer* clade.

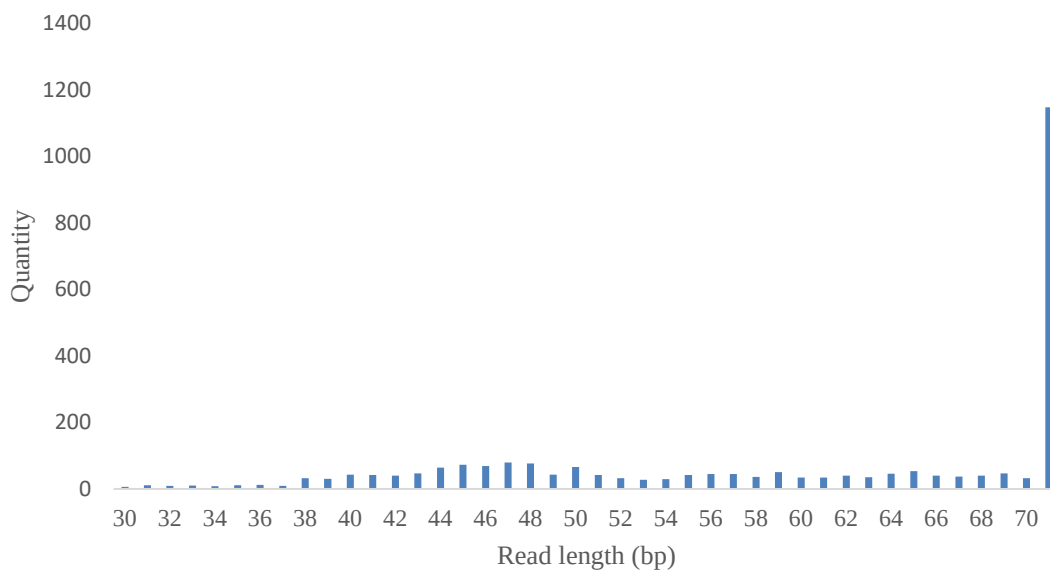
Taxonomic unit	Closest relative	Interspecific distance
A) <i>E. spinax</i> clade		
<i>Etmopterus litvinovi</i>	<i>Etmopterus benchleyi</i>	5.18 x 10 ⁻⁴
<i>Etmopterus compagnoii</i>	<i>Etmopterus granulosus</i>	0.014
<i>Etmopterus unicolor</i>	<i>Etmopterus granulosus</i>	0.014
<i>Etmopterus viator</i>	<i>Etmopterus benchleyi</i>	0.013
<i>Etmopterus spinax</i>	<i>Etmopterus princeps</i>	0.027
<i>Etmopterus dianthus</i>	<i>Etmopterus granulosus</i>	0.016
<i>Etmopterus</i> sp. B	<i>Etmopterus benchleyi</i>	0.015
<i>Etmopterus benchleyi</i>	<i>Etmopterus litvinovi</i>	5.18 x 10 ⁻⁴
<i>Etmopterus princeps</i>	<i>Etmopterus benchleyi</i>	0.015
<i>Etmopterus granulosus</i>	<i>Etmopterus unicolor</i>	0.014
B) <i>E. lucifer</i> clade		
<i>Etmopterus lucifer</i>	<i>Etmopterus sculptus</i>	0.014
<i>Etmopterus pycnolepis</i>	<i>Etmopterus lucifer</i>	0.034
<i>Etmopterus burgessi</i>	<i>Etmopterus lucifer</i>	0.032
<i>Etmopterus disleanthus</i>	<i>Etmopterus mollerii</i>	0.003
<i>Etmopterus mollerii</i>	<i>Etmopterus dislineatus</i>	0.003
<i>Etmopterus brachyurus</i>	<i>Etmopterus samadiae</i>	0.044

<i>Etmopterus samadiae</i>	<i>Etmopterus brachyurus</i>	0.044
<i>Etmopterus bullisi</i>	<i>Etmopterus molleri</i>	0.055
<i>Etmopterus alphas</i>	<i>Etmopterus bullisi</i>	0.057
<i>Etmopterus sculptus</i>	<i>Etmopterus lucifer</i>	0.014
<i>Etmopterus sheiko</i>	<i>Etmopterus molleri</i>	0.137
<i>Etmopterus cf. decacuspидatus</i>	<i>Etmopterus cf. molleri</i>	0.004
<i>Etmopterus cf. molleri</i>	<i>Etmopterus cf. decacuspидatus</i>	0.004
<i>Etmopterus brachyurus</i>	<i>Etmopterus samadiae</i>	0.044

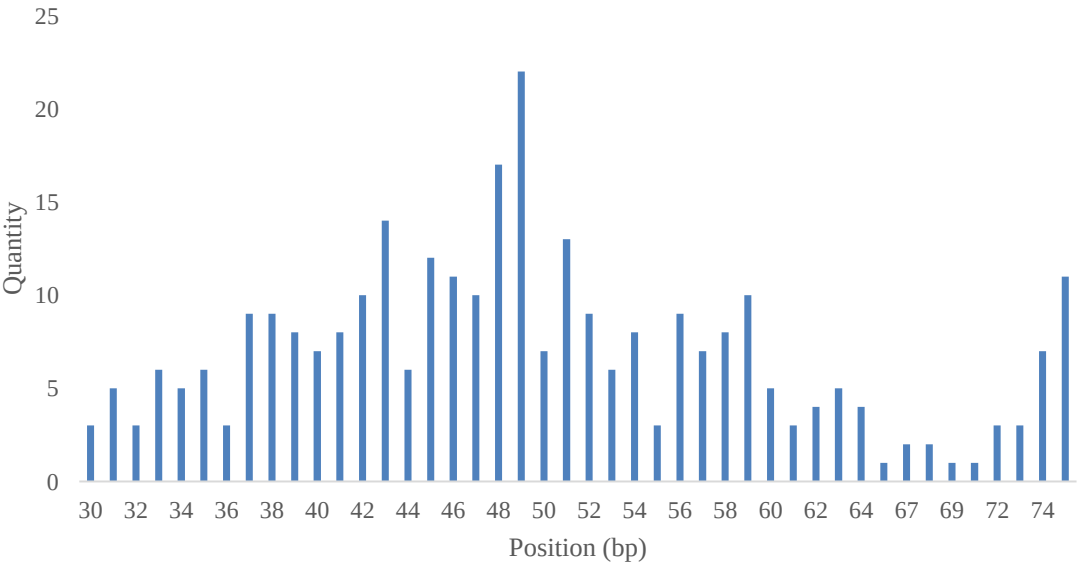
2.1 Supplementary Figures

Supplementary Figure 1. Mitochondrial DNA read length distribution using trimmed and quality-filtered reads after mapping of **(A)** 12s16s for *E. litvinovi* to *E. pusillus* (KU892588) and **(B)** NADH2 for *E. pycnolepis* to *E. lucifer* (JQ518963) excluding duplicates.

A *Etmopterus litvinovi*

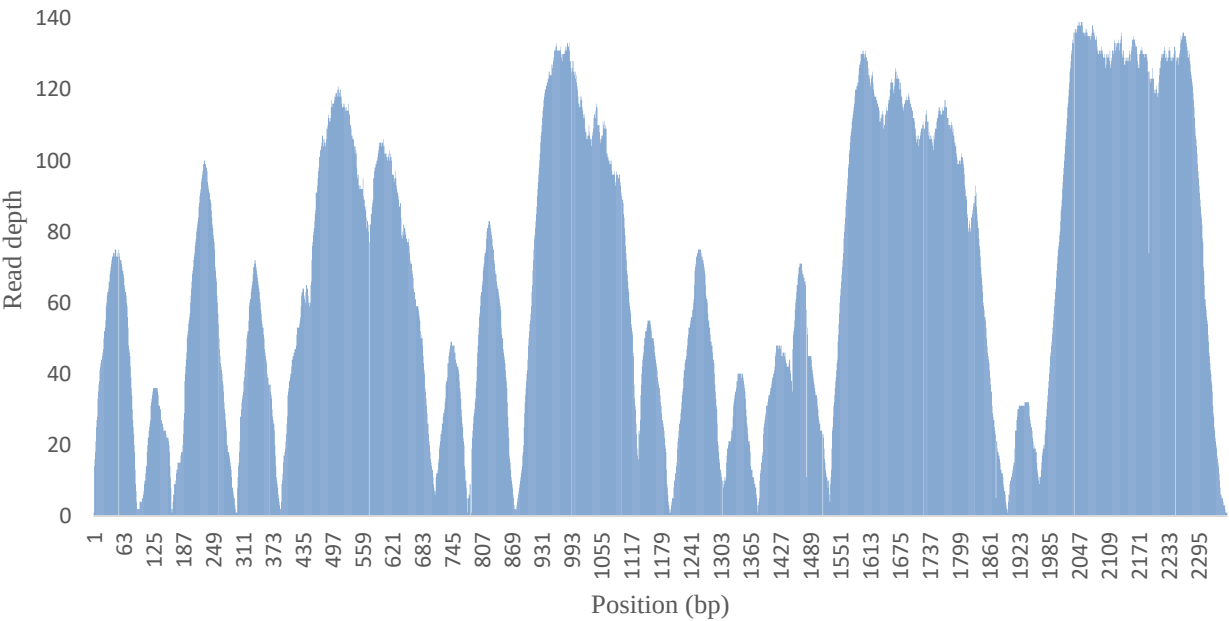


B *Etmopterus pycnolepis*



Supplementary Figure 2. Per base read using trimmed and quality-filtered reads after mapping of **(A)** 12s16s for *E. litvinovi* to *E. pusillus* (KU892588) and **(B)** NADH2 for *E. pycnolepis* to *E. lucifer* (JQ518963) excluding duplicates.

A *Etmopterus litvinovi*



B *Etmopterus pycnolepis*

