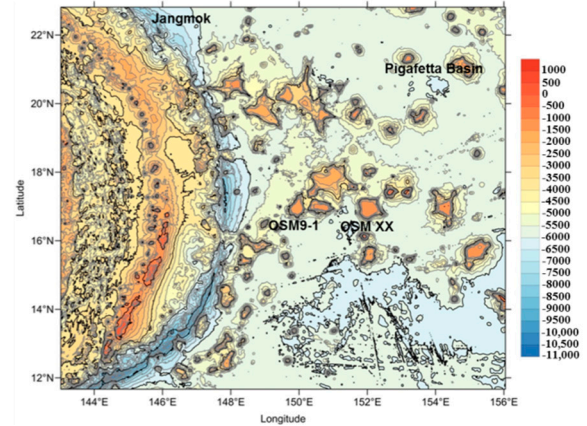


A)



B)



**Supplementary Figure S1.** (A) The research vessel *ISABU*. (B) Sampling sites of *Synaphobranchus brevidorsalis* and *Synaphobranchus affinis* on the East Mariana Basin in the western Pacific Ocean.

**Supplementary Table S1.** List of the species and sample sites.

Species	Geographical Area	Latitude	Longitude	Depth (m)
<i>Synaphobranchus brevidorsalis</i>	OSM9-1	16°58N	149°50E	1436
<i>Synaphobranchus affinis</i>	OSMXX	16°06N	151°53E	1475



**Supplementary Figure S2.** Fish sampling using bait traps (composed of fish).

**A) *Synaphobranchus brevidorsalis***



**B) *Synaphobranchus affinis***



**Supplementary Figure S3.** Photographs of two deep-sea eel specimens. (A) *Synaphobranchus brevidorsalis* and (B) *S. affinis*.