

Curriculum Vitae

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Degree:

2002-2007 **Ph. D** in the Institute of Zoology, College of Life Science, National Taiwan University.

Dissertation Title: The population genetic structure and evolutionary scenario of three freshwater eels *Anguilla reinhardtii*, *A. australis* and *A. dieffenbachii* in the eastern Australia as revealed by microsatellites.

1995-1997 **Master of Science** degree in the Institute of Fisheries Science, College of Science, National Taiwan University.

Dissertation Title: Early life history and recruitment dynamics of amphidromous goby *Sicyopterus japonicus*.

1991-1995 **Bachelor of science** degree in Department of Marine Resource, College of Marine Science, National Sun Yat-Sen University.

Work Experience:

Dec. 2014 ~ Present: Assistant Research Fellow, Center of Excellence for the Oceans, National Taiwan Ocean University.

Dec. 2012 ~ Nov. 2014: Assistant Research Fellow, ¹Department of Environmental Biology and Fisheries Science, ²Center of Excellence for the Oceans, National Taiwan Ocean University.

Aug. 2012- Nov. 2012: Postdoctoral Fellow, Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University.

Feb. 2007- Jul. 2012: Postdoctoral Fellow, Institute of Fisheries Science, National Taiwan University.

2000-2002: Research assistant in Institute of Molecular Biology, Academia Sinica.

1999-2000: Research assistant in Department of Zoology, National Taiwan University.

International Research Involvement:

1. European Commission INCO-CT-2006-026180 (2006-2009): Main Uses of the Grey mullet as Indicator of Littoral environmental changes. MUGIL www.mugil.univ-montp2.fr.
2. Australia (University of the Sunshine Coast)(2009-2010): Using mullet as an international standard bio-indicator of river, beach and estuarine health. Stage I: establishing the international collaboration with USC.
3. France (Institute of Research and Development, IRD) (2010-2012) EDISPOM - Étude intégrée de la DIspersion et de la Structure des POpulations de Mulets en Afrique de l'Ouest (Population structure of *M. cephalus* in West Africa)
4. Taiwan-France Orchid Program - Joint Project (2011-2012) MULTRACE: Worldwide Phylogeography and genetic diversity of *Mugil cephalus* from major roe production areas.
5. Taiwan-Philippines Joint Project (2011-2013) Estuarine and near-shore fishes as indicators of environmental changes: Assessment of the impacts of climate change and human activities on fish diversity thru genetic based analysis. (CO-PI)
6. France (IRD, CNRS) (2012-2014) DISTRIMUGES: Multidisciplinary approach to understand the role of temperature in the distribution of three cryptic species of flathead mullet, *Mugil cephalus*, in the North West Pacific.
7. Taiwan-China Joint Project (2013) Basic study on fine variety breeding of the grey mullet. (CO-PI)
8. France (IRD, CNRS) (2014-2015) LOW/TROPH, Les niches trophiques et leurs importances dans la radiation évolutive de la famille des Mugilidae en Asie.

Research and other interests:

1. Population genetic structure, phylogeography and evolution of fishes
2. Molecular phylogenetics of fishes
3. Fish Biology and Ecology
4. DNA barcoding and biodiversity of fishes
5. Next Generation Sequencing
6. Aquaculture

Publications

1. **Shen KN**, Chang CW*, Durand JD (2015). Spawning segregation and philopatry are major pre-zygotic barriers in sympatric cryptic *Mugil cephalus* species. *Comptes Rendus Biologies* (In press)
2. **Shen KN**, Durand JD (2015). The Biogeography of Mugilidae in India, South-East and East Asia. *In: Biology, Ecology and Culture of Grey Mullet (Mugilidae)*. Rome, Italy. p63-84. (In press).

3. **Shen KN**, Chang CW, Lin ZH, Chan YF, Tsai SY, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Cocos lemonpeel angelfish (*Centropyge flavissima*) and Eibl's angelfish (*Centropyge eibli*) (Teleostei: Pomacanthidae). *Mitochondrial DNA* (In press)
4. **Shen KN**, Chang CW, Chan YF, Lin ZH, Tsai SY, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Woodhead's angelfish (*Centropyge woodheadi*) and Herald's angelfish (*Centropyge heraldi*) (Teleostei: Pomacanthidae). *Mitochondrial DNA* (In press)
5. Hsiao CD, **Shen KN**, Chan YF, Lin ZH, Tsai SY, Chen CH, Chang CW* (2015). Complete mitogenomes of Spotbreast angelfish (*Genicanthus melanospilos*) and Blackstriped angelfish (*Genicanthus lamarck*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
6. **Shen KN**, Chang CW, Lin ZH, Chan YF, Tsai SY, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Whitetail angelfish (*Centropyge flavicauda*) and Orangeback angelfish (*Centropyge acanthops*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
7. **Shen KN**, Chang CW, Tsai SY, Lin ZH, Chan YF, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Barred angelfish (*Paracentropyge multifasciata*) and Purplemask angelfish (*Paracentropyge venusta*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
8. **Shen KN**, Chang CW, Chen CH, Hsiao CD* (2015). Complete mitogenomes of King angelfish (*Holacanthus passer*) and Queen angelfish (*Holacanthus ciliaris*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
9. **Shen KN**, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Guinean angelfish (*Holacanthus africanus*) and Rock beauty (*Holacanthus tricolor*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
10. **Shen KN**, Chang CW, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Multicolor angelfish (*Centropyge multicolor*) and Yellowhead angelfish (*Centropyge jocularis*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
11. **Shen KN**, Chang CW, Chen CH, Hsiao CD* (2015). Complete mitogenomes of Armitage angelfish (*Apolemichthys armitagei*) and Griffisi angelfish (*Apolemichthys griffisi*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
12. Loh KH, Shao KT, Chen CH, Chen HM, YH Then, Loo PL, Lim PE, Chong VC, **Shen KN***, Hsiao CD* (2015). Next generation sequencing yields the complete mitogenome of two moray eels of *Gymnothorax formosus* and *Scuticaria tigrina* (Anguilliformes: Muraenidae). *Mitochondrial DNA*, Early

Online:1-2

13. Hsiao CD, **Shen KN**, Tsai SY, Wu SC, Chen CH, Chang CW* (2015). The complete mitogenome of Japanese swallow angelfish (*Genicanthus semifasciatus*) and Ornate angelfish (*Genicanthus bellus*) (Teleostei: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
14. **Shen KN**, Chang CW, Tsai SY, Wu SC, Lin ZH, Chan YF, Chen CH, Hsiao CD*, Borsa P (2015). Next generation sequencing yields the complete mitogenome of Leopard whiplay (*Himantura leoparda*) and Blue-spotted stingray (*Neotrygon kuhlii*) (Chondrichthyes: Dasyatidae). *Mitochondrial DNA*, Early Online:1-2
15. Hsiao CD, **Shen KN**, Ching TY, Wang YH, Ye JJ, Tsai SY, Wu SC, Chen CH, Wang CH* (2015). The complete mitochondrial genome of the cryptic “lineage A” big-fin reef squid, *Sepioteuthis lessoniana* (Cephalopoda: Loliginidae) in Indo-West Pacific. *Mitochondrial DNA*, Early Online:1-2
16. Loh KH, Shao KT, Chen HM, Chen CH, Loo PL, Then YH, Lim PE, Chong VC, **Shen KN***, Hsiao CD* (2015). Next generation sequencing yields the complete mitochondrial genome of the longfang moray, *Enchelynassa canina* (Anguilliformes: Muraenidae). *Mitochondrial DNA*, Early Online:1-2
17. Loh KH, Shao KT, Chen HM, Chen CH, Chong VH, Loo PL, **Shen KN***, Hsiao CD* (2015). Next generation sequencing yields the complete mitochondrial genome of the Zebra moray, *Gymnomuraena zebra* (Anguilliformes: Muraenidae). *Mitochondrial DNA*, Early Online:1-2
18. **Shen KN**, Tsai SY, Chen CH, Hsiao CD*, Durand JD (2015). Next generation sequencing yields the complete mitochondrial genome of the largescale mullet, *Liza macrolepis* (Teleostei: Mugilidae). *Mitochondrial DNA*, Early Online:1-2
19. **Shen KN**, Chang CW, Chen CH, Chassaing A, Hsiao CD* (2015). Next generation sequencing yields the complete mitochondrial genome of the Japanese angelfish, *Centropyge interrupta* (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
20. **Shen KN**, Chang CW, Chen CH, Hsiao CD* (2015). The complete mitochondrial genome of the Tiger angelfish, *Apolemichthys kingi* (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
21. **Shen KN**, Chang CW, Kar-Hoe Loh, Chen CH, Hsiao CD* (2015). Next generation sequencing yields the complete mitochondrial genome of the Clarion angelfish, *Holacanthus clarionensis* (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
22. Ye JJ, **Shen KN**, Chen CH, Hsiao CD, Chang CW* (2015). The complete mitochondrial genome of the Emperor angelfish, *Pomacanthus imperator*

- (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
23. Hsiao CD, **Shen KN**, Chen CH, Chang CW* (2015). The complete mitochondrial genome of the Vermiculated angelfish (*Chaetodontoplus mesoleucus*) (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
 24. **Shen KN**, Kar-Hoe Loh, Chen CH, Hsiao CD* (2015). The complete mitochondrial genome of the Blue-face angelfish, *Pomacanthus xanthometapon* (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
 25. **Shen KN**, Chang CW, Chen CH, Hsiao CD* (2014). The complete mitochondrial genome of the Spectacled angelfish, *Chaetodontoplus conspicillatus* (Perciformes: Pomacanthidae). *Mitochondrial DNA*, Early Online:1-2
 26. **Shen KN**, Chen CH, Hsiao CD* (2014). Next generation sequencing yields the complete mitochondrial genome of the Hornlip mullet *Plicomugil labiosus* (Teleostei: Mugilidae). *Mitochondrial DNA*, Early Online:1-2
 27. **Shen KN**, Chen CH, Ye JJ, Hsiao CD* (2014). The complete mitochondrial genome of the cryptic “lineage B” big-fin reef squid, *Sepioteuthis lessoniana* (Cephalopoda: Loliginidae) in Indo-West Pacific. *Mitochondrial DNA*, Early Online:1-2
 28. **Shen KN**, Yen TC, Chen CH, Li HY, Chen PL, Hsiao CD* (2014). Next generation sequencing yields the complete mitochondrial genome of the flathead mullet, *Mugil cephalus* cryptic species NWP2 (Teleostei: Mugilidae). *Mitochondrial DNA*, Early Online:1-2
 29. Borsa P, Arlyza IS, Chen WJ, Durand JD, Meekan MG, **Shen KN**. (2013) Resurrection of New Caledonian maskray *Neotrygon trigonoides* (Myliobatoidei: Dasyatidae) from synonymy with *N. kuhlii*, based on cytochrome-oxidase I gene sequences and spotting patterns. *Comptes rendus Biologies* 336: 221-232
 30. Arlyza IS, **Shen KN**, Durand JD, Borsa P. (2013) Mitochondrial Haplotypes Indicate Parapatric-like Phylogeographic Structure in Blue-Spotted Maskray (*Neotrygon kuhlii*) from the Coral Triangle Region. *Journal of Heredity* 104(5):725–733
 31. Leander NJ, Tzeng WN, Yeh NT, **Shen KN**, Han YS. (2013) Effect of metamorphosis timing and larval growth rate on the latitudinal distribution of the sympatric freshwater eels, *Anguilla japonica* and *A. marmorata*, in the western North Pacific. *Zoological Studies* 52:30
 32. Borsa P, Durand JD, **Shen KN**, Arlyza IS, Solihin DD, Berrebi P. (2013)

- Himantura tutul* sp. nov. (Myliobatoidei: Dasyatidae), a new ocellated whipray from the tropical Indo-West Pacific, described from its cytochrome-oxidase I gene sequence. *Comptes Rendus Biologies* 336(2):82-92
33. Durand JD, Blel H, **Shen KN**, Koutrakis ET, Guinand B. (2013) Population genetic structure of *Mugil cephalus* in the Mediterranean and Black Seas: a single mitochondrial clade, many nuclear barriers. *Marine Ecology Progress Series* 474:243-261
 34. Arlyza IS, **Shen KN**, Solihin DD, Soedharma D, Berrebi P, Borsa P. (2013) Species boundaries in the *Himantura uarnak* species complex (Myliobatiformes: Dasyatidae). *Molecular Phylogenetics and Evolution* 66(1):429-435
 35. Cheng CC, Leander NJ, **Shen KN***, Tzeng WN. (2012) Spatial and temporal population genetic structure of the giant mottled eel *Anguilla marmorata* in the Northwestern Pacific. *Journal of the Fisheries Society of Taiwan* 39(4):269-282
 36. Durand JD, Chen WJ, **Shen KN**, Fu CZ, Borsa P. (2012) Genus-level taxonomic changes implied by the mitochondrial phylogeny of grey mullets (Teleostei: Mugilidae). *Comptes Rendus Biologies* 335:687-697
 37. Durand JD, **Shen KN**, Chen WJ, Jamandre BW, Blel H, Diop K, Nirchio M, Garcia de León FJ, Whitfield AK, Chang CW, Borsa P. (2012) Systematics of the grey mullets (Teleostei: Mugiliformes: Mugilidae): molecular phylogenetic evidence challenges two centuries of morphology-based taxonomic studies. *Molecular Phylogenetics and Evolution* 64:73-92
 38. **Shen KN**, Ho HC, Chang CW (2012) The Blue Velvet Angelfish, *Centropyge deborae*, a New Pomacanthid from the Fiji Islands, based on Genetic and Morphological Analyses. *Zoological Studies* 51:415-423
 39. Leander NJS, **Shen KN**, Chen RT, Tzeng WN (2012) Species composition and seasonal occurrence of freshwater eels (*Anguilla* spp.) in the eastern coast of Taiwan. *Zoological Studies* 51:59-71
 40. Jamandre BW, **Shen KN**, Tzeng WN (2011) Is the geographic variation in size of American eel *Anguilla rostrata* elvers due to genetic differentiation? *International Aquatic Research* 3: 197-203
 41. Ho HC*, **Shen KN***, Chang CW (2011) A new species of the unicornfish genus *Naso* (Teleostei: Acanthuridae) from Taiwan, with comments on its phylogenetic relationship. *Raffles Bulletin of Zoology* 59(2): 63-69
 42. **Shen KN**, Jamandre BW, Hsu CC, Tzeng WN, Durand JD (2011) Plio-Pleistocene sea level and temperature fluctuations in the northwestern Pacific promoted speciation in the globally-distributed flathead mullet *Mugil cephalus*. *BMC Evolutionary Biology* 11:83
 43. Jamandre BW, Durand JD, **Shen KN**, Tzeng WN (2010) Differences in Evolutionary Pattern and Variability Between mtDNA Cytochrome b and Control Region of the Flathead Mullet *Mugil cephalus* from the Northwest Pacific. *Journal of the Fisheries Society of Taiwan* 37(3): 163-172.
 44. **Shen KN**, Chen CY, Tzeng WN, Chen JD, Knibb W, Durand JD (2010) Development and characterization of 13 GT/CA microsatellite loci in cosmopolitan flathead mullet *Mugil cephalus*. In Permanent Genetic Resources added to Molecular Ecology Resources Database 1 April 2010 – 31 May 2010. *Molecular Ecology Resources* 10: 1098–1105
 45. **Shen KN**, Chang CW, Iizuka Y, Tzeng WN (2009) Facultative habitat selection of Pacific tarpon *Megalops cyprinoides* as revealed from otolith Sr:Ca ratios.

- Marine Ecology Progress Series* 387: 255-263
46. **Shen KN**, Tzeng WN (2008) Reproductive strategy and recruitment dynamics of amphidromous goby *Sicyopterus japonicus* as revealed by otolith microstructure. *Journal of Fish Biology* 73: 2497-2512
 47. Chen HL, **Shen KN**, Chang CW, Iizuka Y, Tzeng WN (2008) Effects of water temperature, salinity and feeding regimes on metamorphosis, growth and otolith Sr/Ca ratios of Pacific tarpon *Megalops cyprinoides* leptocephali. *Aquatic Biology* 3: 41-50
 48. Han YS, Sun YL, Liao YF, Liao IC, **Shen KN**, Tzeng WN (2008) Temporal analysis of population genetic composition in the overexploited Japanese eel *Anguilla japonica*. *Marine Biology* 155:613-621
 49. Tzeng WN, Chu H, **Shen KN**, Wang YT (2008) Hatching period and early-stage growth rate of the gold estuarine anchovy *Stolephorus insularis* in Taiwan as inferred from otolith daily growth increments. *Zoological Studies* 47 (5): 544-554
 50. Chang ST, Yeh MF, Chen RT, Tsai CL, **Shen KN**, Tsai CF (2008) A giant exotic speckled longfin eel (*Anguilla reinhardtii* Steindachner, 1867) captured from the Sun Moon Lake. *Endemic Species Research* 10(2): 59-64.
 51. Jamandre BW, **Shen KN**, Yambot AV, Tzeng WN (2007) Molecular phylogeny of Philippine freshwater eels *Anguilla* spp. (Actinopterygi: Anguilliformes: Anguillidae) inferred from mitochondrial DNA. *Raffles Bulletin of Zoology*, Supplement 14: 51-59
 52. **Shen KN**, Tzeng WN (2007a) Population genetic structure of the year-round spawning tropical eel *Anguilla reinhardtii* in Australia. *Zoological Studies* 46 (4): 331-453
 53. **Shen KN**, Tzeng WN (2007b) Genetic differentiation among populations of the shortfinned eel *Anguilla australis* from East Australia and New Zealand. *Journal of Fish Biology* 70 (Supplement B): 177-190
 54. Munderle M, Taraschewski H, Klar B, Chang CW, J. Shiao C, **Shen KN**, He JT, Lin SH, Tzeng WN (2006) Occurrence of *Anguillicola crassus* (Nematoda: Dracunculoidea) in Japanese eels *Anguilla japonica* from a river and an aquaculture unit in SW Taiwan. *Diseases of Aquatic Organisms* 71: 101-108
 55. **Shen KN**, Tzeng WN (2002) Formation of a metamorphosis check in otolith of the amphidromous goby *Sicyopterus japonicus*. *Marine Ecology Progress Series* 228: 205-211
 56. **Shen KN**, Lee YC, Tzeng WN (1998) Use of otolith microchemistry to investigate the life history pattern of gobies in a Taiwanese stream. *Zoological Studies* 37(4): 322-329