

CURRICULUM VITAE

RICHARD L. PYLE

Department of Natural Sciences
Bishop Museum
1525 Bernice St.
Honolulu, HI 96817
(808) 384-6065
deepreef@bishopmuseum.org

PERSONAL:

Born: 24 March 1967, Kailua, Hawaii
Married (to Dr. Lisa A. Privitera), 2 children (born 1995 & 2000)

EDUCATION:

2003 Ph.D. - Department of Zoology, University of Hawaii at Manoa, Honolulu, Hawaii
1992 B.S. – Department of Zoology, University of Hawaii at Manoa, Honolulu, Hawaii
1985 High School Diploma, Punahou High School, Honolulu, Hawaii

EMPLOYMENT:

2002–present Database Coordinator (PBIN, NBII) – Department of Natural Sciences, B.P. Bishop Museum, Honolulu, Hawaii
2000 Graduate Teaching Assistant (Ichthyology Lab) – Department of Zoology, University of Hawaii at Manoa, Honolulu, Hawaii
1999–2002 Graduate Research Assistant (John E. Randall, PI) – Department of Zoology, University of Hawaii at Manoa, Honolulu, Hawaii
1997–present Associate Zoologist – Department of Natural Sciences, B.P. Bishop Museum, Honolulu, Hawaii
1990–present President – LavaVideo Productions, Inc.
1986–1997 Collections Technician – Ichthyology Collection, Department of Natural Sciences, B.P. Bishop Museum, Honolulu, Hawaii
1985–1986 Vice President/Chief Collector – Feetlebomb Fish of Palau, Inc., Koror, Palau
1985 Student Aquarist – Waikiki Aquarium, Honolulu, Hawaii

PROFESSIONAL SERVICE:

2008–present Founding Board Member, Plazi.ch Association (Plazi)
2008–present Program Committee, International Conference on Biodiversity Informatics (e-Biosphere)
2007–present Steering Committee, World Registry of Marine Species (WoRMS)
2007–present Member, Informatics Advisory Board, Encyclopedia of Life (EoL)
2006–present Commissioner, International Commission on Zoological Nomenclature (ICZN)
2006 Active Participant in the Global Biodiversity Information Facility (GBIF) Globally Unique Identifiers (GUID) Workshop Series
2005 Active Participant in the development of the Taxonomic Concept Schema (TCS), Taxonomic Databases Working Group (TDWG)
2003–present Founding Board Member, Chief Technology Officer (2003–2005), Chief Science Officer (2005–present), Association for Marine Exploration (AME)

- 2001 Promising Technology Committee – All Species Foundation, San Francisco, California
- 2001 CEO Search Committee – All Species Foundation
- 2000–present Manuscript Reviewer – *Marine Technology Society*
- 2000–2003 Scientific Advisor – MacGillivray Freeman Films
- 2000–2001 Database Consultant & Scientific Advisor – All Species Foundation
- 2000–2001 Organizing Committee – All Species Foundation
- 1998 Secretary, Diving Control Board – University of Hawaii at Manoa
- 1997–present Board of Advisors – International Association of Nitrox and Technical Divers (IANTD)
- 1997–present Web Site Development Group – Bernice P. Bishop Museum
- 1996–present Database Development Group – Bernice P. Bishop Museum
- 1996 Manuscript Reviewer – *Evolution*
- 1996 “Major Contributor” – Scientific Diving: A general Code of Practice. (N.C. Flemming and M.D. Max, eds.). Second Edition (1996), Sponsored by the World Underwater Federation (CMAS) and UNESCO’s Intergovernmental Oceanographic Commission (IOC). UNESCO Publishing, Paris. xviii+278 pp.
- 1995–1996 Board of Directors – Aquademy, Inc. (A California nonprofit public benefit corporation)
- 1995–present Diving Control Board Member – University of Hawaii at Manoa
- 1995–present Board of Advisors – *Immersed* technical journal
- 1995–present Data Standards Subcommittee – American Society of Ichthyologists and Herpetologists
- 1994–present Experimental Test Diver and Technical Consultant- Cis-Lunar Development Laboratories, Inc.
- 1994–1995 Organizing Committee Member – 20th Annual Albert L. Tester Memorial Symposium, University of Hawaii at Manoa
- 1994 Technical Advisor- CMAS/UNESCO Code of Practice for Scientific Diving
- 1994 Manuscript Reviewer – *Pacific Science*
- 1992–1996 Editorial Board and Contributing Editor - *AquaCorps* technical journal
- 1991–present Scientific Advisor- American Association of Zoological Parks and Aquariums Marine Fishes Taxon Advisory Group
- 1991–1993 Hawaii State Shark Task Force
- 1990–present Board of Directors – Hawaii Tropical Fish Association
- 1989–present Contributing Editor – *Freshwater and Marine Aquarium Magazine*
- 1984–1985 Volunteer Aquarist – Waikiki Aquarium

PROFESSIONAL SOCIETY MEMBERSHIPS:

- 2000–present Marine Technology Society
- 1991–present American Society of Ichthyologists and Herpetologists

GRANTS & AWARDS:

Pending:

- 2007 **Partner Researcher:** Providing Access to Authoritative New Names: the Zootaxa-ZooBank Interface (Zhi-Qiang Zhang, PI), Global Biodiversity Information Facility (GBIF), Submitted 1 Nov 2007. (\$49,000).

Funded:

- 2007 **Lead PI:** CRES 2007: Investigating the Deep (50-100 m) Coral Reefs of Hawai'i. Coral Reef Ecosystem Studies (CRES), National Oceanic and Atmospheric Administration (NOAA), 11 Nov 2006. (\$1,499,961).
- 2007 **Co-PI:** Comparing Hawaii's Deep Reef Coral Communities (Anthony Montgomery, PI), Hawaii Undersea Research Laboratory (HURL). 1 October 2007 (\$72,279).
- 2007 **PI:** Development of a Species Portal for Pacific Islands, Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2007 (\$100,000).
- 2007 **Co-PI:** Catalog of Fishes 2.0: Improving Services and Preparing for Community Participation (Stan Blum, PI), National Science Foundation (NSF DBI-0642321). 15 April 2007 (\$642,461)
- 2006 **Co-PI:** Development of geographic, taxonomic, specimen, and image data for online access (Allen Allison, PI), Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2006 (\$120,000).
- 2005 **Co-PI:** Development of geographic, taxonomic, specimen, and image data for online access (Allen Allison, PI), Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2005 (\$150,000).
- 2004 **Co-PI:** Development of geographic, taxonomic, specimen, and image data for online access, including Collaboration on the Development of a Pacific Biodiversity Information Forum and Survey of Taxonomic Capacity in Pacific Islands (Allen Allison, PI), Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2004 (\$175,000).
- 2003 **Co-PI:** Exploration of the deep slopes of the US Line and Phoenix Islands to investigate the biogeography of deepwater fish and corals, and identify paleo-shorelines (Frank A. Parrish, PI), NOAA's Undersea Research Program (NURP). (\$5,000, plus 10 PISCES IV/V submersible dives).
- 2003 **Co-PI:** Continued Development of an Information Utility Focused on Hawaii and the Pacific Region Using Bishop Museum's Vouchered Collections and Documented Data (Allen Allison, PI), Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2003 (\$150,000).
- 2002 **Co-PI:** Development of an Information Utility Focused on Hawaii and the Pacific Region Using Bishop Museum's Vouchered Collections and Documented Data (Allen Allison, PI), Pacific Basin Information Node (PBIN) of the National Biological Information Infrastructure (NBII). 1 October 2002 (\$150,000).
- 1999 **PI:** Doctoral Fellowship Award for the Systematic and Biogeographic analysis of the Fish Family Pomacanthidae (administered through the Department of Zoology, University of Hawaii). (\$30,000).
- 1998 **Co-PI:** Preparation of Bishop Museum Marine Invertebrates Catalogues and Species Listings for Publication on the World Wide Web. (Steve L. Coles, PI), Charles H. and Margaret B. Edmondson Research Foundation Research Fund.
- 1991 Student Travel Award, American Society of Ichthyologists and Herpetologists, 73rd Annual Meeting, University of Texas at Austin, Texas (\$200).

Approved but not Funded:

- 2003 **PBI:** Global Inventory of 75 Families of Coral-Reef Actinopterygian (Ray-Finned) Fishes (John E. Randall, PI), Planetary Biodiversity Inventories (PBI), Biodiversity Surveys &

Inventories (BS&I), Division of Environmental Biology (DEB), National Science Foundation (NSF). (\$7,457,882).

Awards and Honors:

- 2005 NOGI Award for Science Diving, Academy of Underwater Arts and Sciences
- 2004 “GENius Award”, *Esquire* Magazine (\$45,000)
- 2004 “Best and Brightest”, *Esquire* Magazine
- 1996 Finalist, Rolex Awards for Enterprise
- 1994 Honorable Mention, Stoye Award, American Society of Ichthyologists and Herpetologists, 74th Annual Meeting, University of Southern California, Los Angeles, California
- 1993 Best Paper Award, 19th Annual Albert L. Tester Memorial Symposium, University of Hawaii at Manoa (\$700).

DIVING QUALIFICATIONS:

Certifications:

- 2000 IANTD Cis-Lunar Technical Rebreather Instructor (#2846)
- 1999 IANTD Cis-Lunar Mixed Gas Rebreather Instructor (#2846)
- 1999 IANTD Advanced EANx Instructor (#2846)
- 1997 IANTD Cis-Lunar MK-5P Supervisor (#2846)
- 1996 DAN Oxygen Provider (#2846)
- 1994 Cis-Lunar MK-4P Experimental Diver
- 1994 IANTD Trimix Diver (#345)
- 1993 IANTD Nitrox Diver (#2347)
- 1982 PADI Advanced Open Water Diver (#813214240)
- 1981 PADI Basic Diver

Experience:

- 1994–present 1,000+ hours – Mixed-gas, Closed-Circuit Rebreather
- 1989–present 150+ dives – open-circuit trimix/nitrox
- 1981–present 5,000+ dives – air SCUBA

FIELD EXPEDITIONS:

- 1983 Palau
- 1984 Christmas Island, Kiribati (twice)
- 1985 Christmas Island, Kiribati
- 1986 Palau (twice)
- 1987 Christmas Island, Kiribati (twice)
- 1988 Christmas Island, Kiribati (twice); Guam; Pohnpei; Johnston Atoll
- 1989 Christmas Island, Kiribati; Midway Atoll; Rarotonga
- 1990 Mauritius; Ogasawara Islands; Izu (Japan); Guam
- 1991 Easter Island; Midway Atoll; Rarotonga
- 1992 Kerama Islands; Ogasawara Islands; Rarotonga
- 1993 Solomon Islands
- 1995 Papua New Guinea
- 1997 Palau (<http://www.bishopmuseum.org/research/treks/palautz97/>); Hong Kong
- 1998 Papua New Guinea; Necker Island
- 2000 Black coral Survey off Maui (in conjunction with NOAA)

- 2001 Fiji (<http://www.coralfilm.com>), American Samoa (<http://www2.bishopmuseum.org/PBS/samoatz01/>)
- 2002 Fiji
- 2004 Fiji
- 2005 Green Island (Taiwan); Pulley Ridge, Gulf of Mexico; Christmas Island, Kiribati
- 2006 Espiritu Santo (Vanuatu)
- 2007 Caroline Islands (Chuuk, Puluwat, Grey Feather Bank, Fais, Ulithi, Yap, Kayangel, Palau Islands)

PUBLISHED INTERVIEWS, PROFILES, AND BIOGRAPHIC EXCERPTS:

1. Kawai, Tadashi. 1989. Profile of Randall Kosaki and Richard Pyle. *Tropical Marine Aquarium Magazine* 25:38-39, 2 figs. (In Japanese)
2. Kawai, Tadashi. 1990. Interview with Richard Pyle. *Tropical Marine Aquarium Magazine* 28:40-41, 3 figs. (In Japanese)
3. Gilliam, B. 1992. Bishop Museum Deep Project, Hawaii. p. 154-156. *In: Deep Diving: An Advanced Guide to Physiology, Procedures and Systems.* (Gilliam, B., R. Von Maier, J. Crea, and D. Webb, eds). Watersport Publishing, Inc., San Diego. 255 pp.
4. Somers, L.H. 1992. Chapter 18. Looking Ahead: Mixed Gas in Scientific Diving. *In: Mount, T. and B. Gilliam (Eds.). Mixed Gas Diving: The Ultimate Challenge for Technical Diving.* Watersport Publishing, Inc., San Diego. 392 pp.
5. Silverstein, Joel. 1995. Richard Pyle Ph.D. (Phish Doctor): an exclusive interview. *Sub Aqua Journal*. 5(2):16-19, 4 figs.
6. Kelly, Jim. Is deep air dead? *AquaCorps*, 13:39-44.
7. Ambrose, Greg. 1996. Breathe Deep: Isle divers test new gear that recycles air, allowing them to probe deeper and stay longer. *Honolulu Star Bulletin* April 3, 1996:A-1,A-8. (Related articles: Ambrose, Greg. 1996. Rebreather opens up a new ocean frontier. *Honolulu Star Bulletin* April 3, 1996:A-8; Ambrose, Greg. 1996. 'Twilight Zone' yields to crystal clear waters. *Honolulu Star Bulletin* April 3, 1996:A-8.)
8. Comper, Walter and Win Remley. 1996. Rebreather roundtable: DeepTech and seven industry experts take a hard look at rebreather safety issues and training standards. *DeepTech* 5:48-56.
9. Montres Rolex S.A. 1996. Richard Pyle, United States. Project: Investigate biodiversity in the undersea Twilight Zone (Exploration and Discovery). P. 146-147. *In: Spirit of Enterprise: The 1996 Rolex Awards.* Secretariat of the Rolex Awards for Enterprise, Geneva, Switzerland. 191 pp.
10. Halstead, B. 1996. Hi-Tek Adventure. *Scuba Diver*, September/October 1996: 61-64.
11. Watt, J.D. 1997. Exploring the Twilight Zone with Richard Pyle. *SCUBA Times* 18(6) No. 104: 64.
12. Barskey, S., M. Thurlow, and M. Ward. 1998. Mention on pp. 42-43, of Chapter 2: Applications for Rebreathers. *In: The Simple Guide to Rebreather Diving.* Best Publishing Company, Flagstaff. xxvi + 228 pp.
13. Donnelly, D. 1998. Hawaii: This Pyle no Gomer. *Honolulu Star Bulletin* April 8, 1998:C-16.
14. TenBruggencate, J. 1998. Unknown fish swims into sight. *The Honolulu Advertiser* June 10, 1998:A-1.
15. TenBruggencate, J. 1998. Hawaii's Environment: Divers still discovering new species. *The Honolulu Advertiser* June 15, 1998:B-1.
16. Menduno, M. 1998. A fish nerd's journey into the Twilight Zone. *Aqua* 1(4):70-73, 132-133.

17. Tanaka, H. 1998. Jack Fruits and Rich Flavors from Hawaii. The Firefishes: *Nemateleotris decora*, *helfrichi* and *magnifica*. *Fish Magazine*. No. 393 (December 1998): 123-125, 130-135. In Japanese.
18. Allen, G.R., R. Steene, and M. Allen. 1998. Exploring the "Twilight Zone". pp. 4-6. *In: A Guide to Angelfishes and Butterflyfishes*. Odyssey Publishing/Tropical Reef Research, Perth. 250 pp.
19. Tanaka, H. 1999. Jack Fruits and Rich Flavors from Hawaii No. 2: Rich Fauna of Hawaii. *Fish Magazine*. No. 395 (February 1999): 132-135, 138-139. In Japanese.
20. Houston, Robert. 2001. Achievers: Into the Twilight Zone. *Action Asia Magazine*, June/July 2001:40-43.
21. Almogy, B. 2001. Biographic article in Israeli Dive Magazine. In Hebrew.
22. Stephens, J. 2003. Into the Twilight Zone. pp. 87-96 *In: Living Mirrors: A Coral Reef Adventure*. Umbrage Editions, New York.
23. Fathoms Magazine, Winter 2003
24. Anonymous, 2003. Lights, Camera, Dive! One Fish, Two Fish. Ranger Rick Magazine. pp. 38-39.
25. Paul, Melanie. 2004. On the record with Richard Pyle. *Nitrox Diver*. Summer, 2004. 14-17.
26. Tropical Fish Hobbyist
27. Esquire Magazine
28. Waikiki Aquarium Newsletter
29. Fathoms Magazine

FILM PROJECTS:

1. **Videographer:** *Pele Meets the Sea*. 1990. LavaVideo Productions. Educational Videotape
2. **Interviewee:** 1992. Thomas Horton Associates, Inc. The Discovery Channel.
3. **Footage:** *World of Wonder: Underwater Volcano* (Episode 113). 1995. GRB Entertainment. The Learning Channel.
4. **Technician:** *Sea Tek: Rebreathers segment*. 1996. GRB Entertainment. The Learning Channel.
5. **Footage:** *Sea Tek: Birth of an Island*. 1996. GRB Entertainment. The Learning Channel.
6. **Feature, Footage:** *Incredible Frontiers-I Extreme Divers: Lava Divers*. 1997. GRB Entertainment. The Learning Channel.
7. **Footage:** *Oceans: Episode I*. 1997. The Discovery Channel.
8. **Footage:** *Oceanarium – An Edutainment Project*. 1997. Intenational Tourist Attractions, Israel.
9. **Footage:** *Planet of Ocean, Episode 2: Into the Abyss*. 1998. NHK.
10. **Feature:** *Mysteries of the Twilight Zone*. 1998. Thomas Lucas Productions. The Discovery Channel/National Geographic.
11. **Technician, Videographer:** *Hammeheads: Nomads of the Sea*. 1998. Thomas Lucas Productions. The Discovery Channel.
12. **Interviewee:** *Hawaiian Diving Adventures: Midway Atoll*. 1998. Cal Hirai and Kimo Santos. Oceanic Cable Channel 16.
13. **Feature:** *Hawaiian Diving Adventures: Midway Atoll*. 1998. Cal Hirai and Kimo Santos. Oceanic Cable Channel 16.
14. **Feature:** Footage: *How'd They Do That?: Lava Divers segment*. 1998. The Learning Channel.
15. **Footage:** *Savage Earth*. 1998. Granada Television. PBS/ITV Network.
16. **Footage:** *Visual Earth: Exploring the Oceans*. 1998. TERC. CD-ROM production.

17. **Technician:** *Reflections* (underwater HDTV video production featuring musician Paul Gillman with dolphins). 1999.
18. **Footage:** *Volcanoes of the Deep*. 1999. Paula S. Apsell, NOVA/WGBH.
19. **Feature:** *Aquanauts: New Species*. 1999. The Learning Channel.
20. **Feature:** *Aquanauts: Volcanoes*. 1999. The Learning Channel.
21. **Footage:** *Savage Planet*. 1999. Granada Television. PBS/ITV Network.
22. **Footage:** *Restless Earth*. 1999. Fulcrum Productions.
23. **Footage:** *Volcanoes Video*. 1999. Auckland Museum.
24. **Footage:** *A Walk to Red Rocks*. 1999. DMP Films.
25. **Footage:** *If We Had No Moon*. 2000. York Films. Discovery Channel.
26. **Footage:** *Hawaii: Fire from the Sea*. 2000. Chrisman Films.
27. **Footage:** *Firewalkers*. 2000. Parallax Films.
28. **Feature, Footage:** *Xtreme Machines*. 2001. Pioneer Productions. Discovery Channel.
29. **Feature, Footage:** *Volcano*. 2001. Pioneer Productions. Discovery Channel.
30. **Host Researcher, Footage:** *JASON XII*. 2001. Media Arts. Jason Project.
31. **Feature:** *Enduring Extremes*. 2001. Wall to Wall Television. Discovery Health Channel.
32. **Feature:** *Coral Reef Adventure*. 2003. MacGillivray Freeman Films. IMAX feature film (<http://www.coralfilm.com>)
33. **Feature, Footage, Producer:** *Rebreather FUNDamentals*. 2003. Gallant Aquatic Ventures, Incorporated / International Association of Nitrox and Technical Divers.
34. *Uncharted Waters*
35. **Feature:** *Expedition Pacific Abyss*. 2007. British Broadcasting Corporation (BBC). Discovery Channel. 14 October 2007
36. **Feature:** *Pacific Abyss*. 200X. British Broadcasting Corporation (BBC).

PUBLIC PRESENTATIONS:

Scientific and Technical (Invited):

1. **Panelist:** Evacuation and Treatment Panel (45 min), *tek.93: An Emerging Dive Technologies Conference*, 18-19 January 1993, Orlando, Florida. R.W. Bill Hamilton, Chair. (Sponsored by *AquaCorps* technical journal)
2. **Panelist:** Tech Ops: A Tutorial on Technical Diving (60 min), *tek.93: An Emerging Dive Technologies Conference*, 18-19 January 1993, Orlando, Florida. John Crea, Chair. (Sponsored by *AquaCorps* technical journal)
3. **Panelist:** Medical, Academic, & Government Institutions Panel (60 min), *The Deep Diving Forum: A Question of - How Deep is Safe?*, 20 January 1993, Orlando, Florida. R.W. Bill Hamilton, Chair. (Sponsored by the Scuba Diving Resource Group)
4. **Speaker:** Using Trimix to explore the Twilight Zone (25 min), *Diving Technologies Conference and Exhibition (tek.94)*, 19-23 January 1994, New Orleans, Louisiana. (Sponsored by *AquaCorps* technical journal)
5. **Session Chair:** In-water Recompression as an emergency treatment for decompression illness (60 min), *Diving Technologies Conference and Exhibition (tek.94)*, 19-23 January 1994, New Orleans, Louisiana. (Sponsored by *AquaCorps Magazine*)
6. **Speaker:** The potential uses of closed-circuit rebreathers in marine biological research (25 min), *AquaCorps Rebreather Forum*, 20-25 May 1994, Key West, Florida. (Sponsored by *AquaCorps* technical journal)
7. **Speaker:** Systematics of reef and shore fishes of Oceania (30 min), *Marine and Coastal Biodiversity in the Tropical Island Pacific Region: I. Species Systematics and Information*

- Management Priorities*, 2-4 November 1994, East-West Center, Honolulu, Hawaii.
(Sponsored by the Ocean Policy Institute of the Pacific Forum/CSIS)
8. **Speaker:** Patterns of coral reef fish biogeography in the Pacific region (30 min). *Marine and Coastal Biodiversity in the Tropical Island Pacific Region: I. Species Systematics and Information Management Priorities*, 7-9 November 1994, East-West Center, Honolulu, Hawaii. (Sponsored by the Ocean Policy Institute of the Pacific Forum/CSIS)
 9. **Panelist:** Deep Air (60 min), Diver Safety Session, *Dive into the Future: The Dive Technologies Conference & Exhibition (tek.95)*, 21-24 January 1995, Moscone Center, San Francisco, California. Hal Watts, Chair. (Sponsored by Imbert, Ciesielski, & Fructus)
 10. **Session Co-chair:** Gearing Up (60 min), *Dive into the Future: The Dive Technologies Conference & Exhibition (tek.95)*, 21-24 January 1995, Moscone Center, San Francisco, California. Gary Gentile, Co-Chair. (Sponsored by *Scuba Times Magazine*)
 11. **Speaker:** Exploring the Twilight Zone (30 min), *Dive into the Future: The Dive Technologies Conference & Exhibition (tek.95)*, 21-24 January 1995, Moscone Center, San Francisco, California. (Sponsored by *AquaCorps* technical journal)
 12. **Session Chair:** In-water Recompression (60 min), *Diver Safety: The Dive Technologies Conference & Exhibition (tek.95)*, 21-24 January 1995, Moscone Center, San Francisco, California. (Sponsored by Imbert, Ciesielski, & Fructus)
 13. **Panelist:** Dive Into the Internet (60 min), *Dive into the Future: The Dive Technologies Conference & Exhibition (tek.95)*, 21-24 January 1995, Moscone Center, San Francisco, California. David Story, Chair. (Sponsored by *AquaCorps* technical journal)
 14. **Speaker:** The use of nitrox in closed circuit rebreathers for scientific purposes (45 min), *American Academy of Underwater Sciences Nitrox Diving Workshop*, 30 September - 4 October 1995, Wrigley Marine Science Center, Catalina Island, California (Sponsored by the American Academy of Underwater Sciences)
 15. **Speaker:** Using closed-circuit, mixed gas rebreathers to explore the Twilight Zone (30 min), *Diving Technologies Conference and Exhibition (tek.96)*, 12-16 January 1996, Ernest K. Morial Convention Centre, New Orleans, Louisiana. (Sponsored by *AquaCorps* technical journal)
 16. **Panelist:** Deep Diving Forum (120 min), *Diving Technologies Conference and Exhibition (tek.96)*, 12-16 January 1996, Ernest K. Morial Convention Centre, New Orleans, Louisiana. R.W. Hamilton, Chair. (Sponsored by *AquaCorps* technical journal)
 17. **Panelist:** Understanding Trimix Tables (60 min), *Diving Technologies Conference and Exhibition (tek.96)*, 12-16 January 1996, Ernest K. Morial Convention Centre, New Orleans, Louisiana. R.W. Hamilton, Chair. (Sponsored by *AquaCorps* technical journal)
 18. **Panelist:** Future of Rebreathers (60 min), *Diving Technologies Conference and Exhibition (tek.96)*, 12-16 January 1996, Ernest K. Morial Convention Centre, New Orleans, Louisiana. Michael Menduno, Chair. (Sponsored by *AquaCorps* technical journal)
 19. **Panelist:** Rebreather Maintenance & Logistics (60 min), *Rebreather Forum 2.0*. 26-28 September, 1996. Redondo Beach, CA.
 20. **Speaker:** Using Mixed-Gas Closed-Circuit rebreathers for deep decompression diving. End User Operational Experience (90 min), *Rebreather Forum 2.0*. 26-28 September, 1996. Redondo Beach, CA.
 21. **Speaker:** Keeping up with the times: Technical diving practices for in-water recompression (45 min). In-Water Recompression: A symposium and Workshop. *Undersea and Hyperbaric Medical Society Annual Scientific Meeting*. 24 May 1998. Seattle, Washington.

22. **Seminar Speaker:** Using advanced diving technology to explore the deep coral reefs (60 min.), 17 December 1998, *Bodega Marine Laboratory*, University of California – Davis. (Sponsored by the Bodega Marine Laboratory)
23. **Speaker:** In Water Recompression (35 min.), 24 April 1999, *OZTeK99 – Diving Technologies & Rebreather Forum*, Australian National Maritime Museum, Sydney, Australia. (Sponsored by OZTeK99)
24. **Featured Evening Lecture Speaker:** Deep Reef Explorations (45 min.), 24 April 1999, *OZTeK99 – Diving Technologies & Rebreather Forum*, Australian National Maritime Museum, Sydney, Australia. (Sponsored by OZTeK99)
25. **Speaker and Panelist:** Mixed Gas Closed Circuit Rebreather Use for Identification of New Reef Fish Species from 200-400 fsw (40 min), 3 November 1999, Technical Diving Forum: Assessment and feasibility of Technical Diving Operations for Scientific Exploration. *American Academy of Underwater Sciences Workshop*, West Coast Santa Cruz Hotel, Santa Cruz, California.
26. **Speaker:** Using Advanced Diving Technology to Explore the Twilight Zone (60 min), 6 November 1999, *BioForum: Innovative Research in Field Biology. California Academy of Sciences*, San Francisco, California.
27. **Symposium Speaker:** How Many Reef Fishes are we Missing?: Patterns of New Species Discovery on Deep Coral Reefs in the Indo-Pacific (15 min), *American Society of Ichthyologists and Herpetologists*, 80th Annual Meeting, 14-20 June, 2000, Universidad Autonoma De Baja California Sur, La Paz, Mexico.
28. **Participant:** Original Organizing Meeting, All Species Foundation, 18-19 September 2000, California Academy of Sciences, San Francisco, CA.
29. **Speaker:** Insights on Deep Bounce Dive Safety From the Technical Diving Community (20 mins), Panel On Diving Safety, Scientific Session III: Diving Safety, *16th Meeting of the United States-Japan Cooperative Programs on Natural Resources (UJNR)*, 1-3 November 2001, East-West Center, Honolulu, Hawaii.
30. **Session Chair and Presenter:** Surface Logistics and Consumables for Open-Circuit and Closed-Circuit Deep Mixed-Gas Diving Operations (15 minutes), Session 43: Rebreathers, Tools For The Next Generation, *Marine Technology Society/IEEE Oceans 2001*, 5-8 November 2001, Hilton Hawaiian Village, Honolulu, Hawaii.
31. **Presentation:** Hawaii Biological Survey: Taking inventory of the fauna and flora of the Hawaiian Islands. *Biodiversity Informatics Cooperation – Pacific Basin*, 10-12 June 2002, Maui, Hawaii.
32. **Panelist:** E-types Workshop, All Species Foundation, 5-6 November 2002, Smithsonian Institution, Washington, DC.
33. **Speaker:** Exploring Deep Reefs with Closed-Circuit Rebreathers (30 min), *2nd International Coelacanth Symposium*, 4-7 December 2002, Marathon, Florida. (via telephone)
34. **Joint Presentation** (with Bill Steiner, Mark Fornwall, Lloyd Loupe, Shannon McElvaney, Melia Lane-Kamahele, and Ron Salz): Biodiversity and Information in Hawaii: A Partnership Presentation (90 min), *NBII All Node Meeting*, 6-9 January 2003, Maui, Hawaii.
35. **Speaker:** Empirical Observations Relating To ‘Deep Stops’: A Fish Nerd’s Perspective (30 min), *Deep Stops and Modern Decompression Strategies Workshop, National Association of Underwater Instructors (NAUI)*, 22-23 February 2003, Tampa, Florida. (via telephone)
36. **Speaker:** Fishes of the Pacific Region (20 min) 20th Pacific Science Congress: “Science and Technology for Healthy Environments”. 17-21 March 2003, The Sofitel Central Plaza Bangkok Hotel, Bangkok, Thailand. (Delivered by Allen Allison)

37. **Panelist:** Second E-types Workshop, All Species Foundation, 12-14 May 2003, Smithsonian Institution, Washington, DC.
38. **Speaker and Panelist:** Modeling Needs for the All-Species Hawaii Initiative. Biodiversity Modeling Workshop, National Biological Information Infrastructure. 28 July – 1 August 2003, Maui High Performance Computing Center, Kihei, Maui.
39. **Presentation and Discussion:** Taxonomer Schema Explanation (4 hrs). SEEK Taxon Group, 23-28 January 2004, National Center for Ecological Analysis and Synthesis, University of California at Santa Barbara, Santa Barbara, California.
40. **Keynote Speaker:** Banquet presentation (1 hr). Marine Aquarium Conference of North America. 11 September 2004, New England Aquarium, Boston, Massachusetts.
41. **Speaker:** Tapping into an Unexplored Undersea Realm: the Biodiversity of Deep Coral Reefs (20 min), National Marine Educators Association Conference, 14 July 2005, Maui Community College, Kahului, Maui. <http://www.hawaii.edu/maui/oceania/NMEA05.html>
42. **Moderator:** ECAT Seed Money Prioritization E-Conference, Global Biodiversity Information Facility (GBIF), May 25 – June 1, 2005.
43. **Speaker:** Implementing the Digital Taxonomic Revolution: Strategies for a Successful Web-Based Registry of Taxonomic Names. ZooBank Symposium. 18 December 2005. Annual Meeting of the Entomological Society of America. Ft. Lauderdale, Florida. http://www.nhm.ac.uk/hosted_sites/iczn/Fort_Lauderdale_ZB_Symposium.htm
44. **Speaker:** CoML 1.
45. **Participant-**GBIF-GUID 1
46. **Speaker:** CoML 2.
47. **Participant-**GBIF-GUID 2
48. **Speaker:** New Caledonia.
49. **Speaker:** Explorers' Club.
50. **Speaker:** ZooBank Symposium, Smithsonian, May 2007.
51. **Participant:** Overview of *Encyclopedia Pacifica*, ZooBank, CoF, Creefs (10 min). Encyclopedia of Life (EoL) Informatics (Data Model) Workshop. 10-11 February 2007. MBL, Woods Hole, Massachusetts, USA.
52. TDWG 2008

Scientific and Technical (Other):

53. Deep Thoughts: Comments on the use of Trimix for exploring the 'Twilight Zone', American Society of Ichthyologists and Herpetologists, 71st Annual Meeting, 15-20 June 1991, New York, New York.
54. Using Nitrox to extend bottom times for moderate-depth SCUBA dives (12 min), American Society of Ichthyologists and Herpetologists, 71st Annual Meeting, 15-20 June 1991, New York, New York.
55. Probing the 'Twilight Zone': Investigating Deepwater Ichthyofauna (20 min), 17th Annual Albert L. Tester Memorial Symposium, 16 April 1992, Department of Zoology, University of Hawaii, Honolulu, Hawaii.
56. The Twilight Zone: The potential, problems, and theory behind using mixed gas, surface-based scuba for research diving between 200 and 500 feet (30 min), American Academy of Underwater Sciences Twelfth Annual Scientific Diving Symposium, September, 1992, Wilmington, North Carolina. (P. Sharkey, co-author and presenter)

57. Mixed Gas Research Diving (30 min), 1992 International Conference on Underwater Education, 10-11 October 1992, Philadelphia, Pennsylvania. (P. Sharkey, co-author and presenter).
58. The reef and shore fishes of the Ogasawara Islands: a biogeographic perspective (20 min), 18th Annual Albert L. Tester Memorial Symposium, 23 April 1993, Department of Zoology, University of Hawaii, Honolulu, Hawaii.
59. Biogeographical analysis of the reef and shore fishes of the Ogasawara Islands (12 min.), American Society of Ichthyologists and Herpetologists, 73rd Annual Meeting, 29 May-2 June 1993, University of Texas at Austin, Austin, Texas.
60. Using new diving techniques to explore the 'Twilight Zone' (60 min.), Bishop Museum Research Seminar Series, 31 August 1993, Bishop Museum, Honolulu, Hawaii.
61. Evoluncheon Seminar, 9 November 1993, University of Hawaii, Honolulu, Hawaii.
62. Patterns of hybridization in coral reef fishes (20 min), 19th Annual Albert L. Tester Memorial Symposium, April 1994, Department of Zoology, University of Hawaii, Honolulu, Hawaii.
63. — American Society of Ichthyologists and Herpetologists, 74th Annual Meeting, 2-8 June 1994, University of Southern California, Los Angeles, California.
64. — Ecological and Evolutionary Ethology of Fishes, 9th Conference, 15-18 May, 1994, University of Victoria, British Columbia.
65. Use of new diving technology to explore the Twilight Zone (60 min), American Society of Ichthyologists and Herpetologists, 74th Annual Meeting, 2-8 June 1994, University of Southern California, Los Angeles, California.
66. How Many Reef Fishes are we Missing?: Patterns of New Species Discovery on Deep Coral Reefs in the Indo-Pacific (15 min), 25th Annual Albert L. Tester Memorial Symposium, 13 April 2000, Department of Zoology, University of Hawaii, Honolulu, Hawaii.
67. A comprehensive database management tool for systematic and biogeographic research (Poster), American Society of Ichthyologists and Herpetologists, 80th Annual Meeting, 14-20 June, 2000, Universidad Autonoma De Baja California Sur, La Paz, Mexico.
68. Exploring Deep Coral Reefs: Past, Present, and Future (20 min), Hawaii Institute of Marine Biology Student Colloquium, 5 December 2001, Kaneohe, Hawaii.
69. Counting angelfishes on the head of a pin? The science and art of taxonomy as applied to the Poamcanthidae (60 min), PhD Dissertation Defense presentation, University of Hawaii at Manoa, 5 December 2003, Honolulu, Hawaii.
70. TDWG
71. Taiwan presentation
72. Taiwan video
73. TDWG 2007

Popular and Educational:

74. **Invited Presentation:** Using new diving techniques to explore the 'Twilight Zone' (60 min.), *Hawaiian Malacological Society Meeting*, 1 September 1993, First United Methodist Church, Honolulu, Hawaii.
75. — *Underwater Photography Society*, Epic Dives Hawaii, Kaneohe, Hawaii.
76. — *Windward Dive Club*, Kaneohe, Hawaii.
77. — *Sea Camp, YMCA*, Kaneohe, Hawaii.
78. **Invited Plenary Speaker:** Rare fishes, the Twilight Zone, and thoughts on captive propagation (90 min), *Marine Aquarium Conference of North America*, 6th Annual Meeting, October 1994, Cleveland, Ohio. (Sponsored by the Marine Aquarium Society of North America).

79. **Invited Presentation:** Applications of rebreathers for underwater photographers (60 min), *Underwater Photography Society, Hawaii Chapter meeting*, 14 March 1995, Windward Community College, Mahi Room 113. (Sponsored by the Underwater Photography Society, Hawaii Chapter).
80. **Invited Presentation:** Using new diving techniques to explore the ‘Twilight Zone’ (60 min.), *Sea Lancers Dive Club*, 18 September, 1996, Hickam Air Force Base, Honolulu, Hawaii.
81. **Invited Speaker:** Fishes of Kaneohe Bay (60 min), *UCLA Summer Program*, 17 October 1996, Hawaii Institute of Marine Biology, Kaneohe, Hawaii.
82. **Invited Presentation:** Using advanced diving techniques to explore the ‘Twilight Zone’ (60 min). *Hawaiian Malacological Society Meeting*, 5 February 1997, First United Methodist Church, Honolulu, Hawaii.
83. **Guest Lecturer:** Patterns of Coral Reef Fish Distributions, and the Exploration of the Twilight Zone (75 min), Biology 320: The Atoll, *University of Hawaii at Manoa*. 18 February 1997. Honolulu, Hawaii.
84. **Banquet Speaker:** Diving Into the Twilight Zone (75 min). *Hawaii Council of Diving Clubs annual banquet*, 8 March 1997, Waikiki Aquairum, Honolulu, Hawaii.
85. **Invited Speaker:** Exploring the Twilight Zone (60 min). *Department of Land and Natural Resources*, Honolulu, Hawaii. Fall 1997.
86. **Invited Speaker:** Exploring the Twilight Zone (60 min). *B.P. Bishop Museum Evening Lecture Series*, Honolulu, Hawaii. Fall 1997.
87. **Invited Speaker:** “Meet a Deep Sea Explorer” (60 min). *Bishop Museum In the Dark Day Camp*, 25 March 1998, B.P. Bishop Museum, Honolulu, Hawaii.
88. **Invited Speaker:** Exploring the Twilight Zone (60 min). *Bishop Museum “Explorers” Series*, 30 March 1998, B.P. Bishop Museum, Honolulu, Hawaii.
89. **Invited Presentation:** Closed Circuit Rebreathers and the ‘Twilight Zone’ (60 min.), *Sea Lancers Dive Club*, 12 December, 1998, Hickam Air Force Base, Honolulu, Hawaii.
90. **Invited Speaker:** History of Fish Exploration in Hawaii (60 min.), *Waikiki Aquarium Evening Lecture Series*, Honolulu, Hawaii. Spring 1999.
91. **Featured Evening Lecture Speaker:** Exploration into the Ocean’s Twilight Zone, New Species from Deep Coral Reefs Using Advanced Diving Technology (120 min), 17 November 1999, *Marine Ornamentals ‘99*. Hilton Waikaloa Village, Kailua-Kona, Hawaii.
92. **Guest Lecturer:** Reef Fishes (50 minutes), Zoology 200: Marine Biology. *University of Hawaii at Manoa*. 23 January 2001. Honolulu, Hawaii.
93. **Guest Lecturer:** Reef Fishes (75 minutes), Zoology 480: Ichthyology. *University of Hawaii at Hilo*. 19 April 2001. Hilo, Hawaii.
94. **Featured Evening Speaker:** Exploring Deep Coral Reefs: Past, Present, and Future (45 min), *Hawaii Aquaculture Association Annual Meeting*, 19 January 2002, B. P. Bishop Museum, Honolulu, Hawaii.
95. **Seminar:** Applications of Advanced Diving Technology for Underwater Science: The Deep, the Long, and the Quiet (60 min), *Pagen-Pauley Summer Program*, 2 July 2002, Hawaii Institute of Marine Biology, Kaneohe, Hawaii.
96. —MacGillivray Freeman Films Staff Presentation, 6 August 2002, *MacGillivray Freeman Films*, Laguna Beach, California.
97. **Invited Presentation:** So many fish, so little time...Using advanced diving technology to explore the ‘Twilight Zone’ (45 min), *Marin Community Foundation*, 8 August 2002, Marin Community Foundation, San Francisco, California.

98. **Invited Presentation:** Exploring the Twilight Zone, and Behind The Scenes of *Coral Reef Adventure*. (15 min x 3 presentations), *Tech Museum of Innovation*, 5 March 2003, San Jose, California.
99. — (25 min x 2 presentations), *National Museum of Naval Aviation*, 20 March 2003, Pensacola, Florida.
100. **Invited Presentation:** Scientist On Tour Series: Exploring the Twilight Zone, and Behind The Scenes of *Coral Reef Adventure*. (60 min x 4 presentations), *First Ward Elementary School*, 7 April 2003, Charlotte, North Carolina.
- 101.— (45 min), *Discovery Place*, 7 April 2003, Charlotte, North Carolina.
- 102.— (45 min), *Bethlehem Center*, 7 April 2003, Charlotte, North Carolina.
- 103.— (45 min x 2 presentations), *Cochran Middle School*, 8 April 2003, Charlotte, North Carolina.
- 104.— (60 min), *Grier Heights Community Center*, 8 April 2003, Charlotte, North Carolina.
- 105.— (30-45 min x 11 presentations), Carnegie Science Center (SciTech Festival), 10-13 April 2003, Pittsburgh, Pennsylvania.
- 106.— (45 min x 3 presentations), *Museum of Discovery and Science*, 17 April 2003, Ft. Lauderdale, Florida.
- 107.— (60 min), *Oregon Museum of Science and Industry*, 22 April 2003, Portland, Oregon.
- 108.— (25 min x 8 presentations), *Duluth OMNIMAX Theatre*, 24-25 April 2003, Duluth, Minnesota.
- 109.— (30 min x 3), *Cincinnati Museum Center at Union Terminal*, 6-7 May 2003, Cincinnati, Ohio.
- 110.— (30 min), *Newport Aquarium*, 7 May 2003, Newport, Kentucky.
- 111.— (90 min), *Reuben H. Fleet Science Center*, 21 June 2003, San Diego, California.
- 112.— (30 min x 3 presentations), *Tech Museum of Innovation*, 2-3 August 2003, San Jose, California.
- 113.— (30 min x 5 presentations), *Great Lakes Science Center*, 12-13 December 2003, Cleveland, Ohio.
114. Sea Lancers
115. TED
116. Aikahi School
117. LJA
118. Waikiki Aquarium
119. Bishop Museum
120. Sweden-Life at the Twilight Zone. 60 min. Universeum, Gothenburg, Sweden.
121. Georgia Aquarium
122. Scubanauts

Other National and International Meetings and Conferences:

- U.S.- Japan Workshop on Elasmobranchs as Living Resources, American Elasmobranch Society, 10-14 December 1987, Honolulu, Hawaii.
- American Society of Ichthyologists and Herpetologists, 69th Annual Meeting/American Elasmobranch Society, 5th Annual Meeting, 17-23 June 1989, San Francisco, California.
- Ecological and Evolutionary Ethology of Fishes, 7th Conference, 19-23 May, 1990, Flagstaff, Arizona.
- Pacific Science Congress, 17th Annual Conference, Honolulu, Hawaii.
- American Academy of Underwater Sciences, 11th Annual Scientific Diving Symposium, 26-29 September 1991, Honolulu, Hawaii.

PUBLICATIONS

Scientific and Technical (Invited):

1. **Pyle, R.L.** 1992. The Twilight Zone. *AquaCorps: Mix.* 3(1):19, 1 fig.
2. **Pyle, R.L.** 1993. Marine Aquarium Fish. In: *Nearshore Marine Resources of the South Pacific: Information for Fisheries Development and Management.* (A. Wright and L. Hill, eds.), Institute of Pacific Studies, Suva; Forum Fisheries Agency, Honiara; and International Centre for Ocean Development, Canada. 135-176.
3. **Pyle, R.L.** and J.E. Randall. 1994. A review of hybridization in marine angelfishes (Perciformes: Pomacanthidae). *Environmental Biology of Fishes* 41: 127-145.
4. **Pyle, R.L.** and J.E. Randall. 1994. A review of hybridization in marine angelfishes (Perciformes: Pomacanthidae). In: Balon, E.K., M.N. Bruton, and D.L.G. Noakes (Eds.) *Women in ichthyology: an anthology in honour of ET, Ro and Genie.* Developments in environmental biology of fishes 15, Kluwer Academic Publishers, Boston, pp.127-145.
5. **Pyle, R.L.** 1995. Chapter 12. Pacific reef and shore fishes. In: Maragos, J.E., M.N.A. Peterson, L.G. Eldredge, J.E. Bardach, and H.F. Takeuchi (Eds.). *Marine and Coastal Biodiversity in the Tropical Island Pacific Region. Volume 1. Species Systematics and Information Management Priorities.* Program on Environment, East-West Center, Honolulu, Hawaii, pp. 205-238.
6. **Pyle, R.L.** and D.A. Youngblood. 1995. The case for in-water recompression. *aquaCorps*, No. 11:35-46.
7. **Pyle, R.L.** 1996. Section 7.9. Multiple gas mixture diving, Tri-mix. In: Flemming, N.C. and M.D. Max (Eds.) *Scientific Diving: a general code of practice*, Second Edition. United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris; and Scientific Committee of the World Underwater Federation (CMAS), Paris, pp. 77-80.
8. **Pyle, R.L.** 1996. How much coral reef biodiversity are we missing? *Global biodiversity*, 6(1):3-7 (Published in both English and French versions).
9. **Pyle, R.L.** 1996. Adapting to Rebreather Diving. *Immersed Advanced Diving Journal* 1(2):12-21.
10. **Pyle, R.L.** 1996. The Twilight Zone. *Natural History*, 105(11):59-62.
11. **Pyle, R.L.** 1996. A Learner's Guide to Closed Circuit Rebreather Diving. In: *Proceedings of the Rebreather Forum 2.0.* 26-28 September, 1996. Redondo Beach, CA, pp. P45-P67.
12. **Pyle R.L.** and D. Youngblood. 1997. In-water recompression as an emergency field treatment of decompression illness (Revised). *SPUMS J.* 27(3):154-169.
13. **Pyle, R.L.** 1997. MK-5P Electronically Controlled, Mixed-Gas Closed-Circuit Rebreather: Manual of Operation. Version 1.0. Cis-Lunar Development Laboratories. 136 pp.
14. **Pyle, R.L.** 1998. Chapter 7. Use of advanced mixed-gas diving technology to explore the coral reef "Twilight Zone". pp. 71-88. In: Tanacredi, J.T. and J. Loret (Eds.). *Ocean Pulse: A Critical Diagnosis.* Plenum Press, New York. xii + 201 pp.
15. **Pyle, R.L.** 1999. Keeping up with the times: application of technical diving practices for in-water recompression. pp.74-88. In: Kay, E. and Spencer, M.P. (eds.) *In-Water Recompression: The Forty Eighth Workshop of the undersea and Hyperbaric Medical Society.* Undersea and Hyperbaric Medical Society and Diver's Alert Network. 108 pp.
16. **Pyle, RL.** 1999. Mixed-Gas, Closed-Circuit Rebreather Use for Identification of New Reef Fish Species from 200 - 500 fsw. pp. 53-65. In: Hamilton R.W., D.F. Pence, and D.E.

- Kesling (eds.) Assessment and Feasibility of Technical Diving Operations for Scientific Exploration. American Academy of Underwater Sciences, Nahant, Massachusetts. 83 pp.
17. **Pyle, R.L.** 1999. Patterns of coral reef fish biogeography in the Pacific region. pp. 157-175. *In: Eldredge, L.G., J.E. Maragos, P.F. Holthus, and H.F. Takeuchi (Eds.). Marine and Coastal Biodiversity in the Tropical Island Pacific Region. Volume 2. Population, Development, and Conservation Priorities. Program on Environment, East-West Center / Pacific Science Association, Bishop Museum, Honolulu, Hawaii, 456 pp.*
 18. **Pyle, R.L.** 1999. MK-5P—MOD 1 Electronically Controlled, Mixed-Gas Closed-Circuit Rebreather: Manual of Operation. Cis-Lunar Development Laboratories. 144 pp.
 19. **Pyle, R.L.** 2000. Assessing Undiscovered Fish Biodiversity on Deep Coral Reefs Using Advanced Self-Contained Diving Technology. *Marine Technology Society Journal* 34(4):82-91.
 20. Parrish, F. and **R.L. Pyle.** 2001. Surface Logistics and Consumables for Open-Circuit and Closed-Circuit Deep Mixed-Gas Diving Operations Proceedings of the MTS/IEEE Oceans 2001 Conference, Volume 3:1735-1737.
 21. **Pyle, R.L.** 2001. Anti-evolution Standards Rejected in Hawai'i. *Reports of the National Center for Science Education* November/December 2000. 20(6):4-5.
 22. **Pyle, R.L.** 2002. Chaetodontidae. pp. 3224-3265. *In: Carpenter, K.E. and V.E. Niem (Eds.) Living marine resources of the western central Pacific. Volume 5. Bony fishes part 3 (Menidae to Pomacentridae). Food and Agriculture Organization of the United Nations (FAO), Rome. i-iv+2791-3379.*
 23. **Pyle, R.L.** 2002. Pomacanthidae. pp. 3266-3286. *In: Carpenter, K.E. and V.E. Niem (Eds.) Living marine resources of the western central Pacific. Volume 5. Bony fishes part 3 (Menidae to Pomacentridae). Food and Agriculture Organization of the United Nations (FAO), Rome. i-iv+2791-3379.*
 24. **Pyle, R.L.** 2002. Insights on Deep Bounce Dive Safety From the Technical Diving Community. Proceedings of the 16th Meeting of the United States-Japan Cooperative Programs on Natural Resources (UJNR), 1-3 November 2001, East-West Center, Honolulu, Hawaii. pp. 47-53.
 25. **Pyle, R.L.** 2004. Comparison of Open vs. Closed Circuit System in Deep Mix Diving. The Coelacanth, Fathom the Mystery: Proceedings of International Coelacanth Symposium, 4-7 December 2003, Marathon, Florida. Aquamarine Fukushima, Marine Science Museum, Fukushima Prefecture. pp. 32-37.
 26. Polaszek, A., M. Alonso-Zarazaga, P. Bouchet, D.J. Brothers, N. Evenhuis, F.-T. Krell, C.H.C. Lyal, A. Minelli, **R.L. Pyle**, N.J. Robinson, F.C. Thompson, & J. van Tol. 2005. ZooBank: the open-access register for zoological taxonomy: Technical Discussion Paper. *Bulletin of Zoological Nomenclature*. 62(4):210-220. 16 December 2005 (http://www.nhm.ac.uk/hosted_sites/iczn/BZNDec2005general_articles.htm)
 27. **Pyle, R.L.** In press. How many reef fishes are we missing?: Patterns of new species discovery on deep coral reefs in the Indo-Pacific. Proceedings of the Deep Reef Fish Symposium (K. Sulak, ed.), American Society of Ichthyologists and Herpetologists, 80th Annual Meeting, 14-20 June, 2000, Universidad Autonoma De Baja California Sur, La Paz, Mexico.
 28. Polaszek, A., **R. Pyle** & D. Yanega. 2008. Animal names for all: ICZN, ZooBank, and the New Taxonomy. pp. 129-142. *In: Wheeler, Q.D. (Ed.). The New Taxonomy. CRC Press, Boca Raton. 237 pp.*

Scientific and Technical (Other):

29. **Pyle, R.L.** 1988. A new subspecies of butterflyfish (Chaetodontidae) of the genus *Roaops* from Christmas Island, Line Islands. *Freshwater and Marine Aquarium Magazine* 11(9):56-62,123-124, 10 figs.
30. **Pyle, R.L.** 1990. *Centropyge debelius*, a new species of angelfish (Teleostei: Pomacanthidae) from Mauritius and Réunion. *Révue française Aquariologie* 17(2):47-52, 7 figs.
31. Kosaki, R.K., **R.L. Pyle**, J.E. Randall and D.K. Irons. 1991. New records of fishes from Johnston Atoll, with notes on biogeography. *Pacific Science* 45(2):186-203, 17 figs.
32. **Pyle, R.L.** and J.E. Randall. 1992. A new species of *Centropyge* (Perciformes: Pomacanthidae) from the Cook Islands, with a redescription of *C. boylei*. *Révue française Aquariologie* 19(4):115-124, 7 figs.
33. Randall, J.E., J.L. Earle, **R.L. Pyle**, J.D. Parrish, and T. Hayes. 1993. Annotated checklist of the fishes of Midway Atoll, Northwestern Hawaiian Islands. *Pacific Science* 47(4): 356-400.
34. Sharkey, P. and **R.L. Pyle**. 1993. The Twilight Zone: The potential, problems, and theory behind using mixed gas, surface based scuba for research diving between 200 and 500 feet. *In: Diving for Science...1992. Proceedings of the American Academy of Underwater Sciences Twelfth Annual Scientific Diving Symposium.* (L.B. Cahoon, ed.), American Academy of Underwater Sciences, Costa Mesa, CA. pp. 173-187.
35. Sharkey, P. and **R.L. Pyle**. 1993. The Twilight Zone: Mixed Gas Research Diving. *In: Proceedings of the 1992 International Conference on Underwater Education.* (H. Vidders, ed.), National Association of Underwater Instructors, Montclair, CA.
36. **Pyle, R.L.** and E.H. Chave. 1994. First record of the chaetodontid genus *Prognathodes* from the Hawaiian Islands. *Pacific Science* 48(1): 90-93.
37. **Pyle, R.L.** 1996. Section 8.2.27. Underwater volcanoes and igneous intrusions. *In: Flemming, N.C. and M.D. Max (Eds.) Scientific Diving: a general code of practice, Second Edition.* United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris; and Scientific Committee of the World Underwater Federation (CMAS), Paris, pp. 113-114.
38. **Pyle, R.L.** 1996. Section 11.16. Therapy in the Absence of a Recompression Chamber (in part). *In: Flemming, N.C. and M.D. Max (Eds.) Scientific Diving: a general code of practice, Second Edition.* United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris; and Scientific Committee of the World Underwater Federation (CMAS), Paris, pp. 160-161.
39. Gill, A.C., **R.L. Pyle**, and J.L. Earle. 1996. *Pseudochromis ephippiatus*, new species of dottyback from southeastern Papua New Guinea (Teleostei: Perciformes: Pseudochromidae). *Révue française Aquariologie* 23(3-4):97-100.
40. Earle, J.L. and **R.L. Pyle**. 1997. *Hoplotalilus pohlei*, a new species of sand tilefish (Perciformes: Malacanthidae) from the deep reefs of the D'Entrecasteaux Islands, Papua New Guinea. *Copeia* 1997(2):383-387.
41. Randall, J.E., K. Kato, H. Ida, **R.L. Pyle**, and J.L. Earle. 1997. Annotated checklist of the inshore fishes of the Ogasawara Islands. National Science Museum Monographs No. 11. National Science Museum, Tokyo. 74 pp + 19 col. pls.
42. **Pyle, R.L.** 1997. The Importance of Deep Safety Stops: Rethinking Ascent Patterns From Decompression Dives. *South Pacific Underwater Medical Society Journal (SPUMS)* 27(2):112-115.

43. **Pyle, R.L.** 1997. A new angelfish of the genus *Genicanthus* (Perciformes: Pomacanthidae) from the Ogasawara Islands and Minami Tori Shima (Marcus Island). *Révue française Aquariologie* 24(3-4):87-92.
44. Basset, Y., V. Novotny, S.E. Miller & **R.L. Pyle**. 2000. Quantifying biodiversity: Experience with parataxonomists and digital photography in New Guinea and Guyana. *BioScience* 50(10):899-908.
45. Randall, J.E. and **R.L. Pyle**. 2001. Three new species of labrid fishes of the genus *Cirrhilabrus* from islands of tropical Pacific. *Aqua*, 4(3):89-98.
46. Randall, J.E., **R.L. Pyle** and R.F. Myers. 2001. Three examples of hybrid surgeonfishes (Acanthuridae). *Aqua*, 4(3):115-120.
47. Randall, J.E. and **R.L. Pyle**. 2001. Four new serranid fishes of the anthiine genus *Pseudanthias* from the South Pacific. *Raffles Bulletin Zoology* 49(1):19-34.
48. Pence, D.F. and **R.L. Pyle**. 2002. University of Hawaii dive team completes Fiji deep reef fish surveys using mixed-gas rebreathers. *SLATE*. April: 1-3.
49. Parrish, F.A. and **R.L. Pyle**. 2002. Field comparison of open-circuit scuba to closed-circuit rebreathers for deep mixed-gas diving operations. *Marine Technology Society Journal*. 36(2):13-22.
50. **Pyle, R.L.** 2003. A systematic treatment of the reef-fish family Pomacanthidae (Pisces: Perciformes). Ph.D. Dissertation, Department of Zoology, University of Hawaii. xv+422 pp.
51. **Pyle, R.L.** 2004. Taxonomer: a relational data model for managing information relevant to taxonomic research. *Phyloinformatics*, 1:1-54.
52. Polaszek, A., D. Agosti, M. Alonso-Zarazaga, G. Beccaloni, P. de Place Bjørn, P. Bouchet, D.J. Brothers, Earl of Cranbrook, N. Evenhuis, H.C.J. Godfray, N.F. Johnson, F.-T. Krell, D. Lipscomb, C.H.C. Lyal, G.M. Mace, S. Mawatari, S.E. Miller, A. Minelli, S. Morris, P.K.L. Ng, D.J. Patterson, **R.L. Pyle**, N. Robinson, L. Rogo, J. Taverner, F.C. Thompson, J. van Tol, Q.D. Wheeler & E.O. Wilson. 2005. Commentary: A universal register for animal names. *Nature*. 437:477.
53. Tanaka, H., **R.L. Pyle** and J.E. Randall. 2006. The color phases of the fairy wrasse *Cirrhilabrus roseafascia*, and comparison with *C. lanceolatus*. *Biogeography*. 8: 7-9.
54. Schultz, J.K., **R.L. Pyle**, E. DeMartini & B.W. Bowen. 2007. Genetic connectivity among color morphs and archipelagos for the flame angelfish, *Centropyge loriculus*. *Marine Biology*. 151:167-175.
55. **Pyle, R.L.**, J.L. Earle & B.D. Greene. 2008. Five new species of the damselfish genus *Chromis* (Perciformes: Labroidei: Pomacentridae) from deep coral reefs in the tropical western Pacific. *Zootaxa*. 1671: 3–31. (<http://www.mapress.com/zootaxa/2008/f/zt01671p031.pdf>)
56. Randall, J.E. & **R.L. Pyle**. 2008. *Synodus orientalis*, a new lizardfish (Aulopiformes: Synodontidae) from Japan and Taiwan, with correction of the Asian records of *S. lobeli*. *Bull. Natl. Mus. Nat. Sci. In Press*.

Popular and Semi-Popular:

57. **Pyle, R.L.** 1988. The Burgess' Butterflyfish *Roaops burgessi* (Allen and Starck Its collection, maintenance, and classification. *Freshwater Mar. Aquar.* 11(1):32-37, 9 figs. + cover.
58. **Pyle, R.L.** 1988. Adventures in collecting marine fishes: *Centropyge colini*. *Trop. Mar. Aquar.* 20:56-58, 10 figs. (In Japanese)
59. **Pyle, R.L.** 1989. Rare and Unusual Marines: Helfrich's Dartfish *Nemateleotris helfrichi* Randall and Allen. *Freshwater Mar. Aquar.* 12(2):16-17, 3 figs. + cover.
60. **Pyle, R.L.** 1989. Rare and Unusual Marines: Griffis' Angelfish *Apolemichthys griffisi* (Carlson and Taylor). *Freshwater Mar. Aquar.* 12(3):96-98, 3 figs.

61. **Pyle, R.L.** 1989. Rare and Unusual Marines: The Armitage Angelfish *Apolemichthys armitagei* Smith. *Freshwater Mar. Aquar.* 12(4):26-27, 3 figs.
62. **Pyle, R.L.** and R.K. Kosaki. 1989. Adventures in Collecting: *Roaops flavocoronatus*. *Trop. Mar. Aquar.* 24:3-5, 7 figs. (In Japanese).
63. **Pyle, R.L.** 1989. Rare and Unusual Marines: The Goldflake Angelfish *Apolemichthys xanthopunctatus* Burgess. *Freshwater Mar. Aquar.* 12(5):96-100, 3 figs.
64. **Pyle, R.L.** 1989. Rare and Unusual Marines: Lori's Fancy Sea Bass *Pseudanthias lori* (Lubbock and Randall). *Freshwater Mar. Aquar.* 12(6):34-36, 2 figs.
65. **Pyle, R.L.** 1989. Rare and Unusual Marines: Whitley's Boxfish *Ostracion whitleyi* Fowler. *Freshwater Mar. Aquar.* 12(7):58,62-64, 2 figs. + cover. (Cover photo of *Apolemichthys xanthopunctatus*)
66. **Pyle, R.L.** 1989. Rare and Unusual Marines: The Headband Butterflyfish *Chaetodon mitratus* Günther. *Freshwater Mar. Aquar.* 12(8):26-28, 3 figs. + cover.
67. **Pyle, R.L.** 1989. Rare and Unusual Marines: Bartlett's Anthias *Pseudanthias bartlettorum* Randall and Lubbock. *Freshwater Mar. Aquar.* 12(9):65-74, 2 figs.
68. **Pyle, R.L.** and R.K. Kosaki. 1989. Rare and Unusual Marines: The Blackspot Angelfish *Centropyge nigriocellus* Schultz. *Freshwater Mar. Aquar.* 12(10):98-101, 4 figs.
69. **Pyle, R.L.** 1989. What is this fish? Introducing a new form of *Roaops* butterflyfish! *Trop. Mar. Aquar.* 26:15-17, 11 figs. (In Japanese)
70. **Pyle, R.L.** and L.A. Privitera. 1989. Rare and Unusual Marines: The Harlequin Hind *Cephalopholis polleni* (Bleeker). *Freshwater Mar. Aquar.* 12(12):42-45, 2 figs. + cover.
71. **Pyle, R.L.** and L.A. Privitera. 1990. Rare and Unusual Marines: The Midas Blenny *Ecsenius midas* Starck. *Freshwater Mar. Aquar.* 13(1):32-35, 3 figs.
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