

## Curriculum Vitae

### **HIROYUKI KUROTA (Dr.)**

National Research Institute of Far Seas Fisheries,  
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Date of Birth: 16 September 1973 - Hyogo, Japan  
Male, Japanese, Single

I have achieved many results in quantitative analysis in fisheries management and animal population dynamics by integrating field data and practical knowledge into mathematical modelling. I have six years' experience of fisheries stock management for the Commission for the Conservation of Southern Bluefin Tuna (CCSBT). In particular, I have been working for an important project to develop management procedure at the CCSBT as a key person of the Japan delegation. A management procedure that I developed was selected as one of the final candidates in 2004. My current research interests are stock assessment modelling based on Bayesian approach and decision-making under uncertain situations in wildlife management.

### **EDUCATION**

- Ph.D. 1998 - 2002: University of Tokyo, Japan (Systems Sciences, Biology)  
"Population dynamics and evolution of life history schedules in herbivorous insects: overwintering strategy in a bruchid seed beetle, *Bruchidius dorsalis*.", directed by Masakazu Shimada
- M.S. 1996 - 1998: University of Tokyo, Japan (Systems Sciences, Biology)
- B.S. 1992 - 1996: University of Tokyo, Japan (Systems Sciences, Biology)

### **PROFESSIONAL EMPLOYMENT**

- 2003 - Present National Research Institute of Far Seas Fisheries, Japan  
*Researcher*, Temperate Tuna Section, Pelagic Resources Division
- 2006-2007 University of British Columbia, Canada (Fisheries Centre)  
*Visiting scientist*. Studied Bayesian stock assessment modelling for Atlantic Bluefin Tuna with Dr. McAllister.
- 2004 (Oct- Dec) University of Washington, USA (The School of Aquatic & Fishery Sciences)  
*Visiting scientist*. Studied stock assessment modelling for Southern Bluefin Tuna with Prof. Hilborn (Univ. of Washington) and Dr. Ianelli (NMFS, NOAA)
- 2001 - 2003 Global Guardian Trust, Japan  
*Researcher*. Worked for the National Research Institute of Far Seas Fisheries.

1998 - 2001      Japan Society for the Promotion of Science  
                          *Researcher*. Studied at University of Tokyo.

## **SKILLS**

Computer programming language and software: C++, AD Model Builder, R, Perl, WinBUGS

Communication skills both in Japanese and English

TOEIC (Test of English for International Communication): score 900 (Rank A)

## **PUBLICATIONS**

### *Papers in Peer-Reviewed Journals*

#### (a) Population dynamics and life histories evolution of insects

Kurota, H. and Shimada, M. (2001) Photoperiod- and temperature-dependent induction of larval diapause in a multivoltine bruchid, *Bruchidius dorsalis*. *Entomologia Experimentalis et Applicata* 99: 361-369.

Shimada, M., Kurota, H. and Toquenaga, Y. (2001) Regular distribution of larvae and resource monopolization in the seed beetle *Bruchidius dorsalis* boring the Japanese honey locust seeds, *Gleditsia japonica*. *Population Ecology* 43: 245-252.

Kurota, H. and Shimada, M. (2002) Geographical variation in the seasonal population dynamics of *Bruchidius dorsalis* (Coleoptera: Bruchidae): constraints of temperature and host plant phenology. *Environmental Entomology* 31: 469-475.

Kurota, H. and Shimada, M. (2003) Photoperiod-dependent adult diapause within a geographical cline in the multivoltine bruchid, *Bruchidius dorsalis*. *Entomologia Experimentalis et Applicata* 106: 177-185.

Kurota, H. and Shimada, M. (2003) Geographical variation in photoperiodic induction of larval diapause in the bruchid beetle, *Bruchidius dorsalis*: polymorphism in overwintering stages. *Entomologia Experimentalis et Applicata* 107: 11-18.

Kurota, H. (2004) Overwintering strategies depending on high cold hardiness in non-diapause stages in *Bruchidius dorsalis* (Coleoptera: Bruchidae). *Environmental Entomology* 33: 1163-1168.

Kurota, H. and Shimada, M. (2007) Overwintering stage polymorphism of a bruchine beetle: geographical variation in optimal diapause strategy. *Ecological Entomology* (in press).

Kurota, H. (in prep.) A temporally structured model for seasonal population dynamics in the bruchid beetle *Bruchidius dorsalis*: impacts of host plant phenologies and insect diapause characteristics.

Kurota, H. (in prep.) Evolutionarily stable strategy of overwintering in the bruchid beetle *Bruchidius dorsalis*: a numerical simulation approach.

(b) Fisheries ecology and management

3 papers submitted or in prep.

*Selected Documents for International Tuna Committees* (with 17 other documents)

Kurota, H., Tsuji, S., Takahashi, N., Hiramatsu, K. and Itoh, I. (2001) Exploration of cohort analysis based on catch at length data for southern bluefin tuna. CCSBT-SC/0108/32, 40pp.

Kurota, H., Hiramatsu, K. and Tsuji, S. (2002) Simulation model toward development of assessment procedures of tagging data. CCSBT-ESC/0209/18, 12pp.

Kurota, H., Hiramatsu, K., Itoh, T., Shono, H., Takahashi, N. and Tsuji, S. (2003) Results of the initial exploration of potential Management Procedures based on the CPUE index. CCSBT-MP/0304/11, 36pp.

Hampton, J., Kleiber, P., Takeuchi, Y., Kurota, H. and Maunder, M. (2003) Stock assessment of bigeye tuna in the western and central Pacific Ocean, with comparisons to the entire Pacific Ocean. SCTB16/BET/1, 81pp.

Kurota, H., Hiramatsu, K., Shono, H. and Takahashi, N. (2004) Behaviors of CPUE-based management procedures examined through the CCSBT final trial specifications. CCSBT-MP/0404/08, 53p.

Kurota, H. (2004) Behaviors of the HK5 management procedure under the updated operating models. CCSBT-ESC/0409/44, 16p.

Kurota, H. (2005) Further exploration of the operating model for the management procedure evaluation. CCSBT-MPTM/0502/07, 40p.

Kurota, H., Takahashi, N. and Tsuji, S. (2005) Consideration on metarules, implementation issues and MP performance monitoring. CCSBT-ESC/0509/44, 7p.

Kurota, H., Butterworth, D.S. and Sakai, O. (2006) SBT stock assessment and projection under overcatch scenarios using the operating model. CCSBT-ESC/0609/42, 17p.

Kurota, H., McAllister, M.K., Block, B.A., Lawson, G.L., Nogueira, J. and Teo, S.L.H. (2007) Estimates of fishing mortality rates for Atlantic bluefin tuna in 1990-2006 from Bayesian statistical analysis of three kinds of tag records. ICCAT- SCRS/2007/137, 37p.

**PRESENTATIONS** (selected)

2006 Invited Lecture, National Fisheries Research & Development Institute, Korea  
"Management procedure development of Southern Bluefin Tuna"

2003 The Quantitative Seminar, Univ. of Washington "Management procedure development of Southern Bluefin Tuna: future of the most valuable fish in the world"

2003 The 54th Annual Tuna Conference, California "Simulation model toward development of assessment procedures of tagging data"

### **MANUSCRIPT REVIEWS**

Ecological Research (1), Population Ecology (3), Applied Entomology and Zoology (1),  
Entomological Science (2)

### **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

Ecological Society of Japan, Japanese Society of Fisheries Science

### **FIELD RESEARCH**

1995-2001	Research on seasonal population dynamics of a bruchid beetle in Japan
2002 Jan-Mar	Spawning ground research of Southern Bluefin Tuna in Australia
2004 Jan-Mar	Spawning ground research of Southern Bluefin Tuna in Australia
2006 Jan	Recruitment monitoring research of Southern Bluefin Tuna in Australia

### **REFERENCES**

Available upon request.