Benoît Simon-Bouhet

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Research Topics

I use population genetics and computer simulations to address ecological questions, in the field of the dynamics of species distribution, mainly in coastal ecosystems.
Mostly, I try to understand the impact of interactions between natural processes (*e.g.* "migration against selection" process, glaciation periods...) and human actions (*e.g.* trade, shellfish culture, global warming...) on (i) stable and unstable natural populations and (ii) on introduced populations. Therefore, I use population genetics to infer the history of populations based on the levels and structures of mitochondrial and nuclear polymorphisms. I also use (and am developing) a coalescent approach to study the consequences of complex demographic and evolutive scenarios on the genetic diversity of theoretical populations.

Education

Ph.D. in Population Genetics, University of La Rochelle, France. *2002-2006*
Defended: 7/4/2006.
Range expansion and biological introductions in marine ecosystems: the case of *Cyclope neritea* (Nassariidae) on the French coasts.
Key words: molecular ecology, population genetics, history and structure of marine populations, species range limit, anthropogenic factors, invasive species.

Graduate Education (Diplôme d'Études Approfondies[1]). Ranking: 1^{st}/ 17. *2002*
Marine Ecology and Sustainable Development. University of La Rochelle, France.
Research topic: developpment and characterization of polymorphic markers for the study of newly established populations of *Cyclope neritea*.

Undergraduate Education (DEUG / Licence / Maîtrise[2]). Ranking: 1^{st}/ 91. *1997-2001*
Major in Sciences:
. Biology of Organisms and Populations. University of La Rochelle, France.
. General Biology. University of Poitiers, France.
Research topic (2001): study of the dynamics of benthic diatoms on intertidal mudflats.

High School Degree (Baccalauréat). *1996*
Futuroscope High School, Poitiers, France.

Skills

Molecular Biology
. *Technics*: from field sampling strategy and organization to multilocus genotyping. DNA extraction, design of specific mitochondrial and nuclear PCR primers, DNA sequencing on capillary (*e.g.* ABI sequencers) and electrophoresis sequencers (*e.g.* Li-Cor)...

[1] Equivalent to Master's degree.
[2] Equivalent to Bachelor of Science.

. *Genetic Software*:
  . Preparing and aligning sequences: Chromas, Bioedit, Clustal
  . Descriptive Statistics: Arlequin, DNAsp...
  . Intraspecific Phylogeny: Mega, Phylip, Network, TCS
  . Multilocus Analyzes: Genepop, Genetix, Fstat, hierFstat, Structure, Geneland, GeneClass...
  . Developpment (coalescent simulations, models): Delphi (Pascal), R

Other Computer Software
. *Operating Systems*: Windows, LINUX (Mandriva, Ubuntu, Fedora), MacOS.
. *Statistics*: XLstats, Mathlab, Minitab, Statgraphics, several R packages
. *Office Software*: LaTeX, Open Office, Microsoft Office
. *Graphics*: Adobe Photoshop and Illustrator, The Gimp, Flash...

Can quickly become proficient in any other software/langage/system upon request.

Languages
. *English*: fluent. TOEIC score: 935/990 (March 2006)
. *French*: native language

Motivated, innovative, organized. Able to multi-task. Self-sufficient. Can learn new skills quickly. Able to lead or work within a group environment. Teaching skills (see hereafter).

Awards and Grants

Young Investigator Award *October 2005*
Award given by the European Malacological Societies. Twelve young scientists were graded for the quality of their oral contribution during the 4^{th} International Congress of the European Malacological Societies (Napoli, Italy).

French Malacological Society Award *June 2003*
One of seven recipients of this award grading scientists for the quality of their poster presentation during the 3^{rd} International Congress of the European Malacological Societies (La Rochelle, France).

Ph.D. Fellowship *2002-2005*
Three years fellowship from the French "Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la recherche" (MENRT fellowship). Attributed according to merit criteria.

Teaching Position *2002-2005*
Three years fellowship from the French "Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche" as a subsidy for teaching.

Master Fellowship *2001-2002*
One year fellowship from the French "Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche" attributed according to merit criteria.

Publications

1. **Simon-Bouhet B.** (2006). Range expansion and biological introductions in marine ecosystems: the case of *Cyclope neritea* (Nassariidae) on the French coasts. *Ph.D. thesis*, 280pp

2. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard (2006). Mitochondrial gene genealogies provide evidence for multiple geographical origins for *Cyclope neritea* (Nassaridae) populations recently recorded in France. *Molecular Ecology*, **15**: 1699-1711

3. **Simon-Bouhet B.**, C. Daguin, P. Garcia-Meunier & F. Viard (2005). Polymorphic microsatellites for the study of newly-established populations of the gastropod *Cyclope neritea*. *Molecular Ecology Notes*, **5**: 121-123

4. Bachelet G., **B. Simon-Bouhet**, C. Desclaux, P. Garcia-Meunier, G. Mairesse, X. de Montaudouin, H. Raigné, K. Randriambao, P. Sauriau & F. Viard (2004). Invasion of the eastern coasts of the Bay of Biscay by the nassariid gastropod *Cyclope neritea*: origin and effects on resident fauna. *Marine Ecology Progress Series*, **276**: 147-159

5. **Simon-Bouhet B.** (2002). Status of French Atlantic populations of *Cyclope neritea*: expansion or introduction? *Master thesis*, 69pp

6. Blanchard G. F., **B. Simon-Bouhet** & J.-M. Guarini (2002). Properties of the dynamics of intertidal microphytobenthic biomass. *Journal of Marine Biology Association of the United Kingdom*, **82**: 4077/1-2

7. **Simon-Bouhet B.** (2001). Biomass dynamics of benthic diatoms during diurnal exondations. *Maîtrise thesis*, 12pp

8. Garcia-Meunier P., P.-Y. Pascal, V. Becquet & **B. Simon-Bouhet**. Invasion by the marine gastropod *Ocinebrellus inornatus* in France. IV : Is there a relationship with the low genetic diversity of the local drill, *Ocenebra erinacea*? ***Submitted*** *in Journal of Sea Research*

9. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard. Phylogeography of the nassariid gastropod *Cyclope neritea*: comparison between mitonchondrial and nuclear markers. ***In prep.***

10. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard. Microstructure of *Cyclope neritea* (Gastropod nassariidae, L): fine scale analysis of diversity patterns in native and invaded ranges. ***In prep.***

11. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard. The genus *Cyclope*: a mitochondrial marker to discriminate two species. ***In prep.***

Scientific Meetings *(posters and oral presentations)*

1. Viricel A., P. Garcia-Meunier, P. Rosel, A. Strand, **B. Simon-Bouhet** & V. Ridoux. Mitochondrial DNA analysis of a mass-stranded common dolphin (*Delphinus delphis*) group. 16^{th} *Biennial Conference on the Biology of Marine Mammals* (San Diego, USA, December 2005)

2. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard. Mitochondrial gene genealogies provide evidence for multiple origins of the mollusk *Cyclope neritea* (Nassariidae) recently recorded in France. 4^{th} *International Congress of the European Malacological Societies* (Napoli, Italy, October 2005)

3. Viricel A., **B. Simon-Bouhet**, V. Becquet Buren, V. Ridoux & P. Garcia-Meunier. Mitochondrial DNA analysis of a mass-stranded common dolphin (*Delphinus delphis*). *South-eastern ecology and evolution conference* (Atlanta, USA, March 2004)

4. **Simon-Bouhet B.**, P. Garcia-Meunier & F. Viard. Recurrent introductions and natural spread: two explanations for the actual distribution of the gastropod *Cyclope neritea*. 39^{th} *European Marine Biology Symposium* (Genova, Italy, July 2004)

5. Bachelet G., C. Desclaux, P. Garcia-Meunier, X. de Montaudouin, P.-G. Sauriau, **B. Simon-Bouhet** & F. Viard. The nassarid gastropod *Cyclope neritea*, a recent invader in the Bay of

Biscay: origin and consequences on biodiversity. 38^{th} *European Marine Biology Symposium* (Aveiro, Portugal, Septembre 2003)

6. **Simon-Bouhet B.**, P. Garcia-Meunier, A. Viricel & F. Viard. Origin of the french atlantic populations of *Cyclope neritea* (L.): introduction *versus* expansion. 3^{rd} *International Congress of the European Malacological Societies* (La Rochelle, France, June 2003)

7. Viard F., L. Dupont, C. Martel, D. Mc Glashan, **B. Simon-Bouhet**, & P. Garcia-Meunier. A comparison analysis, based on molecular ecology and population genetics, of the invasion by three gastropods in areas of oysters cultivation. 3^{rd} *International Conference on Marine Bioinvasions* (La Jolla, USA, March 2003)

Teaching

Teaching Assistant *Fall 2002 to present*

More than 350 hours of lectures (see details hereafter). Preparation and presentation of lectures, supervision of group work, preparing, creating and grading of homework problems/final exams...

Undergraduate students	Fundamental Haploide Genetics	*24 hours*
	Probabilities, Descriptive Statistics, Discrete and Continuous Distributions	*24 hours*
	Mendelian Haploide and Diploide Genetics	*54 hours*
	Evolution of Sexual Dimorphism	*36 hours*
Graduate students	Multivariate Statistics	*67 hours*
	Population Genetics	*30 hours*
	Molecular Markers and Population Dynamics	*110 hours*
	Evolutionary Biology	*9 hours*

Tutor, Biology Dpt *Fall 2004*

Tutorat for first year students in the university library: search and use of hard copies and online ressources (Medline, Current Contents, Science Direct...) *10 hours*

Supervision of Training Students *2003-2005*

During my Ph.D. I had to supervise the work of two students :

1. A Graduate Student (P.-Y. Pascal) working on "the role of indigenous marine species in the invasion process of marine exogenous species". *6 months*

2. An Undergraduate Student (M. Alain) working on "the influence of temperature and geographical origin on the fertility and mortality of *Cyclope neritea*". *1 year*

Other Qualifications and Activities

Qualifications

. Driving licence.
. French scuba diving instructor (equivalent to 1* CMAS instructor). Nitrox Diver.
. Dive Master PADI.
. First aid training including oxygen first aid for scuba diving injuries.

Sports, Activities

Finswimming, scuba-diving, cave-diving, roller, ski, badminton, photography...