

# Hugo Cayuela

## PhD in Ecology & Evolution

- Nationality: French
- Professional address: Laboratoire de Biométrie et de Biologie Évolutive (LBBE), Campus de la Doua Bâtiment Gregor Mendel, 43 Boulevard du 11 novembre 1918, 69622 Villeurbanne Cedex
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### RESEARCH INTERESTS

I am a population biologist whose research interests focus on three main items:

1. **Evolutionary demography and populations dynamics.** I study the biodemographic mechanisms shaping trajectories of age-dependent mortality and reproduction. I especially examine the influence of phenotypic traits (e.g., life history traits), genetic features (e.g., sex chromosome system) and environmental variation (e.g., climate) on actuarial senescence at intra- and interspecific levels. More broadly, I also analyze how environmental factors and anthropogenic stresses influence demographic rates and the long-term viability of wild populations.
2. **Dispersal and its consequences on population dynamics and genetics.** I examine how social and environmental factors affect dispersal decisions. I also investigate how genetic background and plasticity determine related-traits dispersal and the architecture of dispersal syndromes. In addition, I study how dispersal patterns and syndromes shape neutral and adaptive genetic variation in spatially structured populations.
3. **Population genetics/genomics and local adaptation.** I examine how environmental factors and ancient demographic history influence neutral and adaptive polymorphisms among wild populations. I examine molecular signals associated with adaptation to environmental variation (e.g., temperature) using next-generation sequencing technologies. I also analyze associations between genetic (SNPs, CNVs, chromosomal rearrangements) and epigenetic (methylation) variants and life history variation in free-ranging populations.

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### CURRENT ACTIVITY

2021-Now: Postdoctoral researcher (CNRS), Laboratoire de Biométrie et Biologie Évolutive (LBBE), University of Lyon, FRANCE, ANR LongevitY.

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### EDUCATION

- 2020-2021: Junior Lecturer, Research group of Pr. Wedekind, University of Lausanne, SWITZERLAND, FNS fellowship.
- 2018-2020: Postdoctoral fellow, Louis Bernatchez's Lab, Laval University, Québec, CANADA, Banting postdoctoral fellowship.
- 2017-2018: Postdoctoral fellow, Louis Bernatchez's Lab, Laval University, Québec, CANADA, FRQNT fellowship.
- 2016: Postdoctoral fellow, ATER, University Claude Bernard, FRANCE.
- 2015: State license for animal experimentation (level 1) accredited category C by Federation of European Laboratory Animal Science Associations (FELASA)
- 2012-2016: PhD, CNRS, UMR 5023 - LEHNA (Laboratoire d'Ecologie des Hydrosystèmes Naturels et Anthropisés), University Claude Bernard, France. Thesis, March 11, 2016, <http://www.theses.fr/2016LYSE1034>

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### TEACHING & STUDENT FORMATION

- 2018-to present: Co-supervision of the PhD thesis of Laurent Boualit, Lausanne University.
- 2018-to present: PhD committees of Julia Dayon (EPHE) and Igor Boyer (Poitiers University)
- 2015-2016: Regular teaching activities at Bachelor level, University Claude Bernard.
- 2012-to present: Supervision of 14 students in Master degree.

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### GRANTS & AWARDS

- 2018-2020: Banting Postdoctoral fellowship: Genomic bases of dispersal evolution in a protist: parallelism or convergence? with Prof. Bernatchez, Laval University, Québec; 140 k\$
- 2017-2018: FRQNT Postdoctoral fellowship: Population genomics, life history and adaptive variation in *Mallotus villosus*, with Prof. Bernatchez, Laval University, Québec; 45 k\$

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**GRANTS &  
AWARDS**  
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- 2015-2016: Bombina project: Dispersal syndromes, life history variation and population genetics, with Prof. Joly, University Claude Bernard; 25 k€
- 2012-2016: PhD fellowship: Responses to spatiotemporally variable environment: sex, dispersal and life history tactics, with Prof. Joly, University Claude Bernard; 65 k€

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**CONFERENCE  
ORGANISATION**

27 June-1 July 2016: Congress "Ecology & Behavior", University Claude Bernard, FRANCE (organization committee, treasurer) <https://eb2016.sciencesconf.org/?lang=frb>

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**SUBMITTED  
ARTICLES  
OR IN  
PREPARA-  
TION**

(\*) co-first  
authors

62. **CAYUELA H.**, MONOD-BROCA B., BESNARD A., GIPPET J. W., SCHMIDT B. R., ROMANO A., ANGELINI C., CANESSA S., VIGNOLI L., CARAFA M., GIACHI F., TIBERI A., SCHAFAER A. M., SINSCH U., TOURNIER E., BONNAIRE E., BOITAUD S., GOLLMANN G., GOLLMANN B., SPITZEN DER SLUIJS A., BUSCHMANN H., KINET T., LAUDELOUT A., FONTERS R., BUNZ Y., CORAIL M., BIANCARDI C., DI CERBO A. R., LANGLOIS D., THIRION J.-M., BERNARD L., BOUSSQUAULT E., DORE F., LECLERC T., ENDERLIN N., HERTACH T., LAURENCEAU F., MORIN L., BARRIOZ M., MORIZET Y., CRUICKSHANK S., PICHENOT J., MALETZKY A., DELSINNE T., HENSELER D., AUMAITRE D., GAILLEDROT M., MOQUET J., VEEN R., KRIJNEN P., RIVIERE L., LEMAITRE J.-F., GAILLARD J.-M., LENA J.-P. Compensatory recruitment is a key mechanism allowing amphibian population persistence in anthropogenic habitats. In preparation.
61. **CAYUELA H.**, NABHOLZ B., VIERA C., RONGET V., GAILLARD J.-M., LEMAITRE J.-F., MARAIS G. Sex differences in adult lifespan and aging rates across mammals: a test of the Mother Curse hypothesis. Submitted to *Journal of Biogerontology* (under review, 1<sup>st</sup> round).
60. RODRIGUEZ-CARO R. C., GRACIA E., BLOMBERG S. P., **CAYUELA H.**, GRACE M., CARMONA C. P., PEREZ-MENDOZA H. A., GIMENEZ A., SALGUERO-GOMEZ R. The extinction of endangered species by anthropogenic threats endangers the functional diversity of turtles and crocodiles. Submitted to *Nature* (under review, 1<sup>st</sup> round).
59. BOUALIT L., **CAYUELA H.**, CATTIN L., CHEVRE N. Development of a new method for evaluating the toxicity of organic chemicals on amphibians: the Amphibian Short Term Assay (ASTA) – Part I, assessment of physiological, morphological and life history traits. *Environmental Toxicology and Chemistry* (under review, 1<sup>st</sup> round).
58. VALENZUELA-SANCHEZ A, SCHMIDT B.R., AZAT C., DELGADO S., CUNNINGHAM A.A., **CAYUELA H.** Variable rate of ageing within species: insights from the Darwin's frog. Submitted to *Oikos* (under review, 1<sup>st</sup> round).
57. DORANT Y., LAPORTE M., ROUGEMONT Q., **CAYUELA H.**, ROCHETTE R., BERNATCHEZ L. Fishery genomics: Are adaptive markers the decisive swivel for delineating population units in marine species? Submitted to *Molecular Ecology* (under review, 1<sup>st</sup> round).
56. **CAYUELA H.**, VENNEY C., ROUGEUX C., MEROT C., LAPORTE M., NORMANDEAU E., LEITWEIN M., DORANT Y., PRAEBEL K., KENCHINGTON E., CLEMENT M., SIROIS P., BERNATCHEZ L. Genome-wide DNA methylation predicts environmentally-driven life history variation in a marine fish. Submitted to *Evolution* (under review, 1<sup>st</sup> round).

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**PUBLISHED  
ARTICLES**

(\*) co-first  
authors

55. REINKE B. A., **CAYUELA H.**, JANZEN F. J., LEMAITRE J.-F., GAILLARD J.-M., A. LAWNING M., IVERSON J. B., CHRISTIANSEN D. G., MARTINEZ-SOLANO I., SANCHEZ-MONTES G., GUTIERREZ-RODRIGUEZ J., ROSE F. L., NELSON N., KEALL S., CRIVELLI A. J., NAZIRIDES T., GRIMM-SEYFARTH A., HENLE K., MORI E., GUILLER G., HOMAN R., OLIVIER A., MUTHS E., HOSSACK B. R., BONNET X., PILLIOD D. S., LETTINK M., WHITAKER T., SCHMIDT B. R., GARDNER M. G., CHEYLAN M., POITEVIN F., GOLUBOVIC A., TOMOVIC L., ARSOVSKI D., GRIFFITHS R. A., ARNTZEN J. W., BARON J.-P., LE GALLIARD J.-F., TULLY T., LUISELLI L., CAPULA M., RUGIERO L., McCAFFERY R., EBY L. A., BRIGGS-GONZALES V., MAZZOTI F., PEARSON D., LAMBERT B. A., GREEN D. M., JREIDINI N., ANGELINI C., PYKE G., THIRION J. M., JOLY P., LENA J.-P., TUCKER T., LIMPUS C., PRIOL P., BESNARD A., BERNARD P., STANFORD K., KING R., GARWOOD J., BOSCH J., SOUZA F., BERTOLUCI J., FAMELLI S., GROSSENBACHER K., LENZI O., MATTHEWS K., BOITAUD S., OLSON D. H., JESSOP T. S., GILLESPIE G., CLOBERT J., RICHARD M., VALENZUELA-SANCHEZ A., FELLERS G. M., KLEEMAN P. M., HALSTEAD B. J., CAMPBELL GRANT E. H., BYRNE P. G., FRETEY T., LE GARFF B., LEVIONNOIS P., MAERZ J. C., PICHENOT J., OLGUN K., UZUM N., AVICI A., MIAUD C., ELMBERG J., BROWN G. P., SHINE R., BENDIK N. F., O'DONNELL L., DAVIS C. L., LANNOO M. J., STILES R. M., COX R. M., REEDY A. M., WARNER D. A., BONNAIRE E., GRAYSON K., RAMOS-TARGARONA R., BASKALE E., MUNOZ D., MEASEY J., DE VILLIERS F.

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ARTICLES**  
(continued)

- A., SELMAN W., RONGET V., BRONIKOWSKI A. M., MILLER D. A. W. (2022) Diverse aging rates in ectotherms provide insights for the evolution of aging and longevity. *Science*, in press.
54. LEITWEIN M., WELLBAND K., **CAYUELA H.**, LE LUYER J., MOHNS K., WITHLER R., BERNATCHEZ L. (2022) Strong parallel differential gene expression induced by hatchery rearing weakly associated with methylation signals in adult Coho Salmon (*O. kisutch*). *Genome Biology and Evolution*, accepted.
53. **CAYUELA H.**, JACOB S., SHTICKZELLE N., VERDONCK R., PHILIPPE H., LAPORTE M., HUET M., BERNATCHEZ L., LEGRAND D. (2022) Transgenerational plasticity of dispersal-related traits in a ciliate: genotype-dependency and fitness consequences. *Oikos*, accepted. DOI: 10.1111/oik.08846
52. **CAYUELA H.**, LEMAITRE J.-F., LENA J.-P., RONGET V., MARTINEZ-SOLANO I., MUTHS E., PILLIOD D. S., SCHMIDT B. R., SANCHEZ-MONTES G., GUTTIERREZ-RODRIGUEZ J., PYKE G., GROSSENBACHER K., LENZI O., BOSCH J., BEARD K. H., WOOLBRIGHT L. L., LAMBERT B. A., GREEN D. M., JREIDINI N., GARWOOD J. M., FISHER R. N., MATTHEWS K., DUDGEON D., LAU A., SPEYBROECK J., HOMAN R., JEHLE R., BASKALE E., MORI E., ARNTZEN J. W., JOLY P., STILES R. M., LANNOO M. J., MAERZ J. C., LOWE W. H., VALENZUELA-SANCHEZ A., CHRISTIANSEN D. G., ANGELINI C., THIRION J.-M., MERILA J., COLLI G. R., VASCONCELLOS M. M., BOAST T. C. V., ARANTES I., LEVIONNOIS P., REINKE B. A., VIERA C., MARAIS G. A. B., GAILLARD J.-M., & MILLER D. A. W. (2022) Sex-related differences in aging rate are associated with sex chromosome system in amphibians. *Evolution*, accepted. DOI: 10.1111/evo.14410
50. VALENZUELA-SANCHEZ A., AZAT C., DELGADO S., CUNNINGHAM A. A., BELTRAND J., SERRANO J., SENTENAC H., HADDOW N., TOLEDO V., SCHMIDT B. R., **CAYUELA H.** (2022) Intraspecific variation in male reproductive effort drives the population dynamics of a host exposed to an emerging fungal pathogen. *Journal of Animal Ecology*, accepted. DOI: 10.1111/1365-2656.13603
50. **CAYUELA H.**, LEMAITRE J.-F., MUTHS E., McCAFFERY R., FRETEY T., SCHMIDT B. R., GROSSENBACHER K., LENZI O., HOSSACK B., LAMBERT B., ELMBERG J., MERILA J., GIPPET J., GAILLARD J.-M., PILLIOD D. (2021) Thermal conditions predict actuarial senescence rate in frogs and toads. *Proceedings of the National Academy of Sciences*, 118, e2112235118. DOI: 10.1073/pnas.2112235118
49. UNGLAUB\* B., **CAYUELA\* H.**, SCHMIDT B. R., PREIBLER K., GLOS J., STEINFARTZ S. (2021) Context-dependent dispersal determines genetic and relatedness structure in an amphibian patchy population. *Molecular Ecology*, 30, 5009-5028. DOI: 10.1111/mec.16114
48. **CAYUELA H.**, DORANT Y., FORRESTER B. R., JEFFRIES D. L., McCAFFERY R. M., EBY L., HOSSACK B., GIPPET J. M. W., PILLIOD D. S., FUNK, W. C. (2021) Genomic signatures of thermal adaptation are associated with clinal shifts of life history in a broadly distributed frog. *Journal of Animal Ecology*, accepted. Invited paper for the Special Issue: *Understanding climate change response in the age of genomics*. DOI: 10.1111/1365-2656.13545
47. MEROT C., BERDAN E., **CAYUELA H.**, DJAMBAZIAN H., FERCHAUD A.-L., LAPORTE M., NORMANDEAU E., RAGOISSIS I., WELLENREUTHER M., BERNATCHEZ L. (2021) Multiple large rearrangements structure genetic variation and contribute to local adaptation at different geographic scales in a seaweed fly. *Molecular Biology and Evolution*, 38, 3953-3971. DOI: 10.1093/molbev/msab143
46. LEITWEIN M., **CAYUELA H.**, BERNATCHEZ L. (2021) Associative-overdominance and negative epistasis shape genome-wide ancestry landscape in supplemented fish populations. *Genes*, 2021, 12, 524. Invited paper for the Special Issue: "Evolutionary Dynamics of Wild Populations". DOI: 10.3390/genes12040524
45. **CAYUELA H.**, DORANT Y., MEROT C., LAPORTE M., NORMANDEAU E., GAGNON-HARVEY S., SIROIS, P., CLEMENT M., BERNATCHEZ L. (2021) Thermal adaptation rather than demographic history drives genetic structure inferred by copy number variants in a marine fish. *Molecular Ecology*, 30, 1624-1641. DOI: 10.1111/mec.15835
44. VALENZUELA-SANCHEZ A., WILBER M., CANESSA S., BACIGALUPE L., MUTHS E., CUNNINGHAM A. A., SCHMIDT B. R., OZGUL A., JOHNSON P., **CAYUELA H.** (2021) Why disease ecology needs life history theory: A host perspective. *Ecology Letters*, 24, 876-890. DOI: 10.1111/ele.13681
43. **CAYUELA H.**, PRUNIER J., LAPORTE M., GIPPET J., BOUALIT L., PREISS F., LAURENT A., FOLETTI F., JACOB G. (2021) Demography, genetic, and decline of a spatially structured population of lekking birds. *Oecologia*, 195, 117–129. DOI: 10.1007/s00442-020-04808-4
42. BOYER I., **CAYUELA H.**, BERTRAND R., ISSELIN-NONDEDEU F. (2021) Improving biological relevance of model projections in response to climate change by considering dispersal amongst lineages in an amphibian. *Journal of Biogeography*, 48, 561-576. DOI: 10.1111/jbi.14019

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41. **CAYUELA H.**, LEMAITRE J.-F., RUGIERO L., CAPULA M., LUISELLI L. (2020) Asynchrony of actuarial and reproductive senescence: a lesson from an indeterminate grower. *Biological Journal of the Linnean Society*, 131, 667–672. DOI: 10.1093/biolinnean/blaa127
40. DORANT Y., **CAYUELA H.**, WELLBAND K., LAPORTE M., ROUGEMONT Q., MEROT C., NORMANDEAU E., ROCHETTE R., BERNATCHEZ L. (2020) Copy number variants outperform SNPs to reveal genotype-temperature association in a marine species. *Molecular Ecology*, 29, 4765–4782. DOI: 10.1111/mec.15565
39. **CAYUELA H.\***, ROUGEMONT Q.\*, LAPORTE M., MEROT C., NORMANDEAU E., DORANT Y., TORRESEN O.K., HOFF S.N.K., JENTOFT S., SIROIS P., CASTONGUAY M., JANSEN T., PRAEBEL K., CLEMENT M., BERNATCHEZ L. (2020) Shared ancestral polymorphism and chromosomal rearrangements as potential drivers of local adaptation in a marine fish. *Molecular Ecology*, 29, 2379–2398. DOI: 10.1111/mec.15499
38. **CAYUELA H.**, BESNARD A., COTE J., LAPORTE M., BONNAIRE E., PICHENOT J., SHTICKZELLE N., BELLEC A., JOLY P., LENA J.P. (2020) Anthropogenic disturbance determines dispersal syndrome, demography, and gene flow in spatially structured amphibian populations. *Ecological Monographs*, 90, e01406. DOI: 10.1002/ecm.1406
37. **CAYUELA H.**, GRIFFITHS R., ZAKARIA N., ARNTZEN P., PRIOL P., LENA J.P., BESNARD A., JOLY P. (2020) Drivers of amphibian population dynamics and asynchrony at local and regional scales. *Journal of Animal Ecology*, 89, 1350–1364. DOI: 10.1111/1365-2656.13208
36. **CAYUELA H.**, LEMAITRE J.-F., BONNAIRE E., PICHENOT J., SCHMIDT B. (2020) Population position along the fast-slow life-history continuum predicts intraspecific variation in actuarial senescence. *Journal of Animal Ecology*, 89, 1069–1079. DOI: 10.1111/1365-2656.13172
35. **CAYUELA H.**, VALENZUELA-SANCHEZ A., TEULIER L., MARTINEZ-SOLANO I., LENA J.-P., MERILÄ J., MUTHS E., SHINE R., QUAY L., DENOËL M., CLOBERT J., SCHMIDT B.R. (2020) Determinants and consequences of dispersal in vertebrates with complex life cycles: a review in pond-breeding amphibians. *The Quarterly Review of Biology*, 95, 1–36. DOI: 10.1086/707862.
34. LEITWEIN M., **CAYUELA H.**, FERCHAUD A.-L., NORMANDEAU E., GAGNAIRE P.-A., BERNATCHEZ L. (2019) The role of recombination on genome-wide patterns of local ancestry exemplified by supplemented Brook Charr populations. *Molecular Ecology*, 28, 4755–4769. DOI: 10.1111/mec.15256
33. **CAYUELA H.**, OLGUN K., ANGELINI C., UZUM N., PEYRONEL O., MIAUD C., AVCI A., LEMAITRE J.-F., SCHMIDT B.R. (2019) Slow life-history strategies are associated with negligible actuarial senescence in western Palearctic salamanders. *Proceedings of the Royal Society B: Biological Sciences*, 286. DOI: 10.1098/rspb.2019.1498
32. **CAYUELA H.**, BOUALIT L., LAPORTE M., PRUNIER J., PREISS F., LAURENT A., FOLETTI F., CLOBERT J., JACOB G. (2019) Kin-dependent dispersal influences relatedness and genetic structuring in a lek system. *Oecologia*, 191, 97–112. DOI: 10.1007/s00442-019-04484-z
31. **CAYUELA H.**, AKANI G.C., HEMA E.M., ENIANG E.A., AMADI N., AJONG S.N., DENDI D., PETROZZI F., LUISELLI L. (2019) Life history and age-dependent mortality processes in tropical reptiles. *Biological Journal of the Linnean Society*, 128, 251–262. DOI: 10.1093/biolinnean/blz103
30. **CAYUELA H.**, BONNAIRE E., ASTRUC G., BESNARD A. (2019) Transport infrastructures severely impact amphibian dispersal regardless of life stage. *Scientific Reports*, 9, 8214. DOI: 10.1038/s41598-019-44706-1
29. **CAYUELA H.**, GILLET L., LAUDELOUT A., BESNARD A., BONNAIRE E., LEVIONNOIS P., MUTHS E., DUFRENE M., KINET T. (2019) Survival cost to relocation does not reduce population self-sustainability in an amphibian. *Ecological Applications*, 29, e01909. DOI: 10.1002/eap.1909
28. **CAYUELA H.**, CRUICKSHANK S. S., BRANDT H., OZGÜL A., SCHMIDT B.R. (2019) Habitat-driven life history variation in an amphibian metapopulation. *Oikos*, 128, 1265–1276. DOI: 10.1111/oik.06286
27. VALENZUELA-SANCHEZ A., **CAYUELA H.**, SCHMIDT B.R., CUNNINGHAM A. A., SOTO-AZAT C. (2019) Slow natal dispersal across a homogeneous landscape suggests the use of mixed movement behaviours in the Darwin's frog. *Animal Behaviour*, 150, 77–86. DOI: 10.1016/j.anbehav.2019.01.026
26. BOUALIT L., PICHENOT J., BESNARD B., JOLY P., HELDER R., **CAYUELA H.** (2019) Environmentally mediated breeding success predicts dispersal decisions in an early successional amphibian. *Animal Behaviour*, 149, 107–120. DOI: 10.1016/j.anbehav.2019.01.008
25. **CAYUELA H.**, SCHMIDT B.R., WEINBACH A., BESNARD A., JOLY P. (2019) Multiple density-dependent processes shape the dynamics of a spatially structured amphibian population. *Journal of Animal Ecology*, 88, 164–177. DOI: 10.1111/1365-2656.12906

**PUBLISHED  
ARTICLES**  
(continued)

24. **CAYUELA H.**, ROUGEMONT Q., PRUNIER J., MOORE J.S., CLOBERT J., BESNARD A., BERNATCHEZ L. (2018) Demographic and genetic approaches to study dispersal in wild animal populations: a methodological review. *Molecular Ecology*, 27, 3976-4010. DOI: 10.1111/mec.14848
23. **CAYUELA H.**, GROLET O., JOLY P. (2018) Context-dependent dispersal, public information and heterospecific attraction in newts. *Oecologia*, 188, 1069–1080. DOI: 10.1007/s00442-018-4267-3
22. **CAYUELA H.**, BESNARD A., QUAY L., HELDER R., LENA J.P., JOLY P., PICHENOT J. (2018) Demographic response to patch destruction in a spatially structured amphibian population. *Journal of Applied Ecology*, 55, 2204-2215. DOI: 10.1111/1365-2664.13198
21. DENOËL M., DALLEUR S., LANGRAND E., BESNARD A., **CAYUELA H.** (2018) Dispersal and alternative breeding site fidelity strategies in an amphibian. *Ecography*, 41, 1-13. DOI: 10.1111/ecog.03296
20. **CAYUELA H.**, PRADEL R., JOLY P., BONNAIRE E., BESNARD A. (2018) Estimating dispersal in spatiotemporally variable environments using multievent capture-recapture modeling. *Ecology*, 99, 1150-1163. DOI: 10.1002/ecy.219
19. WEINBACH A., **CAYUELA H.**, GROLET O., BESNARD A., JOLY P. (2018) Resilience to climate variation in a spatially structured amphibian population. *Scientific Reports*, 8, 14607. DOI: 10.1038/s41598-018-33111-9
18. **CAYUELA H.**, LENA J.P., LENGAGNE T., KAUFMANN B., MONDY N., KONECNY L., DUMET A., VIENNEY A., JOLY P. (2017) Relatedness levels predict male mating success in a pond-breeding amphibian. *Animal Behaviour*, 130:251-261, DOI: 10.1016/j.anbehav.2017.05.028
17. TOURNIER E., BESNARD A., TOURNIER V., **CAYUELA H.** (2017) Manipulating waterbody hydroperiod affects movement behavior and occupancy dynamics in an amphibian. *Freshwater Biology*, 62:1768-1782. DOI: 10.1111/fwb.12988
16. **CAYUELA H.**, JOLY P., SCHMIDT B.R., PICHENOT J., BONNAIRE E., PRIOL P., PEYRONEL O., LAVILLE M., BESNARD A. (2017) Life history tactics shape amphibians' demographic responses to the North Atlantic Oscillation. *Global Change Biology*, 23, 4620-4638. DOI: 10.1111/gcb.13672
15. **CAYUELA H.**, PRADEL R., JOLY P., BESNARD A. (2017) Analysing movement behavior and dynamic space-use strategies among habitats using multievent capture-recapture modeling. *Methods in Ecology and Evolution*, 8:1124-1132. DOI: 10.1111/2041-210X.12717
14. **CAYUELA H.**, LENGAGNE T., JOLY P., LENA J.P. (2017) How females trade-off the uncertainty of breeding resource suitability with male quality during mate choice in an anuran? *Animal Behaviour*, 123, 179-185. DOI: 10.1016/j.anbehav.2016.11.002
13. **CAYUELA H.**, BOUALIT L., ARSOVSKI D., BONNAIRE E., PICHENOT J., BELLEC A., MIAUD C., LENA J.P., JOLY P., BESNARD A. (2016) Does habitat unpredictability promote the evolution of a colonizer syndrome in amphibian metapopulations?. *Ecology*, 97, 2658-2670. DOI: 10.1002/ecy.1489
12. **CAYUELA H.**, LENGAGNE T., KAUFMANN B., JOLY P., LENA J.P. (2016) Larval competition risk shapes male-male competition and female mate choice in an anuran. *Behavioral Ecology*, arw100. DOI: 10.1093/beheco/arw100
11. **CAYUELA H.**, ARSOVSKI D., THIRION J.M., BONNAIRE E., PICHENOT J., BOITAUD S., MIAUD C., JOLY P., BESNARD A. (2016) Demographic responses to weather fluctuation are context-dependent in a long-lived amphibian. *Global Change Biology*, 22, 2076-2087. DOI: 10.1111/gcb.13290
10. **CAYUELA H.**, ARSOVSKI D., THIRION J.M., BONNAIRE E., PICHENOT J., BOITAUD S., BRISON A. L., MIAUD C., JOLY P., BESNARD A. (2016) Contrasting patterns of environmental fluctuation promote divergent life histories among populations of a long-lived amphibian. *Ecology*, 97, 980-991. DOI: 10.1890/15-0693.1
9. **CAYUELA H.**, ARSOVSKI D., BONNAIRE E., DUGUET R., JOLY P., BESNARD A. (2016) Severe droughts impact survival, fecundity and population persistence in an endangered amphibian. *Ecosphere*, 7, e01246. DOI:10.1002/ecs2.1246
8. **CAYUELA H.**, ARSOVSKI D., BOITAUD S., BONNAIRE E., BOUALIT L., MIAUD C., JOLY P., BESNARD A. (2015) Slow life history and rapid extreme flood: demographic mechanisms and their consequences for population viability in an endangered amphibian. *Freshwater Biology*, 60, 2349-2361. DOI: 10.1111/fwb.12661
7. **CAYUELA H.**, QUAY L., MIAUD C., DUMET A., LENA J.P., RIVIERE V. (2015) Intensive vehicle traffic impacts morphology and endocrine stress response in an endangered amphibian. *Oryx*, 2015, 1-7. DOI: 10.1017/S0030605315000812

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6. **CAYUELA H.**, LAMBREY J., VACHER J.P., MIAUD C. (2015) Highlighting the impacts of land-use changes on a threatened amphibian in a human-dominated landscape. *Population Ecology*, 57, 433–443. DOI: 10.1007/s10144-015-0483-4
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