

Josefin Stiller  
Assistant Professor  
Ecology and Evolution



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## Qualifications

Marine Biology, PhD, Scripps Institution of Oceanography  
1 Sep 2012 → 4 Aug 2017

Organismic Biology and Evolution, M.Sc., Humboldt Universität zu Berlin  
2009 → 2012

Biology, B.Sc., Freie Universität Berlin  
2006 → 2009

## Employment

**Assistant Professor**

Ecology and Evolution

København Ø, Denmark

31 Aug 2017 → nu

## Research outputs

### **A region of suppressed recombination misleads neoavian phylogenomics**

Mirarab, S., Rivas-González, I., Feng, S., Stiller, Josefin, Fang, Q., Mai, U., Hickey, G., Chen, G., Brajuka, N., Fedrigo, O., Formenti, G., Wolf, J. B. W., Howe, K., Antunes, A., Schierup, M. H., Paten, B., Jarvis, E. D., KU, thw266 & Braun, E. L., 1 Apr 2024, In: Proceedings of the National Academy of Sciences. 121, 15, 10 p., e2319506121.

### **Complexity of avian evolution revealed by family-level genomes**

Stiller, J., Feng, S., Chowdhury, A-A., Rivas-González, I., Duchêne, D. A., Fang, Q., Deng, Y., Kozlov, A., Stamatakis, A., Claramunt, S., Nguyen, J. M. T., Ho, S. Y. W., Faircloth, B. C., Haag, J., Houde, P., Cracraft, J., Balaban, M., Mai, U., Chen, G., Gao, R. & 32 others, Zhou, C., Xie, Y., Huang, Z., Cao, Z., Yan, Z., Ogilvie, H. A., Nakhleh, L., Lindow, Bent Erik Kramer, Morel, B., Fjeldså, Jon, Hosner, Peter Andrew, da Fonseca, R. R., Petersen, Bent, Tobias, J. A., Székely, T., Kennedy, J. D., Reeve, A. H., Liker, A., Stervander, M., Antunes, A., Tietze, D. T., Bertelsen, Mads, Lei, F., Rahbek, Carsten, Graves, G. R., Schierup, M. H., Warnow, T., Braun, E. L., Gilbert, M Thomas P, Jarvis, E. D., Mirarab, S. & KU, thw266, 1 Apr 2024, In: Nature.

### **ClockstaRX: Testing molecular clock hypotheses with genomic data**

Duchene, David, Duchêne, S., Stiller, Josefin, Heller, Rasmus & Ho, S. Y. W., 1 Mar 2024, In: Genome Biology and Evolution. p. evae064

### ***Xyloplax princealberti* (Asteroidea, Echinodermata): A New Species That Is Not Always Associated with Wood Falls**

Payne, C. Y., Tilic, E., Boschen-Rose, R. E., Gannon, A., Stiller, Josefin, Hiley, A. S., Grupe, B. M., Mah, C. L. & Rouse, G. W., 2023, In: Diversity. 15, 12, 21 p., 1212.

### **ClockstaRX: testing molecular clock hypotheses with genomic data**

Duchene, David, Duchêne, S., Stiller, Josefin, Heller, Rasmus & Ho, S. Y. W., 2023, bioRxiv, 15 p.

### **Confusion will be my epitaph: genome-scale discordance stifles phylogenetic resolution of Holothuroidea**

Koch, N. M., Tilic, E., Miller, A. K., Stiller, Josefin & Rouse, G. W., 2023, In: Proceedings of the Royal Society B: Biological Sciences. 290, 2002, 11 p., 20230988.

### **Evolution of the germline mutation rate across vertebrates**

Bergeron, Lucie Adrienne, Besenbacher, S., Zheng, J., Li, P., Bertelsen, Mads Frost, Quintard, B., Hoffman, J. I., Li, Z., Leger, J. S., Shao, C., Stiller, Josefin, Gilbert, M Thomas P, Schierup, M. H. & KU, thw266, 2023, In: Nature. 615, p. 285-291

### **Molecular exploration of fossil eggshell uncovers hidden lineage of giant extinct bird**

Grealy, A., Miller, G. H., Phillips, M. J., Clarke, S. J., Fogel, M., Patalwala, D., Rigby, P., Hubbard, A., Demarchi, B., Collins, Matthew James, Mackie, Meaghan, Sakalauskaite, J., Stiller, Josefin, Clarke, J. A., Legendre, L. J., Douglass, K., Hansford, J., Haile, J. & Bunce, M., 2023, In: Nature Communications. 14, 14 p., 914.

### **Range-wide population genomics of common seadragons shows secondary contact over a former barrier and insights on illegal capture**

Stiller, Josefin, Wilson, N. G. & Rouse, G., 2023, In: BMC Biology. 21, 17 p., 129.

### **The European Reference Genome Atlas: piloting a decentralised approach to equitable biodiversity genomics**

Mc Cartney, A. M., Formenti, G., Mouton, A., Panis, D. D., Marins, L. S., Leitão, H. G., Diedericks, G., Kirangwa, J., Morselli, M., Salces-Ortiz, J., Escudero, N., Iannucci, A., Natali, C., Svardal, H., Fernández, R., Pooter, T. D., Joris, G., Strazisar, M., Wood, J., Herron, K. E. & 30 others, Seehausen, O., Watts, P. C., Shaw, F., Davey, R. P., Minotto, A., Fernández, J. M., Böhne, A., Alegria, C., Alioto, T., Alves, P. C., Amorim, I. R., Aury, J., Backstrom, N., Baldrian, P., Baltrunaite, L., Barta, E., Bed'Hom, B., Belser, C., Bergsten, J., Bertrand, L., Bilandžija, H., Binzer-Panchal, M., Bista, I., Blaxter, M., Borges, P. A., Dias, G. B., Bosse, M., Garg, S., Madsen, O. & Stiller, Josefin, 2023, 51 p. (bioRxiv).

### **Whole-genomes from the extinct Xerces Blue butterfly can help identify declining insect species**

de-Dios, T., Fontserè, Claudia, Renom, P., Stiller, Josefin, Llovera, L., Uliano-Silva, M., Sánchez-Gracia, A., Wright, C., Lizano, E., Caballero, B., Navarro, A., Civit, S., Robbins, R. K., Blaxter, M., Marquès-Bonet, T., Vila, R. & Lalueza-Fox, C., 2023, (Accepted/In press) In: eLife. 19 p.

### **Ancient proteins resolve controversy over the identity of *Genyornis* eggshell**

Demarchi, B., Stiller, Josefin, Grealy, A., Mackie, Meaghan, Deng, Y., Gilbert, M Thomas P, Clarke, J., Legendre, L. J., Boano, R., Sichert-Pontén, Thomas, Magee, J., KU, thw266, Bunce, M., Collins, Matthew James & Miller, G., 2022, In: PNAS. 119, 43, 9 p., e2109326119.

### **Confusion will be my epitaph: Genome-scale discordance stifles phylogenetic resolution of Holothuroidea**

Koch, N. M., Tilic, E., Miller, A. K., Stiller, Josefin & Rouse, G. W., 2022, bioRxiv, 42 p.

### **Epistatic Effects Between Amino Acid Insertions and Substitutions Mediate Toxin resistance of Vertebrate Na<sup>+</sup>, K<sup>+</sup>-ATPases**

Mohammadi, S., Özdemir, H. İ., Ozbek, P., Sumbul, F., Stiller, Josefin, Deng, Y., Crawford, A. J., Rowland, H., Storz, J., Andolfatto, P. & Dobler, S., 2022, In: Molecular Biology and Evolution. 39, 12, 13 p., msac258.

### **Phylogenomic analyses of mud dragons (Kinorhyncha)**

Herranz, Maria, Stiller, Josefin, Worsaae, Katrine & Sørensen, Martin Vinther, 2022, In: Molecular Phylogenetics and Evolution. 168, 10 p., 107375.

### **Phylogenomic analysis of Syngnathidae reveals novel relationships, origins of endemic diversity and variable diversification rates**

Stiller, Josefin, Short, G., Hamilton, H., Saarman, N., Longo, S., Wainwright, P., Rouse, G. W. & Simison, W. B., 2022, In: BMC Biology. 20, 1, 75.

### **Phylogenomics resolves ambiguous relationships within Aciculata (Errantia, Annelida)**

Tilic, E., Stiller, Josefin, Campos, E., Pleijel, F. & Rouse, G. W., 2022, In: Molecular Phylogenetics and Evolution. 166, 10 p., 107339.

### **Multiple origins of a frameshift insertion in a mitochondrial gene in birds and turtles**

Andreu-Sánchez, S., Chen, W., Stiller, Josefin & KU, thw266, 2021, In: GigaScience. 10, 1, 11 p., g1aa161.

### **Using UCEs to track the influence of sea-level change on leafy seadragon populations**

Stiller, Josefin, Rodrigues da Fonseca, Rute Andreia, Alfaro, M. E., Faircloth, B. C., Wilson, N. G. & Rouse, G. W., 2021, In: *Molecular Ecology*. p. 1364-1380

### **An Indo-Pacific Humpback Dolphin Genome Reveals Insights into Chromosome Evolution and the Demography of a Vulnerable Species**

Zhang, P., Zhao, Y., Li, C., Lin, M., Dong, L., Zhang, R., Liu, M., Li, K., Zhang, H., Liu, X., Zhang, Y., Yuan, Y., Liu, H., Seim, I., Sun, S., Du, X., Chang, Y., Li, F., Liu, S., Lee, S. M. Y. & 13 others, Wang, K., Wang, D., Wang, X., McGowen, M. R., Jefferson, T. A., Olsen, Morten Tange, Stiller, Josefin, KU, thw266, Xu, X., Yang, H., Fan, G., Liu, X. & Li, S., 2020, In: *iScience*. 23, 10, 52 p., 101640.

### **Dense sampling of bird diversity increases power of comparative genomics**

Feng, S., Stiller, J., Deng, Y., Armstrong, J., Fang, Q., Hart Reeve, A., Xie, D., Chen, G., Guo, C., Faircloth, B. C., Petersen, B., Wang, Z., Zhou, Q., Diekhans, M., Chen, W., Andreu-Sánchez, S., Margaryan, A., Howard, J. T., Parent, C., Pacheco, G. & 130 others, Sinding, Mikkel Holger Strander, Puetz, Lara Christine, Cavill, Emily Louisa, Ribeiro, Â. M., Eckhart, L., Fjeldsâ, Jon, Hosner, Peter Andrew, Brumfield, R. T., Christidis, L., Bertelsen, Mads Frost, Sicheritz-Pontén, Thomas, Tietze, D. T., Robertson, B. C., Song, G., Borgia, G., Claramunt, S., Lovette, I. J., Cowen, S. J., Njoroge, P., Dumbacher, J. P., Ryder, O. A., Fuchs, J., Bunce, M., Burt, D. W., Cracraft, J., Meng, G., Hackett, S. J., Ryan, P. G., Jønsson, Knud Andreas, Jamieson, I. G., Rodrigues da Fonseca, Rute Andreia, Braun, E. L., Houde, P., Mirarab, S., Suh, A., Hansson, B., Ponnikas, S., Sigeman, H., Stervander, M., Frandsen, P. B., van der Zwan, H., van der Sluis, R., Visser, C., Balakrishnan, C. N., Clark, A. G., Fitzpatrick, J. W., Bowman, R., Chen, N., Cloutier, A., Sackton, T. B., Edwards, S. V., Foote, D. J., Shakya, S. B., Sheldon, F. H., Vignal, A., Soares, A. E. R., Shapiro, B., González-Solís, J., Ferrer-Obiol, J., Rozas, J., Riutort, M., Tigano, A., Friesen, V., Dalén, L., Urrutia, A. O., Székely, T., Liu, Y., Campana, M. G., Corvelo, A., Fleischer, R. C., Rutherford, K. M., Gemmell, N. J., Dussex, N., Mouritsen, H., Thiele, N., Delmore, K., Liedvogel, M., Franke, A., Hoepfner, M. P., Krone, O., Fudickar, A. M., Milá, B., Ketterson, E. D., Fidler, A. E., Friis, G., Parody-Merino, Á. M., Battley, P. F., Cox, M. P., Lima, N. C. B., Prosdocimi, F., Parchman, T. L., Schlinger, B. A., Loiselle, B. A., Blake, J. G., Lim, H. C., Day, L. B., Fuxjager, M. J., Baldwin, M. W., Braun, M. J., Wirthlin, M., Dikow, R. B., Ryder, T. B., Camenisch, G., Keller, L. F., Dacosta, J. M., Hauber, M. E., Louder, M. I. M., Witt, C. C., McGuire, J. A., Mudge, J., Megna, L. C., Carling, M. D., Wang, B., Taylor, S. A., Del-Rio, G., Aleixo, A., Vasconcelos, A. T. R., Mello, C. V., Weir, J. T., Haussler, D., Li, Q., Yang, H., Wang, J., Lei, F., Rahbek, Carsten, Gilbert, M Thomas P, Graves, G. R., Jarvis, E. D., Paten, B. & KU, thw266, 2020, In: *Nature*. 587, 7833, p. 252-257

### **Evolutionary History, Genomic Adaptation to Toxic Diet, and Extinction of the Carolina Parakeet**

Gelabert, P., Sandoval-Velasco, M., Serres, A., de Manuel, M., Renom, P., Margaryan, A., Stiller, J., de-Dios, T., Fang, Q., Feng, S., Mañosa, S., Pacheco, G., Ferrando-Bernal, M., Shi, G., Hao, F., Chen, X., Petersen, B., Olsen, R-A., Navarro, A., Deng, Y. & 6 others, Dalén, L., Marquès-Bonet, T., KU, thw266, Antunes, A., Gilbert, M Thomas P & Lalueza-Fox, C., 2020, In: *Current Biology*. 30, 1, p. 108-114, e1-e5

### **More is needed — Thousands of loci are required to elucidate the relationships of the ‘flowers of the sea’ (Sabellida, Annelida)**

Tilic, E., Sayyari, E., Stiller, Josefin, Mirarab, S. & Rouse, G. W., 2020, In: *Molecular Phylogenetics and Evolution*. 9 p., 106892.

### **Progressive Cactus is a multiple-genome aligner for the thousand-genome era**

Armstrong, J., Hickey, G., Diekhans, M., Fiddes, I. T., Novak, A. M., Deran, A., Fang, Q., Xie, D., Feng, S., Stiller, J., Genreux, D., Johnson, J., Marinescu, V. D., Alföldi, J., Harris, R. S., Lindblad-Toh, K., Haussler, D., Karlsson, E., Jarvis, E. D., Zhang, G. & 1 others, Paten, B., 2020, In: *Nature*. 587, 7833, p. 246-251

### **Spaghetti to a Tree: A Robust Phylogeny for Terebelliformia (Annelida) Based on Transcriptomes, Molecular and Morphological Data**

Stiller, Josefin, Tilic, E., Rousset, V., Pleijel, F. & Rouse, G. W., 2020, In: *Biology*. 9, 4, 28 p., 73.

### **Comparative Phylogenomics, a Stepping Stone for Bird Biodiversity Studies**

Stiller, Josefin & KU, thw266, 2019, In: *Diversity*. 11, 7, 19 p., 115.

### **Between Hot Rocks and Dry Places: The Status of the Dixie Valley Toad**

Forrest, M. J., Stiller, Josefin, King, T. L. & Rouse, G. W., Jul 2017, In: *Western North American Naturalist*. 77, 2, p. 162-175

**Barriers to gene flow in common seadragons (Syngnathidae: *Phyllopteryx taeniolatus*)**

Wilson, N. G., Stiller, Josefin & Rouse, G. W., 2017, In: Conservation Genetics. 18, 1, p. 53-66

**Do ampharetids take sedimented steps between vents and seeps? Phylogeny and habitat-use of Ampharetidae (Annelida, Terebelliformia) in chemosynthesis-based ecosystems**

Eilertsen, M. H., Kongsrud, J. A., Alvestad, T., Stiller, Josefin, Rouse, G. W. & Rapp, H. T., 2017, In: BMC Evolutionary Biology. 17, 15 p., 222.

**First live records of the ruby seadragon (*Phyllopteryx dewysea*, Syngnathidae)**

Rouse, G. W., Stiller, Josefin & Wilson, N. G., 2017, In: Marine Biodiversity Records. 10, 4 p., 2.

**The Leafy Seadragon, *Phycodurus eques*, a Flagship Species with Low But Structured Genetic Variability**

Stiller, Josefin, Wilson, N. G., Donnellan, S. & Rouse, G. W., 2017, In: Journal of Heredity. 108, 2, p. 152-162

**A spectacular new species of seadragon (Syngnathidae)**

Stiller, Josefin, Wilson, N. G. & Rouse, G., 2015, In: Royal Society Open Science. 2, 2, 12 p., 140458.

**Phylogeny, biogeography and systematics of hydrothermal vent and methane seep *Amphisamytha* (Ampharetidae, Annelida), with descriptions of three new species**

Stiller, Josefin, Rousset, V., Pleijel, F., Chevaldonne, P., Vrijenhoek, R. C. & Rouse, G. W., 2013, In: Systematics and Biodiversity. 11, 1, p. 35-65

**Can insect egg deposition 'warn' a plant of future feeding damage by herbivorous larvae?**

Beyaert, I., Köpke, D., Stiller, Josefin, Hammerbacher, A., Yoneya, K., Schmidt, A., Gershenzon, J. & Hilker, M., 2012, In: Proceedings of the Royal Society B: Biological Sciences. 279, 1726, p. 101-108