

Martin Bulla

DATE OF BIRTH
31st August, 1981

Tel: +49 152 297 47695
Skype: martin.bulla

CITIZENSHIP
Czech

bulla.mar@gmail.com
<https://orcid.org/0000-0002-1328-1927>



EDUCATION

2019 – present	postdoc	Max Planck Institute for Ornithology - Seewiesen	Germany
2017 – present	postdoc	Czech University of Life Sciences Prague	Czech Rep.
2016 – 2019	postdoc	NIOZ Royal Netherlands Institute for Sea Research	The Netherlands
2010 – 2017	PhD	Max Planck Institute for Ornithology - Seewiesen IMPRS for Organismal Biology	Germany
2008 – 2010	MSc	Uni. of Natural Resources & Applied Life Sciences, Vienna	Austria
2006 – 2010		and Czech University of Life Sciences Prague in Wildlife Ecology and Wildlife Management	Czech Rep.
2004 – 2006	Mgr	Charles University in Prague in Civil Sector	Czech Rep.
2000 – 2004	BSc	State University of New York, Prague	Czech Rep.
2002		semester at American University-Central Asia in Business Administration	Kyrgyzstan
1995 – 2000	Grad.	Gymnasium Arabska, Prague	Czech Rep.
1998 – 1999	Grad.	Kendall Senior High School	U.S.

PUBLICATIONS – peer reviewed

(number of citations)

- (00) Bulla M +59 authors. 2019. **No evidence for disruption of global patterns of nest predation in shorebirds.** *bioRxiv*: <https://doi.org/10.1101/601047>
- (00) Plaschke S, Bulla M*, Cruz-López M, Salvador Gómez del Ángel S, Küpper S*. 2019. **Nest initiation and flooding in response to season and semi-lunar spring tides in a ground-nesting shorebird.** *Front Zool*: <https://doi.org/10.1186/s12983-019-0313-1>
- (03) Bulla M, Valuc M, Rutten AL, Kempnaers B. 2019. **Temporary Mate Removal During Incubation Leads to Variable Compensation in a Biparental Shorebird.** *Front Ecol Evol*: <https://doi.org/10.3389/fevo.2019.00093>
- (01) Sládeček M, Vozabulová E, Šálek M, Bulla M. 2019. **Diversity of incubation rhythms in a facultatively uniparental shorebird—the Northern Lapwing.** *Sci Rep*: <https://www.nature.com/articles/s41598-019-41223-z>
- (00) Wang D, Forstmeier W, Valcu M, Deingemanse NJ, Bulla M, Both C, Duckworth RA, Kiere LM, Karell P, Albrecht T, Kempnaers B. 2019. **Scrutinizing assortative mating in birds.** *Plos B*: <https://doi.org/10.1371/journal.pbio.3000156>
- (11) Dominoni D, Åkesson S, Klaassen R, Spoelstra K, Bulla M. 2017. **Methods in field chronobiology.** *Phil Trans R Soc B*: <https://doi.org/10.1098/rstb.2016.0247>
- (10) Bulla M, Oudman T, Bijleveld AI, Piersma T, Kyriacou CP. 2017. **Marine biorhythms: bridging chronobiology and ecology.** *Phil Trans R Soc B*: <https://doi.org/10.1098/rstb.2016.0253>
- (07) Bulla M, et al.. 2017. **Flexible parental care: Uniparental incubation in biparentally incubating shorebirds.** *Sci Rep*: <https://www.nature.com/articles/s41598-017-13005-y>
- (35) Bulla M +75 authors. 2016. **Unexpected diversity in socially synchronized rhythms of shorebirds.** *Nature*. 540: 109-113: <http://www.nature.com/nature/journal/v540/n7631/full/nature20563.html>
- (10) Bulla M, Stich E, Valcu M, Kempnaers B. 2015. **Off-nest behaviour in biparentally incubating shorebird varies with sex, time of day and weather.** *Ibis*. 157 (3): 575-589: <https://doi.org/10.1111/ibi.12276>

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- (16) Bulla M, Cresswell W, Valuc M, Rutten AL, Kempnaers B. 2014. **Biparental incubation-scheduling: no evidence for energetic constraints.** *Behav Ecol.* 26 (1): 30-37: <https://doi.org/10.1093/beheco/aru156>
- (28) Bulla M, Valuc M, Rutten AL, Kempnaers B. 2013. **Biparental incubation patterns in a high-Arctic breeding shorebird: how do pairs divide their duties?** *Behav Ecol.* 129: 26-35: <https://doi.org/10.1093/beheco/art098>
- (02) Langlois LA, Murböck K, Bulla M, Kempnaers B. 2012. **Unusual incubation: Long-billed Dowitcher incubates mammalian bones.** *Ardea.* 100: 206-210: <https://doi.org/10.5253/078.100.0213>
- (22) Bulla M, Šálek M, Gosler AG. 2012. **Eggshell spotting does not predict male incubation but marks thinner areas of a shorebird's shells.** *Auk.* 129: 26-35: <https://doi.org/10.1525/auk.2012.11090>
- (26) Bulla M & Starr-Glass D. 2006. **Marketing and non-profit organizations in the Czech Republic.** *European Journal of Marketing.* 40: 130-144: www.emeraldinsight.com/10.1108/03090560610637356

PUBICATIONS – other

- Bulla M 2012. **Skvrnění čejčích vajec: signál o kvalitě samičky nebo tloušťce skořápky?** *Ptačí svět.* 2: 16.
- Dobes, V. & Bulla, M. 2006. **EKODESIGN. Environmentální ASPEKTY podnikání.** 1: 5-7.
- Bulla, M. & Viltova, B. 2006. **Interview: Christopher Day v České republice.** *ERA21: more on architecture!* 6(4): 8.

DATA & SCRIPTS

- Bulla M, et al. 2019. **Supporting Information for 'Supporting information for 'Nest initiation and flooding in response to season and semi-lunar spring tides in a ground-nesting shorebird'.** *Open Science Framework*, Available at <https://osf.io/k9n8v/>
- Bulla M, et al. 2019. **Supporting Information for comment on 'Global pattern of nest predation is disrupted by climate change in shorebirds'.** *Open Science Framework*, Available at <https://osf.io/x8fs6/>
- Bulla M, et al. 2019. **Supporting Information for 'Temporary mate removal during incubation leads to variable compensation in a biparental shorebird'.** *Open Science Framework*, Available at <https://osf.io/mx82g>
- Sládeček M, Bulla M. 2018. **Supporting Information for 'Diverse incubation rhythms in a facultatively uniparental shorebird – the Northern Lapwing'.** *Open Science Framework*, Available at <http://doi.org/10.17605/osf.io/y4vpe>
- Bulla M, 2017. **Supporting Information for 'Flexible parental care: Uniparental incubation in biparentally incubating shorebirds'.** *Open Science Framework*, Available at <https://osf.io/3rsny>
- Bulla M, Oudman T, Bijleveld A. 2017. **Supporting Information for 'Marine biorhythms: bridging chronobiology and ecology'.** *Open Science Framework*, Available at <https://osf.io/xby9t/>
- Bulla M, et al. 2016. **Supporting Information for 'Unexpected diversity in socially synchronized rhythms of shorebirds'.** *Open Science Framework*, Available at <http://doi.org/10.17605/OSF.IO/WXUFM>
- Bulla M, Cresswell W, Rutten AL, Valcu M, Kempnaers B. 2014. **Data from: Biparental incubation-scheduling: no experimental evidence for major energetic constraints** [version 2014/05/23]. *figshare.com*. Available at [http://figshare.com/articles/Data from Biparental incubation scheduling no experimental evidence for major energetic constraints /1035052](http://figshare.com/articles/Data_from_Biparental_incubation_scheduling_no_experimental_evidence_for_major_energetic_constraints/1035052)
- Bulla M, Cresswell W, Rutten AL, Valcu M, Kempnaers B. 2014. **R-script from: Biparental incubation-scheduling: no experimental evidence for major energetic constraints** [version 2014/05/23]. *figshare.com*. Available at [http://figshare.com/articles/R_script from Biparental incubation scheduling no experimental evidence for major energetic constraints/1035048](http://figshare.com/articles/R_script_from_Biparental_incubation_scheduling_no_experimental_evidence_for_major_energetic_constraints/1035048).
- Bulla M, Stich E, Valcu M, Kempnaers B. 2014. **Data from: Off-duty Behaviour in a Biparentally Incubating, High-Arctic Breeding Shorebird: Effects of Sex, Time, and Weather** [version 2014/07/04]. *figshare.com*. Available at [http://figshare.com/articles/Data from Off duty Behavior in a Biparentally Incubating High Arctic Breeding Shorebird Effects of Sex Time and Weather/1093831](http://figshare.com/articles/Data_from_Off_duty_Behavior_in_a_Biparentally_Incubating_High_Arctic_Breeding_Shorebird_Effects_of_Sex_Time_and_Weather/1093831)
- Bulla M, Stich E, Valcu M, Kempnaers B. 2014. **R-script from: Off-duty Behaviour in a Biparentally Incubating, High-Arctic Breeding Shorebird: Effects of Sex, Time, and Weather** [version 2014/07/04]. *figshare.com*. Available at

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http://figshare.com/articles/R_script_from_Off_duty_Behavior_in_a_Biparentally_Incubating_High_Arctic_Breeding_Shorebird_Effects_of_Sex_Time_and_Weather/1093829

Bulla, M. 2014. **R-SCRIPT and EXAMPLE DATA to extract incubation from temperature measurements** figshare.com. Available at http://figshare.com/articles/R_SCRIPT_and_EXAMPLE_DATA_to_extract_incubation_from_temperature_measurements/1037545

Bulla, M., Valuc, M., Rutten, A. L., Kempenaers, B. 2013. **Data from: Biparental incubation patterns in a high-Arctic breeding shorebird: how do pairs divide their duties?** **Dryad Digital Repository**. Available at <http://datadryad.org/handle/10255/dryad.54132>

PRESENTATIONS

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- | | | |
|------|-----------------|---|
| 2017 | invited speaker | Unexpected diversity in socially synchronized rhythms of shorebirds
International Wader Study Group Conference, Czech Rep. |
| 2016 | invited speaker | Unexpected diversity in socially synchronized rhythms of shorebirds
European Biological Rhythms Society Congress, Holland |
| 2015 | talk | Incubation pattern of biparental shorebirds
International Wader Study Group Conference, Iceland |
| 2015 | posters | Incubation pattern of biparental shorebirds: a comparative study
Social Jet Lag
Wild clocks: ecology meets chronobiology , Holland |
| 2014 | talk | Incubation pattern of biparental shorebirds: a comparative study
International Wader Study Group Conference, Estonia |
| 2013 | talk | Biparental incubation-scheduling: no evidence for energetic constraint
Evaluation Symposium of IMPRS for Organismal Biology, Germany
International Wader Study Group Conference, Germany |
| 2012 | invited speaker | Biparental incubation patterns
Czech University of Life Sciences Prague, Czech Republic |
| 2012 | talk | Biparental incubation: the division of duties
105th Annual Meeting of the German Zoological Society, Germany
International Wader Study Group Conference, France |
| 2012 | poster | Unequal division of incubation in a High Arctic Shorebird
14th International Behavioral Ecology Congress, Sweden |

TEACHING & SUPERVISION

- | | |
|----------------|---|
| 2014 - present | Supervision of PhD student Martin Sládeček , Czech University of Life Sciences Prague, Czech Republic |
| 2014 - present | Supervision of MSc/PhD student Eva Vozabulova , Czech University of Life Sciences Prague, Czech Republic |
| 2017 - 2018 | Supervision of MSc student Silvia Plaschke , University of Graz, Austria |
| 2012 - 2016 | Supervision of MSc student Hana Vitnerova , Charles University, Czech Republic |
| 2015 - 2016 | Supervision of BSc student Daniela Tritscher , Technische Universität München, Germany |
| 2012 - 2014 | Supervision of MSc student Sjoerd Hobma , University of Groningen, the Netherlands |
| 2011 - 2012 | Supervision of MSc student Elias Stich , University of Tübingen, Germany |
| 2009 | Bird Identification Course
University of Natural Resources and Applied Life Sciences, Vienna |

REVIEWER (see <https://publons.com/a/782980/>)

2016-7 **Peerage of Science**
2016 **Journal of Avian Biology**
2016 **Biology Letters**
2015 **The Auk**
2014 **Behavioral Ecology**
2014 **Naturwissenschaften**
2014 **Wader Study**

AWARDS/SCHOLARSHIPS

2018 **rector's price - Czech University of Life Science**
2017 **Czech University of Life Science grant**
2017 **PhD with Summa Cum Laude**
2016 **Marie Curie EU Grant**
2014 **IMPRS for Organismal Biology Student's Grant**
2010 **ERASMUS internship**, University of Groningen
2009 **Stipendium Verein der Freunde der Universität für Bodenkultur Wien**
International student excellence scholarship
2008 – 2009 **ERASMUS**, Universität für Bodenkultur Wien
2008 – 2009 **Academic Excellence Scholarship** Czech Uni. of Life Sciences Prague
2004 – 2006 **Academic Excellence Scholarship** Charles University in Prague
2002 **Higher Education Support Program Mobility Grant**
Open Society Institute - Zug Foundation, Budapest, Hungary
2001 – 2004 **Dean's Honours List** (top 5% of students) University of New York/Prague
2001 – 2003 **Academic Excellence Scholarship** University of New York/Prague
For the highest and the 2nd highest GPA,

COURSES/SEMINARS

2012 - 2015 **Various statistical, presentation, writing and visualisation workshops** IMPRS
2011 **Generalised Linear Modelling – M. Crawley** Imperial College London
2008 **Czech Bird Ringing License**
2007 **Nesting Bird Survey Techniques in National Park Wattenmeer**
2004 **Practice of Communicational Abilities for NGO Worker**
2003 **Accounting for NGOs**

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MEMBERSHIP & VOLUNTEERING

2011 – present	International Wader Study Group	International
2008 – present	Czech Ringing Association	Czech Rep.
2007 - present	Czech Society for Ornithology	Czech Rep.
2007	European Volunteer Service in Verein Jordsand, Management of natural reserves, bird monitoring, census, ringing	Germany
2004 – 2007	The Organization for Aid to Refugees Member of the Board of Directors	Czech Rep.
2004	Tereza, association for ecological education Volunteer of Fundraising Department	Czech Rep.
2004	NGO Alternative -V Dnipropetrovsk Volunteer at international project Ecological conservation work at Crimean mountains	Ukraine
2004	INEX - Association for Voluntary Activities, Leading international environmental project of voluntary service	Czech Rep.

WORK EXPERIENCE – science related

2010	Animal Ecology Research Group – Uni. of Groningen Field assistant in prof. Piersma's Ruff and Godwit Projects	Netherlands
2009	Uni. of Natural Resources and Applied Life Sciences, Vienna Field assistant in Alpine Biodiversity Project	Austria
2008	Czech Ornithological Society – Birdlife Partner Swift census	Czech Rep.
2005 – 2006	Project CzechKid - Charles University in Prague and British Council Member of a development and methodological group Multicultural education project http://www.czechkid.cz/	
2004 – 2005	Charles University in Prague – Civil Sector Department Translation of academic papers and projects Research of the umbrella org. within Czech nonprofit sector	Czech Rep.

WORK EXPERIENCE – other

2006 - 2007	Consensus Design Workshop with Arch. Christopher Day Invented, secured EU financing, organized	Czech Rep.
2005 – 2007	ENVIROS, s.r.o., Assistant to the Expert of Sustainable Production and Services Generated EU funds, organized seminars (e.g., EKODESIGN)	Czech Rep.
2005	Civil Society Development Foundation Translation of a Guide to EU Funds 11ed.	Czech Rep.
2004 – 2005	Tereza, association for ecological education Leader of Fundraising through volunteers	Czech Rep.
2003	Prague Business Partners Director's assistant	Czech Rep.

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LANGUAGES

Czech (native); **English** (fluent); **German** (fluent); **Slovak** (fluent); **Russian** (basic)

INTERESTS

Science, ornithology, ringing of birds
Singing, guitar, music
Drawing, photography, theatre

Trekking, climbing, learning about different cultures
Cycling, skiing, yoga, salsa
Reading, philosophy, languages

REFERENCES

Kempenaers, Bart, Prof. Dr.

Max Planck Institute for Ornithology - Seewiesen
Ludwig-Maximilians-Universität München

kempenae@orn.mpg.de

+49 8157 932 232

Šálek, Miroslav, Prof. Dr.

Czech University of Life Sciences Prague
Faculty of Environmental Sciences - Department of Ecology

salek@fzp.czu.cz

+420 224 383 782

Piersma, Theunis, Prof. Dr.

Royal Netherlands Institute for Sea Research
University of Groningen – Animal Ecology Research Group

Theunis.Piersma@nioz.nl

+31 222 369 485

Hackländer, Klaus, Prof. Dr.

University of Natural Resources and Applied Life Sciences, Vienna
Dep. of Integrative Biology and Biodiversity Research – Inst. of Wildlife Biology and Game Management

klaus.hacklaender@boku.ac.at

+431 476 544 451

Hille, Sabine, Dr.

University of Natural Resources and Applied Life Sciences, Vienna
Dep. of Integrative Biology and Biodiversity Research – Inst. of Wildlife Biology and Game Management

sabine.hille@boku.ac.at

+431 476 544 463

CARRIER BREAKS IN RESEARCH

Martin Bulla *(continued)*

2015 December – present	75-80% employment	Germany
2015 April – 2015 December	Paternity leave	Germany
2014 November – 2015 April	80% employment	Germany
2014 August	Paternity leave	Germany

MAJOR SCIENTIFIC ACHIEVEMENTS needs update

My ability to change careers, to excel in diverse fields, as well as to collect and analyse large and hard to acquire datasets is demonstrated by the list of academic achievements and publications. Here, five major scientific achievements are highlighted.

Large-scale comparative phylogenetic analyses of complex social behaviour

(02) Bulla M, et al. 2016. **Unexpected diversity in socially synchronized rhythms of shorebirds.** *Nature*. 540: 109-113.
Available at <http://www.nature.com/nature/journal/v540/n7631/full/nature20563.html>

All organisms have biorhythms, but in social species these have to be synchronized between individuals within a community. Here, we addressed the issue of how parents synchronize their biorhythms when both are caring for their offspring. Using data from 729 nests of 91 populations of 32 species of shorebirds in which parents synchronize their schedules to achieve continuous incubation of the eggs, we show that even under similar environmental conditions and despite day-long environmental cues, social synchronization can generate far more diverse behavioural rhythms than expected from studies of captive birds. Our data also revealed that the risk of predation, not starvation, might be a key determinant of biorhythmic diversity.

Martin Bulla *(continued)*

No evidence for energetically constrained incubation-scheduling – a lesson on open scientific practice

(08) Bulla M, Cresswell W, Valuc M, Rutten A L, Kempenaers B. in press. **Biparental incubation-scheduling: no evidence for energetic constraints.** *Behav Ecol*.

This work changed our understanding of biparental incubation. Whereas previous study on the same topic suggested that energetic demands of incubation constrain biparental incubation-scheduling, this experiment and subsequent re-analyses of the previous experiment prove that this is not the case. Thus, the study reveals that we still do not understand how biparentally incubating parents determine their share of parental care, which opens the field to previously unsought hypotheses (e.g., of social synchronization).

This study demonstrates Martin's (a) ability to develop sound experimental design (using prior knowledge, simulations and a priori power analyses), (b) perseverance in data collection, (c) advanced statistical skills, and (d) commitment to scientific ethics – i.e., publishing datasets and computer codes, and inviting authors of previously published experiment to become part of the current work (once we found that their statistical analyses is erroneous and hence results unreliable).

Thorough description of biparental incubation patterns

(13) Bulla M, Valuc M, Rutten A L, Kempenaers B. 2013. **Biparental incubation patterns in a high-Arctic breeding shorebird: how do pairs divide their duties?** *Behav Ecol*. 129: 26-35.

Using advanced monitoring systems, the study provides the first thorough investigation of biparental incubation over the whole incubation period and on a representative statistical sample. This study revealed variation in biparental incubation patterns, with possibly different consequences for sex-specific costs of care and provided a quantitative framework for future work on biparental care patterns. Essentially, the study demonstrated that focusing only on one aspect of care or on a short snapshot of care in time may bias our perception of costs of parental care and therefore may be insufficient for understanding parental investment and conflict.

This work demonstrates Martin's ability to (a) switch fields (from egg-coloration to parental conflict), (b) plan, manage and lead scientific expedition in extreme Arctic environment (c) to collect, analyse and visualise extensive datasets, as well as to (d) disseminate complex information.

Function of avian eggshell maculation

(14) Bulla M, Šálek M, Gosler A G. 2012. **Eggshell spotting does not predict male incubation but marks thinner areas of a shorebird's shells.** *Auk*. 129: 26-35.

This is the first ever study that investigated the function of protoporphyrin maculation on avian eggshell in non-passerine and ground-nesting species. The results revealed that (a) same as in passerines, shorebirds' eggshell maculation has likely a structural function, and suggest that (b) more than one function can drive the evolution of avian eggshell pigmentation.

This paper demonstrates Martin's ability to switch careers (from economics and social science to natural science), to non-invasively collect hard to acquire datasets, as well as to collaborate with experts in the respective field.

Exploration of marketing theory and practices in Czech non-profit organizations

(24) Bulla M & Starr-Glass D. 2006. **Marketing and non-profit organizations in the Czech Republic.** *European Journal of Marketing*. 40: 130-144. Available at www.emeraldinsight.com/10.1108/03090560610637356

Marketing of non-profit organizations was largely US phenomenon. This is the first paper to address the knowledge and use of marketing within non-profit sector in transformative economies – i.e., in freshly established post-communist democracies. Despite of its limited sample size, the study suggested that leaders of Czech non-profit organizations had limited understanding of a marketing theory or of the context in which exchange transactions occurred.

The study is the first demonstration of Martin's ability to design and evaluate scientific study, as well as to publish scientific results.