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SCHWERPUNKT

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### ARBEITSVORHABEN

## Die Lebensgeschichte als Grundriss für die Evolutionsbiologie sozialer Insekten

Recent work from my group and collaborators suggests that selection on major life history regulators may have been central to evolution of insect social behavior. By defining a "ground plan" of co-regulated traits, these systems can contribute to predictable variation in social phenotypes and serve as substrates for selective breeding. I would like to mature these hypotheses into a heuristic framework that describes my ideas on the mechanisms of the "ground plan". This framework will allow the focus group to expand its explanatory models to include specific candidate regulators. I believe this extended insight can change our understanding of how social behavior can emerge.

### Recommended Reading

Linksvayer, T. A., O. Rueppell, O. Kaftanoglu, R. E. Page, and G. V. Amdam. 2009. "The genetic basis for transgressive ovary size in honey bee workers." *Genetics*, in press.

Patel, A., K. F. Fondrk, O. Kaftanoglu, C. Emore, G. Hunt, K. Frederick, and G. A. Amdam. 2007. "The making of a queen: TOR pathway is a key player in diphenic caste development." *PLoS ONE* 6: e509. Featured in *Nature*, Research highlights.

Amdam, G. V., A. Csondes, M. K. Fondrk, and R. E. Page. 2006. "Complex social behaviour derived from maternal reproductive traits." *Nature* 439: 76-78.

Amdam, Gro Vang (Cold Spring Harbor,2022)

Identifying a developmental transition in honey bees using gene expression data

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1830551418>

Amdam, Gro Vang (Chicago, Ill.,2013)

Life-history evolution and the polyphenic regulation of somatic maintenance and survival

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=770876013>

Amdam, Gro Vang (London,2012)

Physiological variation as a mechanism for developmental caste-biasing in a facultatively eusocial sweat bee

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1046039792>

Amdam, Gro Vang (Cambridge,2012)

Regulation of behaviorally associated gene networks in worker honey bee ovaries

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1017883998>

Amdam, Gro Vang (San Francisco, California, US,2011)

Honey bee PTEN--description, developmental knockdown, and tissue-specific expression of splice-variants correlated with alternative social phenotypes

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1049263839>

Amdam, Gro Vang (Oxford [u.a.],2011)

Social context, stress, and plasticity of aging

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1046037765>

Amdam, Gro Vang (Oxford,2011)

Larval and nurse worker control of developmental plasticity and the evolution of honey bee queen-worker dimorphism : corrections

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1017884749>

Amdam, Gro Vang ([Berlin?],2011)

Genetic architecture of ovary size and asymmetry in European honeybee workers

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=1017880719>

Amdam, Gro Vang (San Francisco, California, US,2011)

Development of an RNA interference tool, characterization of its target, and an ecological test of caste differentiation in the eusocial wasp *Polistes*

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=894986937>

Amdam, Gro Vang (2011)

Honey bee life history plasticity : development, behavior, and aging

<https://kxp.k1oplus.de/DB=9.663/PPNSET?PPN=689233124>