甲殻類試験法開発

Endocrine System in Invertebrates (e.g., Arthropods)

- Endogenous hormones
  - **Ecdysteroids**
  - **Juvenile hormones**
- Hormone mimics
  - **Insect growth regulators (pesticides)**

Different Endocrine Systems Between Vertebrates and Invertebrates

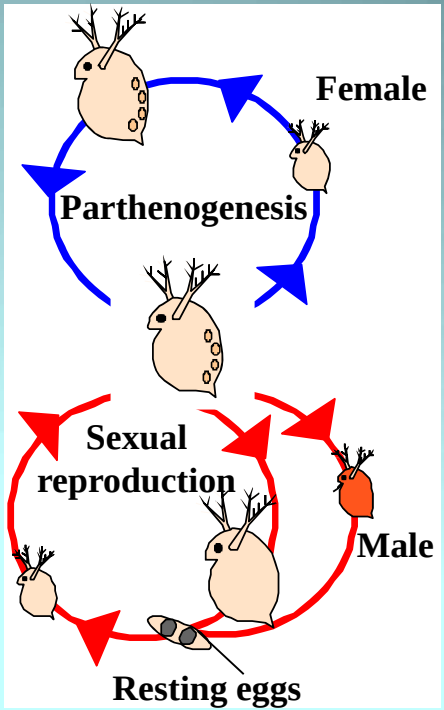
Vertebrates (e.g., Mammals)	Invertebrates (e.g., Arthropods)
Androgen Estrogen	Ecdysteroid Juvenile hormone
DES EE2, etc.	Insect Growth Regulators (IGRs)
Nonylphenol Bisphenol A, etc.	?

Crustacean Reproduction Toxicity Tests in OECD

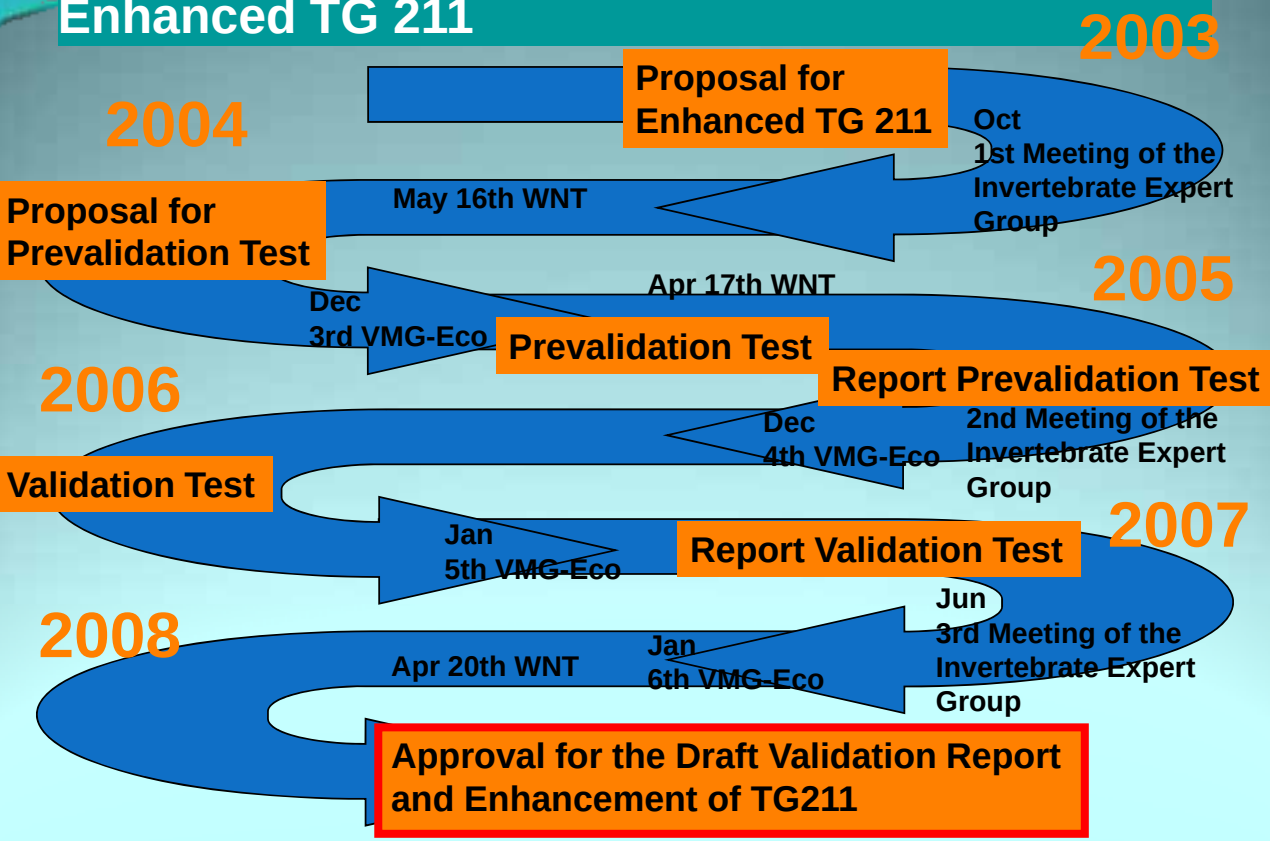
- Draft DRP on mysid life cycle toxicity test (USA)
- Draft proposal on a new test guideline copepod development and reproduction test (Sweden)
- *Daphnia magna* reproduction test (TG 211; OECD 1998)
  - Proposal for enhanced TG 211 for endocrine disrupting chemicals from Japan

Reproductive System and Sex Determination in Cladocerans

- Cyclic parthenogenesis
- Environmental sex determination
- Emergence of males and initiation of sexual reproduction by
  - -Short photoperiod
  - -Low food concentration
  - -High population density, etc.



Process before being authorized, OECD Enhanced TG 211



collaborated organizations at ring test

1. Finnish Environment Institute, Finland
2. French National Institute for Industrial Environment and Risks (INERIS), France
3. Laboratoire Ecotoxicité et Santé Environnementale (ESE) Equipe CNRS UMR, France
4. Aachen University, Germany
5. Bayer CropScience AG, Germany
6. Institute for Biological Analysis and Consulting (IBACON), Germany
7. UMWELTBUNDESAMT (UBA), Germany
8. Laboratory of Hydrobiology, Hungary
9. National Institute of Health, Italy
10. Agricultural Chemicals Inspection Station (ACIS), Japan
11. Kureha Special Laboratory, Co., Ltd., Japan
12. National Institute for Environmental Studies (NIES), Japan

Experimental Design EnhancedTG211

Based on OECD TG 211

Daphnia magna reproduction test