



30 years ÖNGENE

30 years of systematic In situ conservation in Austria



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Content

- History of breeding and breeds of farm animals in Austria
- Causes for the decline and loss of breeds
- First conservation attempts
- ÖNGENE – founding and early activities
- Progress since 1995 – Agri-environmental programs (ÖPUL)
- Facing the future





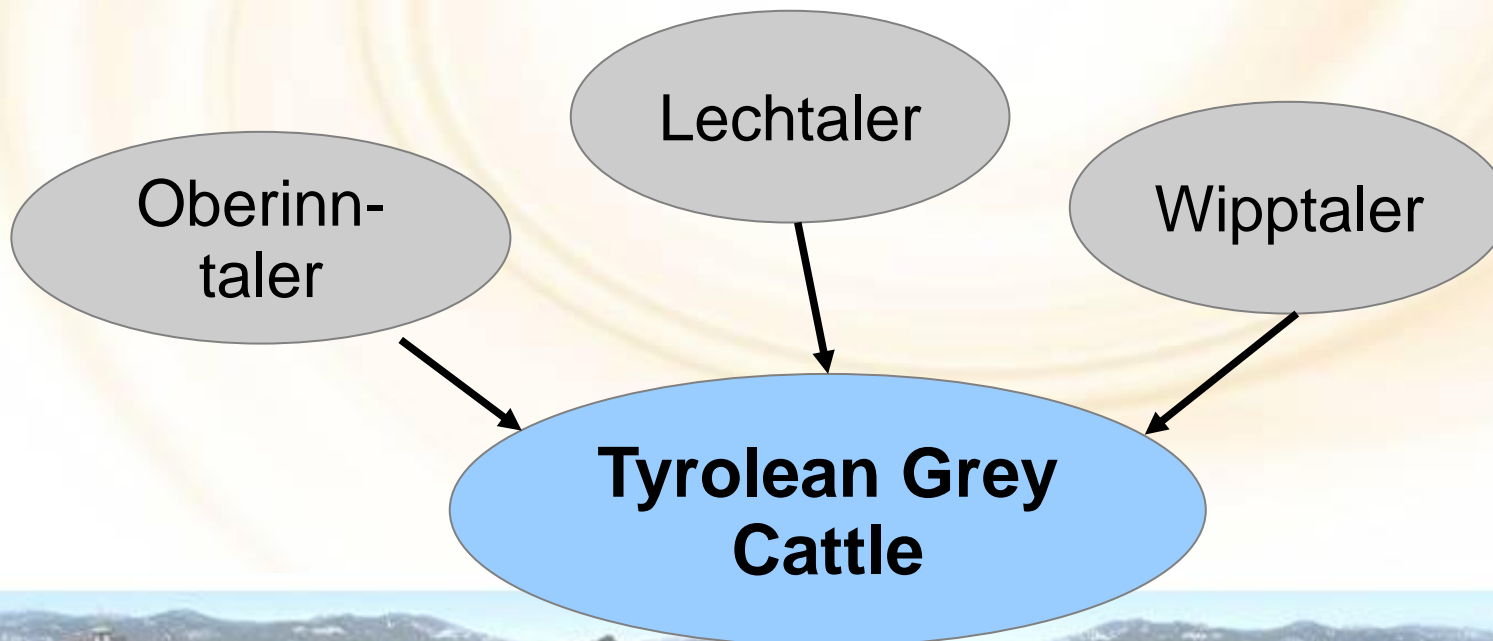
History

many cattle strains – some breeds

19th century many local cattle strains

⇒ combined to breeds

⇒ Breeding organisations (1893) founded

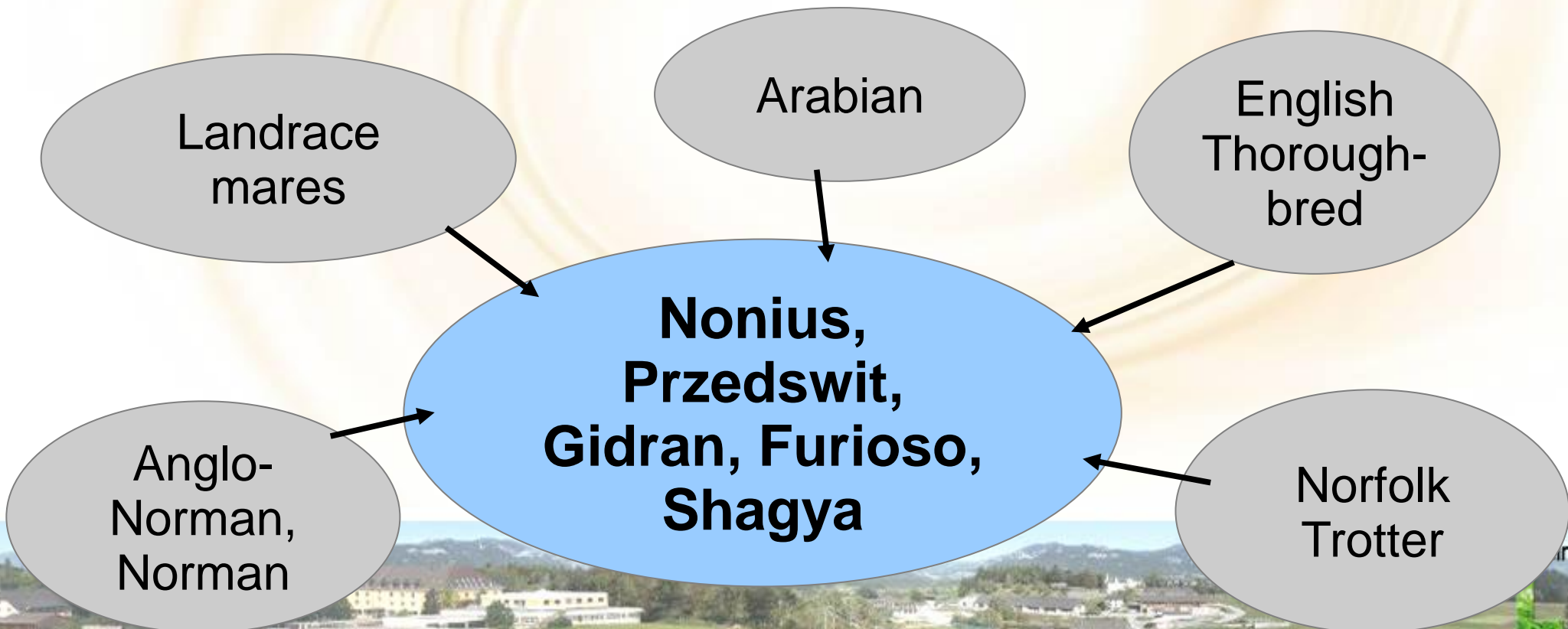




History

horse breeding

- ⇒ Horses very important for war and agriculture
- ⇒ Breeding for TYPE, no „breeds“ no closed stud book (exception: Lipzzan)





History

other species

Sheep: ⇒ Trying to upgrade local strains with imported fine wool rams (Merino, Bergamask, Paduan)

⇒ Herdbooks for upgraded stock

Goat: ⇒ Landrace, local strains

Pigs: ⇒ Trying to upgrade local strains with imported boars (Large White, Berkshire, Hampshire)

Defined breed: Mangalica (Hungary)





Loss of breeds

20th century – increasing loss of biodiversity

- Second world war - „Rassenbereinigung“
 - Only acknowledged breeds may be kept
 - 1900: 16 cattle breeds (strains)
 - 1954: 7 cattle breeds
- Restrictive breeding policy after the war
 - Herdbooks discontinued
 - No acknowledgement of sires of „wrong“ breeds
 - Forcing of a few breeds (Simmental, Brown cattle)





Causes

- Mechanization – draught animals unnecessary
- Policies
 - Legislation on animal breeding
 - Eradication of Zoonoses (TBC, Brucellosis)
 - Biotechnology of reproduction (cattle AI)
 - Replacement crossing (Brown cattle, sheep and pig breeds)
- Intensification and specialisation of farms – sheep, multi purpose cattle
- Changing markets – lard pigs, poultry





Attempts at conservation

- Idealistic breeders
- No support from animal breeding authorities
 - Fines for „keeping the wrong breed“
 - No breeding records – some breeders keep records their own animals
- 1972 UNO conference on environment – loss of biodiversity discussed
- 1975 FAO pilote study on the state of genetic resources (38 countries)





Founding of ÖNGENE

- Joint scientific initiative
 - Univ.Vet.med. (Prof. W. Schleger)
 - Univ.Agric. (Prof. A.Haiger)
- 1981 study of the state of traditional Austrian cattle breeds
 - Commissioned by the Ministry of Agriculture
 - Alarming results!
- Founding of ÖNGENE – 01.07.1982
- First action – census of rare cattle breeds





Rare cattle breeds 1983

Breed	Number of heads
Original Pinzgau Cattle	~ 4000
Tyrolean Grey Cattle	~ 4000
Original Austrian Brown Cattle	~ 1000
Murboden Cattle	~ 500
Carinthian Blond Cattle	~ 100
Waldviertel Blond Cattle	~ 40
Tux-Zillertal Cattle	~ 40
Ennstal Pied Cattle (Ennstaler Bergschecken)	~ 20
Pustertal Spotted Cattle (Italy – Southern Tyrol)	~ 300





Structure of ÖNGENE

- Registered non-profit organisation
- Members public corporations
 - Board of directors
 - University of Veterinary Medicine
 - University of Agriculture and Life sciences
 - Federal Agricultural Boards
 - Institute of Organic Farming and Biodiversity of Farm Animals
 - Observer: BMLFUW
- Acknowledged advisor of BMLFUW





Situation in 1995

- *Most important: Keep animals in situ on Farm!*
- Cattle program
 - Stabilization and/or moderate increase of populations
 - Foundations of gene bank (semen, embryos)
 - Nucleus herds
- Other species partly unknown status
 - private enterprise only





First ÖPUL program

Duration of measure 5 years

- + Cattle, horses, sheep, goats
- + List of endangered breeds
- + Purebred mating compulsory
- + First census on breed level
- + Gene Bank established 1997
- No pigs
- List of breeds not complete
- Imported breeds
- Herdbook registration not compulsory
- Not all breeds acknowledged in all Federal Countries





Second ÖPUL program

Gene Conservation Program 2000

- + Updated list of breeds acknowledged in all Federal countries
- + Organisation in charge
- + Herdbook registration
- + Planned mating for highly endangered populations
- + Pig breeds included
- + Genetic differentiation of breeds
- Obligation to keep - not to breed animals
- Rigid rules concerning number of animals
- Number of breeding males too small in highly endangered populations





3rd ÖPUL program

- Continues work of Conservation Program 2000
- 31 genetically defined breeds
 - 9 cattle breeds
 - 7 goat breeds
 - 8 sheep breeds
 - 5 horse breeds
 - 2 pig breeds
- Breeding animals only
- Collection of data on production traits
- Marketing efforts in re-established populations

1997 - 12.077 animals

2011 - 32.957 animals

Total cost € 4.552.946.-





Facing the future

- Next program currently under negotiation
- Requirements
 - Keep breeds in situ on farm
 - Protect, conserve and re-build small populations
 - Provide a soft landing for formerly highly endangered but successfully re-established breeds in the market





Other important issues

- Develop in situ conservation measures for endangered poultry breeds
- Develop breeding programs for successfully re-established breeds with selection for production traits while ensuring biodiversity within the breed
- Broaden genetic basis of the Turopolje pig in Austria
- Update the National Strategy for Animal Genetic Resources (AnGR)





Conclusion

- ✓ Shaping the Austrian policy of conservation breeding in farm animals for 30 years
- ✓ Fully functional National Focal Point for Animal Genetic Resources after the definition of FAO
- ✓ High expectations of future programs

In an ecologically and economically changing environment the work goes on

– ad multos annos!



Thank you for your attention!

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