Southern African *Artemia* populations

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Background to this study

• No in-depth studies of African *Artemia* were available at the beginning of the study.

• The species-richness of southern African *Artemia* populations has not been described.

• South Africa provides unique opportunities for sampling.
Study approach

5. Future objectives: Continue sampling new sites and obtain funding for *Artemia* population studies (2004 - ongoing).
Findings and progress

1. Sampling at three previously unstudied sites (2001/2) in the Eastern Cape, South Africa.

2. Description of a mixed population at Coega (Eastern Cape) (2002).

3. Travelled to more than 33 sites and obtained records from 45 sites in southern Africa. Collected material from 14 populations (2003).

4. Ongoing: Genetic analysis of the recently collected populations at AUTH (publications pending).
Study areas

- Site characteristics
- Temperature data (mean, min./max.)
- Reproductive mode in 9 *Artemia* populations from which adults were collected.
Frequency distribution of 45 southern African Artemia sites according to elevation (m above sea level)
Frequency distribution of 45 southern African *Artemia* sites according to average ambient temperature (°C)
Frequency distribution of 45 southern African *Artemia* sites according to maximum temperature (°C)
Frequency distribution of 45 southern African *Artemia* sites according to minimum temperature (°C)
South African sites

- Brandvlei (10/47)
- Yzerfontein (13/33)
- Reynekespan (30/17)
- Swartkops Marina (9/5)
- Swartkops Cerebos (7/7)
- Missionvale (3/10)

Males / Females
Main findings

• A mixed population of *Artemia* found at Coega in the Eastern Cape, South Africa.
• Several bisexual populations across South Africa.
• One bisexual and one parthenogenetic population in addition to one known parthenogenetic strain in Namibia.
• An update of existing reviews of African *Artemia* locations and species (database).
Where should we go from here?

• Identify a site for a long-term study of population changes (Example: The Sundays River or Swartkops Pan in the Eastern Cape).

• Identify and study sites in southern Africa into which *Artemia* may have been introduced (Potential example: some commercial sites).

• Joint fund-raising and close collaboration with *Artemia* research institutions.

continued …
• Establish a network of African researchers (ongoing)
  – Ornithologists, geologists, ecologists

• Establish better contacts with saltworks operators:
  – Requires attention to conflicting interests!
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