

CFP Special Issue of *Environmental Education Research*

“Navigating nature, culture and education
in contemporary botanic gardens”

Guest editors

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This Call for Papers invites potential contributors to conduct and/or submit inquiries that help advance research-based understandings of what it means to navigate nature, culture and education in contemporary botanic gardens.

Framing Questions for this Special Issue

- How can a culture of critical reflective inquiry be nurtured in botanic gardens?
- What is the relationship between the educational and landscape design intentions of botanic gardens and other cultivated spaces, and visitor perceptions and experiences?
- How might learning theories and philosophical approaches inform how botanic gardens and other cultivated spaces frame the interaction between nature and culture?
- What role do scientific narratives play as visitors navigate the interface of nature and culture through the dominant scientific purpose of a botanic garden; and what are compelling educational alternatives (narratives, roles, purposes)?

The guest editors strongly encourage a diverse community of academics, garden curators, educators and other stakeholders, to respond to the Framing Questions outlined above in order to reflect on education practices, problems and potential in botanic gardens and other related cultivated spaces in the modern world. We particularly encourage submissions that:

- are collaborative and bridge research and practice;
- are transdisciplinary, philosophically rich and/or explanatory rather than descriptive;
- make connections between different cultural and/or ecological perspectives; and
- take reflection and debate beyond the borders of any individual garden or space.

We also welcome work that offers not just an individual case study but demonstrates reflection on - and theorises, or re-theorises - practice through critical reflective inquiry.

Submissions can take the form of original articles, visual essays, policy reviews, literature reviews, a synthesis of case studies, and other scholarly forms of communication that fit with the aims and scope of the Journal, and the publication types listed in the Instructions for Authors.

Submission Guidelines

The Journal welcomes both theoretical and empirical papers from contributors. The working language of the collection is English. Full details for submissions to *Environmental Education Research* are available at:

<http://www.tandfonline.com/action/authorSubmission?journalCode=ceer20&page=instructions>

Please contact the Guest Editors for further information.

Deadline for Paper proposals: 1 October, 2015

Content: 400-500 words proposal for the paper, with title, author's name, a short bio with affiliation, and contact information. Send to dawn.sanders@gu.se

Paper proposals should crystallise the key arguments of the proposed paper, and map out how this will be achieved, e.g. 300 words abstract, 200 word paper overview, including key sources of ideas/references/evidence/connection to framing questions/etc.

Invitations to submit a full paper will be sent to selected authors by November 30th, 2015.

As with the Journal in general, accepted proposals will be those that are likely to:

- make a useful and/or significant addition to the literature
- have appropriate focus and contents
- have coherent research method, arguments and conclusions
- be understood by an international audience

Consult the following for guidelines for manuscript preparation. The reference style is Chicago. Manuscript templates are available for accepted proposals and their use is highly recommended.

Deadline for Full Draft Submissions: 1st April, 2016

Full papers should be between 5000-7000 words.

Final acceptance is conditional upon peer-review assessments.

For further information about the journal, visit <http://www.tandfonline.com/EER>.

Guest editors

Dawn L. Sanders is an Associate Professor (Docent) in the Institute för didaktik och pedagogisk profession at Göteborgs Universitet, Sweden. Her doctoral study examined the educational role of botanic gardens (Sussex University, 2004). Dawn's primary research focus is garden-based teaching and learning from historical and contemporary perspectives.

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Context for this Call for papers

Increasingly, humans are an urban species. This demographic shift has implications for both individual and collective perceptions of nature, as well as for addressing 'ecophobia' (Sobel, 1996) and encouraging 'biophilia' (Cajete, 1999). Contemporary humanity occupies a world in which extensive physical change, both in the landscape and its related organisms, is occurring (Millennium Ecosystem Assessment, 2005). Debate on this links to the phenomenon of a 'bubble wrap generation' (Malone, 2007) growing up within 'nature-deficit' childhoods (Louv, 2008) in 'megalopolitan cities' (Chipeniuk, 1995). Indeed, some commentators consider that 'nature has already disappeared' and 'exists only in preservations and reservations - botanical gardens, national parks, protected waters, sanctuaries and zoos' (Benjamin 1996, p. 28). Such perceptions have consequences for 'presented world' settings (Braund & Reiss, 2006) such as zoos, botanic gardens and natural history museums, suggesting that 'when there is no more wild, the meaning of the zoo changes' (Wilson, 1992, p. 246).

According to Jan Zwicky (2008), "Nature is the tendency in things to be what they are, and in that tendency to present themselves as both distinct and connected" (p. 90). 'Presented world' settings provide complex representations of biodiversity. In some zoos, the animals' role has changed 'from objects of curiosity, to ambassadors for their wild relatives, to representatives of an eco-system' (Kawata, 2000, p. 5). Natural history museums, with their taxidermic specimens, offer visitors 'glimpses of extinction' (Cordero, 2009). Thus, 'presented world' settings can be perceived as reinforcing the narrative of nature in peril due to human consumption of resources [see also, EER 17(6), 2011]. Botanic gardens, like zoos and natural history museums, are repositories of living things that can also evoke a sense of relationships within ecosystems. Educational initiatives in settings like botanic gardens open up opportunities to revisit complex questions about human relationships to, and impacts on, other species, and how these are taught, learned, unlearned and retaught (see for example, Bonnet, 2007).

Botanic gardens have been defined as 'institutions holding documented collections of living plants for the purposes of scientific research, conservation, display and education' (Wyse-Jackson, 1999, p. 27). However, such a succinct definition means the cultural complexity of botanic gardens remains an elusive phenomenon. Furthermore, such definitions raise key concerns pertaining to:

- the identities that institutions themselves accentuate
- contested territories within, and between, those identities
- perceptions from 'outside' the botanic garden community.

Moreover, contemporary questions being asked of botanic gardens focus on an emerging philosophical discussion concerning 'plants as other-than human persons' (Hall, 2011). Heyd (2007, p. 178) frames two inquiries that have implications for the rationale and aesthetic of botanic garden collections and associated visitor perceptions. Firstly, "how may we avoid perceiving botanic gardens either as merely entertaining displays of plant collecting or as mere living archives of plant species?" and, "how should we conceive of the

space in botanic gardens so we do come to reflect on the possibility that we may be partners of plant life and not just its owners or protectors?" (Heyd, 2007, p. 178).

In this Special Issue, we wish to consider the ways in which these and other contemporary philosophical perspectives challenge the enactment of the scientific role of botanic gardens. Collecting can be viewed as a form of inquiry; researchers and collectors use objects, their collections, and museum spaces to develop scientific processes of observation and experimentation. The scientific expertise of the botanic garden has broadened to include the formation of critical partnerships with local communities on a continuum, as suggested by Ballantyne and Packer (2006). In this continuum a botanic garden could be viewed in three ways: firstly, as a scientific institution to visit; secondly as providing botanical, horticultural and/or ecological expertise, thirdly as collaborators in multidisciplinary projects. Where can commentators, educators and researchers draw the boundaries of difference and areas of commonality in these critical spaces for botanic gardens as socio-educational institutions? Do societal perceptions matter in these contexts?

Prior to the 1960s, most botanic gardens were historical remnants of either early physic gardens (in places such as Italy, where physic = nature), or an imperialistic past. Other botanic gardens were based on taxonomic collections utilised by university botany departments for teaching. Many institutions still contain this history but are developing more diverse practices. Surprisingly, rather than being a relic of the Renaissance or a dusty Victorian vestige, most botanic gardens world-wide have originated from the period post-1960 to the present day, particularly in countries such as China. These origins have instigated modern institutions with very different perspectives on their relationships with society and science. Viewing plants as an intrinsic part of culture has been a major step forward for some botanic gardens. Many are now much more 'people' oriented, as they realise that people's perceptions of, and relationships with, plants are crucial to the survival of biodiversity. Article 13, of the Convention on Biodiversity (1993), places a specific responsibility on botanic gardens in conserving plants and educating the public about their value. Importantly, the Article stresses the need for both formal and informal education. Under 'informal education' the article states that, "Zoos, botanic gardens and aquaria have unique facilities which are compatible with educational goals and are well suited to educating diverse groups of people" (Glowka *et al.*, 1994, p. 69).

For this Special Issue of *Environmental Education Research*, we also seek contributions that focus on the ordered, but sensory 'presented world' (Braund & Reiss, 2006) of botanic gardens. We particularly encourage studies that utilise theoretically reflective (Dillon, 2003) and narrative forms of inquiry (Gough, 2002) alongside critical commentaries to reimagine botanic gardens 'as models for collaborative relations between human beings and the natural world' (Heyd, 2006 p. 200) and perhaps go deeper in examining the notion of "plantness" (Darley, 1990) in such relationships. Our own research interests lie in the visually rich aesthetic of individual and grouped botanic garden specimens, as a stimulus for meaning-making, in relation to understanding the multi-layered message of 'plants = life' (Galbraith, 2003). Given the vital role of plants in ecosystem resilience, neither science nor society can afford citizens to see 'nothing' (Schneekloth, 1989) when they look at plants. Furthermore, botanic gardens 'invite discussion on the roles(s) of 'culture' in relation to

'nature' and can act as a metaphor for the complex relationships that humanity has with the environment and its associate flora and fauna' (Sanders, 2007, p. 1213). Botanic gardens can also provide a context for critical inquiry into 'interactive landscapes' and can make visible 'the unique interwoven pattern of nature and culture which makes up the story of place' (Plumwood, 2006, p. 141).

Why Study Botanic Gardens?

From their inception, botanic gardens have served as sites for scientific study of living plant collections and represented multiple purposes including: spiritual refreshment, displaying power and social status and cultivating an appreciation of art and design (Cunningham, 1996; Ballantyne, Packer, & Hughes, 2007). There are over 3,000 botanic gardens in the world; they are well-visited sites of school field trips, family outings, and community events. Botanic Gardens Conservation International estimates 250 million visits internationally per year to botanic gardens (Romano, 2008).

Visitors to museums, such as botanic gardens, appear to generate their own highly personalised meanings from the same exhibition experience (Diamond, 1999; Stamp, 1999; Falk & Dierking, 2000; Marstine, 2006; Sandall, 2007). In addition, learning in museums is highly social; visitors interact with each other in family groups, with volunteers, with museum staff, and with displays (Diamond, 1999; Falk & Dierking, 2000; Sandall, 2007). There is a tension between seeing museums as authoritative knowledge providers and respecting visitor agency in constructing meaning (Sandall, 2007). Arnold (2006) suggests there are three approaches to knowledge creation in museums: 1) Narrative, where objects are used to tell stories, 2) Functional, where objects are considered for their uses to humans, and 3) Taxonomic, where objects are arranged and classified. Thus, it is important to consider questions such as: Do visitors bring life experiences and socially construct meanings in botanic gardens? And how do curators and educators acknowledge and work with these in such sites? Such questions suggest that planning for another's learning, by focusing educational initiatives on enduring understandings (Wiggins & McTighe, 1997), may in fact be in tension with visitor-directed learning.

We might also consider, how the possibilities for a culture of critical reflective inquiry (Kim, 1992) could be nurtured in botanic garden learning environments; Zhai (2011), for example, found discernable differences in botanic garden educator identities oriented around 'the scientist educator' as opposed to the 'teacher in the garden'; such differences impact on the stories that botanic gardens appear to tell and the questions they seemingly ask, rather than the ones they really provoke (Wagner, 1993).

Botanic gardens typically have broad socially oriented goals, such as building empathy or instilling connections with nature (Ades, 2005; Peddretti & Soren, 2006), changing people's values and attitudes about environmental issues (Reading, 2005), focusing on ecosystem-centred rather than human-centred understandings of natural resource use (Sutter, 2005), and engaging learners with concepts such as sustainability (Romano, 2008) and global climate change (Forrest, 2008). Meanwhile, studies of the attitudes of botanic garden

visitors indicate that they rate the restorative features of the garden setting as more important than learning about plants or conservation issues (Ballantyne et al, 2007; Connell, 2004). More specifically, visitors value features such as being away from everyday scenery and being immersed in a different world (Herzog, Maguire, & Nebel, 2003; Scopelliti & Giuliani, 2004), e.g. through an 'indigenous garden curriculum' (Cajete, 1998, p. 200). In James Hamilton-Patterson's novel *Griefwork*, in which the reader follows a palm house curator's life in an urban botanic garden during socially austere times, the main character cries out in despair: 'People ought to be flocking to the gardens and the palm house at times like these, reminding themselves of what beauty and richness and fecundity still are. But they're put off. It's all too surrounded by an aura of dry learning and crankiness' (1994, p. 201). Modern botanic gardens can ill afford the possibility these fictitious perceptions might be true and yet we have few critical commentaries which interrogate modern experiences of botanic gardens.

Johnson (2007) observes that: 'no matter what the future face of botanic gardens may look like, one thing is certain: botanic gardens will continue to be humanity's main scientific, aesthetic and social link to plants ... They will continue to reflect our evolving relationship with plants and the rest of the natural world' (p. 304). However, as we engage ever more deeply with the rapid rate of species extinction, in an increasingly populated world where the gap between rich and poor is expanding, will botanic gardens maintain 'their right to continued existence through their scientific and pedagogic value' (Kohlmaier & Sartory, 1990, p. 42)? Or will more sensory and culturally complex functions and interactions come to the fore? Are we witnessing an emergence of 'new generation' botanic gardens as they navigate the relationship between nature, culture and education?

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