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From: Graham L. Pierce, MSU Usability/Accessibility Research and Consulting
Subject: Oxford Journals High-Level Accessibility Evaluation
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MSU Usability/Accessibility Research and Consulting (MSU UARC) conducted a high-level accessibility evaluation of Oxford Journals to evaluate its conformance with WCAG 2.0 AA Criteria. This evaluation did not include all functionality or content of the site or all WCAG 2.0 AA Criteria.

During this evaluation, a number of issues were found that will make the site difficult to use for many individuals with disabilities.

Keyboard users, including screen reader users and users with dexterity impairments, will have difficulties or be unable to use some content on the site. Most importantly, some content cannot be reached or operated via keyboard. Additionally, many interactive elements lack a sufficiently visible focus indicator, making it difficult for many keyboard-only users to effectively use them, as they cannot determine when they have reached the correct element. Focus order is also incorrect in places, further increasing the difficulty of using the site with a keyboard.

Individuals with visual impairments that rely on screen readers will have additional problems. Custom elements do not correctly announce themselves or provide appropriate feedback to screen readers, making them difficult to understand and use. Some form inputs are not appropriately labeled, making those inputs difficult to use for those that rely on screen readers. Many images (including all figures in articles) have missing or inappropriate alternative text, further impacting users with visual impairments. Structural information, including headings, lists, and tables, and all structural information about PDF content, is also not appropriately conveyed to screen reader users, making it difficult to understand content organization.

Other issues were found that will make it difficult for users with a variety of disabilities to effectively use the system, including insufficient color contrast, images of text used in place of styled text, incorrect reading order, missing PDF titles, and missing PDF language identification.

To improve access for users with disabilities, UARC recommends a full WCAG 2.0 AA evaluation and that the problems discovered be remediated.

Note: For the purposes of this high-level review, search results for "global warming" were used as an example of a Search Results page, Behavioral Ecology Vol. 29 Issue 3 was used as an example of an Issue page, and "Multimodal coordination enhances the responses to an avian duet" was used as an example of an Article page.

High-Level Findings

Document Structure

- Headings are not correctly used to organize content. [[WCAG 2.0 SC 1.3.1](#)]
 - On the Home page, h3s are not preceded by h2s
 - On the Home page, subheadings under h3s are incorrectly tagged as h3s, instead of h4s
 - On the Home page, links under "Resources for.." and "Connect" shouldn't be tagged as headings, as they don't group any content
 - Footer headings (e.g., "Connect", "Resources", etc.) should be h2s, not h4s
 - On the Search Results and Behavioral Ecology pages, incorrect heading levels are used throughout
 - On the Search Results page, text (e.g., "Modify your search", "Format") is used as a visual heading, but is not tagged as a programmatic heading
 - On the Behavioral Ecology page, "Behavioral Ecology" (in footer) should be tagged as a heading
 - On the Article page, incorrect heading levels are used throughout, with the exception of headings in the article itself
 - On the Article page, "Article Contents" is used as a visual heading, but is not tagged as a programmatic heading
 - Headings are not appropriately tagged/nested in the Twitter feed on the Behavioral Ecology page
- Lists are not correctly used to organize content. [[WCAG 2.0 SC 1.3.1](#)]
 - On the Home page, content under the "Latest in..." sections should be coded as a programmatic list
 - On the Behavioral Ecology page, content under the "Latest articles" and "Most read" sections should be coded as a programmatic list
 - On the Article page, content under the "Latest", "Most Read", and "Most Cited" tabs should be coded as a programmatic list
- On the Behavioral Ecology page, "Behavioral Ecology" is incorrectly read out after the content it organizes (e.g., "About Behavioral Ecology"). [[WCAG 2.0 SC 1.3.2](#)]
- The Article PDF is not tagged (no structural information is available to assistive technology users). [[WCAG 2.0 SC 1.3.1](#)]
- In the Article PDF, tables are not tagged as tables. [[WCAG 2.0 SC 1.3.1](#)]
- The language of the Article PDF is not programmatically set. [[WCAG 2.0 SC 3.1.1](#)]

Keyboard Support

- On the Home page, the search button cannot be reached via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Search Results page, the "Filter" dropdown, "Subject" and "JEL Classification" expanders, and "Email alerts" links cannot be reached via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Article page, the "Split View" button, "Article history" dropdown, figure links, in-text citations, and "Email alerts" links cannot be reached via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Advanced Search page, the "Filter" dropdown cannot be reached via keyboard. [[WCAG 2.0 SC 2.1.1](#)]

- On the Search Results page, calendar lightboxes cannot be used with standard keyboard controls (e.g., tab key). [[WCAG 2.0 SC 2.1.1](#)]
- Throughout the site, text links and associated decorative graphics each receive focus separately. [[WCAG 2.0 SC 2.4.3](#)]
- On the Search Results page, the "Sort by" dropdown receives focus after page numbers. [[WCAG 2.0 SC 2.4.3](#)]
- On the Behavioral Ecology page, "Behavioral Ecology" should receive focus after "About Behavioral Ecology", etc. (in footer). [[WCAG 2.0 SC 2.4.3](#)]
- Users must manually advance keyboard focus through hundreds of elements to move beyond the Twitter feed on the Behavioral Ecology page. [[WCAG 2.0 SC 2.4.3](#)]
- Focus is not sufficiently visible on a variety of content. [[WCAG 2.0 SC 2.4.7](#)]
 - "All Journals" dropdown, graphic links, video controls (e.g., pause, volume, etc.) on the Home page
 - Checkboxes on the Search Results page
 - Graphic links (e.g., Behavior Ecology banner at top of page; "International Society For Behavior Ecology" logo and issue cover on Behavioral Ecology, Issues, and Article pages)
 - Blue buttons (e.g., "View large", "Download slide") on the Article page
 - "All Journals" dropdown and blue buttons on the Advanced Search page

Navigation

- Article PDF lacks a programmatic title. [[WCAG 2.0 SC 2.4.2](#)]

Forms and Data Submission

- On the Search Results page, labels for "Modify your search" text input and checkboxes are not correctly read out by screen readers. [[WCAG 2.0 SC 3.3.2](#)]
- On the Advanced Search page, labels for "Build a query", "First Page", and "DOI Search" text inputs and "Select a Journal" dropdown are not correctly read out by screen readers. [[WCAG 2.0 SC 3.3.2](#)]

Images

- Appropriate alternative text is not provided for a variety of visual content. [[WCAG 2.0 SC 1.1.1](#)]
 - Tumblr, WordPress, and envelope graphics under "Connect" on the Home page
 - "Behavioral Ecology Virtual Issue..." graphic on the Behavioral Ecology page
 - Unlocked icons and "Behavioral Ecology Virtual Issue..." graphic on the Article page
 - All figures in the Article PDF
 - Figures in the article (Article page); the alternative text provided does not provide appropriate information for individuals who cannot see the images
 - On the Home page, graphics under "Resources for...", "From the OUPblog", "New to Oxford Academic in 2018", and "Connect" are decorative, and should have null alternative text
 - On the Behavioral Ecology page, graphics for "Editor's Choice", under "Featured Articles" and "Related Titles", etc. are decorative, and should have null alternative text
 - "Oxford Academic Journal" is read out as "Journals" on the Home page

- "Oxford Academic" is read out as "Oxford University Press" on the Behavioral Ecology page
- On the Home page, "Journals" is an image of text, instead of styled text. [[WCAG 2.0 SC 1.4.5](#)]
- On the Behavioral Ecology page, "Science & Mathematics. Search opportunities..." is an image of text, instead of styled text. [[WCAG 2.0 SC 1.4.5](#)]

Color and Visual Characteristics

- White text on blue background (buttons throughout site; e.g., "Add term" and "Update" on Home page, "View large" and "Download slide" on Article page, "Update" and "Search" on Advanced Search page), light blue text on green ("Virtual Issue" on Behavioral Ecology and Article pages), white text on light green (text at top of first page of PDF), and white text on light blue (selected items in dropdowns; e.g., "All Journals" on Home page) have insufficient contrast. [[WCAG 2.0 SC 1.4.3](#)]
- In the Twitter feed on the Behavioral Ecology page, blue text on white background, blue text on light blue, and grey text on white have insufficient contrast. [[WCAG 2.0 SC 1.4.3](#)]

Custom Elements and Dynamic Content

- On the Home page, no roles or values (i.e., that they expand and whether or not they are expanded or collapsed) are provided for dropdowns (e.g., "Sign In", "Journals by Subject"), and screen reader users are not notified when they are opened or closed. [[WCAG 2.0 SC 4.1.2](#)]
- On the Behavioral Ecology page, no roles or values (i.e., that they expand and whether or not they are expanded or collapsed) are provided for the dropdowns (e.g., "More Content", "Submit"), and screen reader users are not notified when they are opened or closed. [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, correct names, roles, and values are not provided for contents for contents of calendar lightboxes. [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, screen reader users are not notified when filters (e.g., Article Type checkboxes) are loading or applied. [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, screen reader users are not notified when the "Show more" and "Show less" links are used to expand or collapse content. [[WCAG 2.0 SC 4.1.2](#)]
- On the Article page, no roles or values (i.e., that they are tabs and whether they are selected) are provided for tabs ("Latest", "Most Read", and "Most Cited"), and screen reader users are not notified when the user switches tabs. [[WCAG 2.0 SC 4.1.2](#)]
- On the Article page, screen reader users are not notified when the "Share" dropdown is opened or closed. [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results and Articles pages, "Abstract" and "Extract" expanders are incorrectly identified by screen readers as "collapsed" when expanded, and screen reader users are not notified when they are opened or closed. [[WCAG 2.0 SC 4.1.2](#)]

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