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Invasive Species Common Names: Working Towards More Inclusive Invasive Species Education and Outreach

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Cover Page Footnote

Acknowledgments First and foremost, we wish to thank the Foreign Born Affinity Group members and colleagues who shared their time and emotional energy with us. The shared stories and lived experiences as immigrants to the United States they shared greatly improved the development and implementation of the common names guiding principles. We also thank the 56 members of the Invasive Species Community of Practice and University of Minnesota Extension administration for enabling and helping with this important work. We're grateful for Emily Dombeck's creativity in developing Figure 1. Finally we wish to thank Emilie Justen and Monika Chandler (Minnesota Department of Agriculture); Laura Van Riper (Minnesota Department of Natural Resources); Gary Wyatt, Jamie Mosel and Amy Rager (University of Minnesota Extension); and Kyungsoo Yoo (University of Minnesota Department of Soil, Water, and Climate) who, in addition to the authors, have volunteered to serve on committees for the process for the 19 species evaluated to date. Megan Weber and Angela Gupta contributed equally to the development and implementation of the Guiding Principles and both reserve the right to be listed as first author.

Invasive Species Common Names: Working Towards More Inclusive Invasive Species Education and Outreach

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Abstract. Invasive species harm natural and managed ecosystems. Awareness and management of these species depends on effective education and outreach. Traditional common names, including those with geographic references, for many invasive pests may perpetuate slanderous terms or stigmatize people from that place. To create more inclusive invasive species educational materials, the University of Minnesota Extension's Invasive Species Community of Practice developed guidelines for selection of common names. Suggested names were shared with others involved in invasive species communications, leading to broader adoption. These guidelines may be useful to others who struggle to find descriptive, non-alienating common names for invasive species.

INTRODUCTION

Names have been recognized as a powerful tool that can shape public perception of species. For example, students surveyed by Karaffa et al. (2012) were more likely to support conservation efforts for species with positive-sounding common names, such as patriot falcon, great American wolf, and Great Plains song dog. Rypel et al. (2021) argued that use of the pejorative term “rough fish” to describe many native, nongame fish devalued ecologically and culturally important species, resulting in overharvest in the name of protecting game fish populations. Inspired by successful marketing efforts in the 1970s to rebrand such fish as slimehead and Patagonian toothfish to orange roughy and Chilean seabass, the Illinois Department of Natural Resources and partner organizations recognized the barrier common names create when encouraging people to eat invasive carps. They coined the name “Copi” to rebrand the fish in hopes of creating a market for human consumption as a control tool (Flesher, 2022; Roth, 2023).

Iannone et al. (2020, p. 2) defined an invasive species as “a species that (a) is nonnative to a specified geographic area, (b) was introduced by humans (intentionally or unintentionally), and (c) does or can cause environmental or economic harm or harm to humans.” Invasive plants, animals, and microbes are major environmental stressors across the world and have placed a growing pressure on preserving and protecting biodiversity, food security, and human health and on meeting other grand challenges to global development and prosperity (Butchart et al., 2010; Venette & Hutchinson, 2021). Prevention is a key goal to mitigate the impacts of invasive species, and public education and outreach efforts can be vital elements of prevention strategies (Solano et al., 2022). It is critical to carefully evaluate the words and phrases used in invasive species education and outreach efforts to be effective in achieving awareness goals and to avoid unintended consequences (Seekamp et al., 2016; Shaw et al., 2021).

The names applied to invasive species, especially common names, can affect how people perceive those species, and conversely, perceptions of an invasive species may inadvertently affect individuals or entities that identify with that name. Place-based names associated with problematic species may stigmatize people associated with that place. The use of place-based names is common in invasive species communications. For example, in Minnesota, where the authors are based, 30% of the species on state agency noxious weed lists and on nonnative species regulation lists include a place-based common name (Minnesota Department of Agriculture, 2022; Minnesota Department of Natural Resources, n.d.). Additionally, strong and often militaristic language and metaphors have been used to illustrate the risks and potential harms invasive species pose to invaded regions (Larson, 2005; Shaw et al., 2021). Concerns exist regarding the societal impacts of using place-based names in invasive species communications,

particularly in connection with strong language and actions encouraged to manage, control, or, in some cases, eradicate an invasive species (Keulartz & van der Weele, 2008; Larson et al., 2005).

Reevaluating word use in recognition of troubled legacies and the use of derogatory, slanderous, and racist terms is taking place across many fields, including computer science (Conger, 2021), geography (Duncombe, 2021), horticulture (Downing & Frye, 2021; Meyer, 2021), entomology (Lancette, 2021), and ornithology (Fears, 2021). However, limited actions have been taken to address the use of place-based names in invasive species communications. For example in Minnesota, the state government formally adopted “invasive carp” after concerns were raised about how the common (at the time) name “Asian carp” reflected on people of Asian descent (Associated Press, 2014). This leading effort was notably the first to replace a place-based name for invasive species (Kočovský et al., 2018), although it only addressed one such place-based name.

Extension professionals have a responsibility to ensure that programs and messaging are welcoming and inclusive (McKee & Bruce, 2019). To that end, it is important to consider the words (e.g., species names) used in Extension invasive species programs (and beyond) to live up to the land-grant mission.

DEVELOPMENT OF GUIDING PRINCIPLES

We developed guidelines for the creation or modification of common names in our invasive species Extension programming for some invasive species with place-based names. Input was solicited from the 56 members of the University of Minnesota Extension Invasive Species Community of Practice (ISCoP). We then sought feedback from a group of Extension colleagues born outside the United States to inform the revisions of the guidelines. These colleagues clearly articulated the hurtful and harmful impacts associated with naming conventions centered around place-based names. They shared examples of racist and anti-immigrant sentiments and their deep and specific concern that using such descriptors as “Asian,” “Japanese,” or “Oriental” with species was deeply problematic when messaging from many organizations, including government agencies, promoted killing and eradication. Their feedback and comments challenged us to improve the guidelines.

The final guiding principles provide considerations to make when evaluating common name use for invasive species (see Figure 1). We acknowledge that clarity of communication is central to the selection and use of a name. We first promote the use of scientific names. Although scientific names can include place-based references, scientific names can be valuable to laypersons, and their use reduces potential for confusion when species have multiple common names. If deferring to a scientific name on its own is not deemed appropriate, we suggest a thorough search for alternative common names that are already in use in the literature, where the species originates, or from professional societies that may oversee common name selection. When evaluating the list of common names, preferred names avoid references to a geographic or geopolitical area, do not include potentially derogatory terms, avoid names that can cause confusion with other species, may be the scientific name itself, and use descriptives (identification features, host species, features leading to invasion success, characteristic symptoms, etc.). If no common names in use meet these criteria, a new common name that meets the recommended guiding principles may be considered. Similarly, these principles may inspire recommendations to scientific societies and other organizations to broaden changes to common names and adoption of accepted new names.

Any species may go through this process. As a matter of practicality, we initially apply the method to invasive species that are either new to the midwestern United States or are not part of established Extension programs. A team of three to five individuals evaluates common name options. Team members are recruited from within the ISCoP, state agencies, the University of Minnesota, or elsewhere. The team conducts a systematic review, including input from experts for that species where appropriate, and presents a recommendation for a common name. The ISCoP votes to either approve the selected name or offers feedback to the team prior to the selected name being formally adopted.

COMMON NAME SELECTION PROCESS EXAMPLES

To date, we have reviewed and made changes to 19 species or species group names, following the guiding principles (see Table 1). Here, we offer two examples of how the guidelines have steered name selection in our outreach materials and educational programming. The examples represent terrestrial and aquatic taxa and vary in their distribution and number of common names to consider.

Guidelines for the creation or modification of common names for invasive species

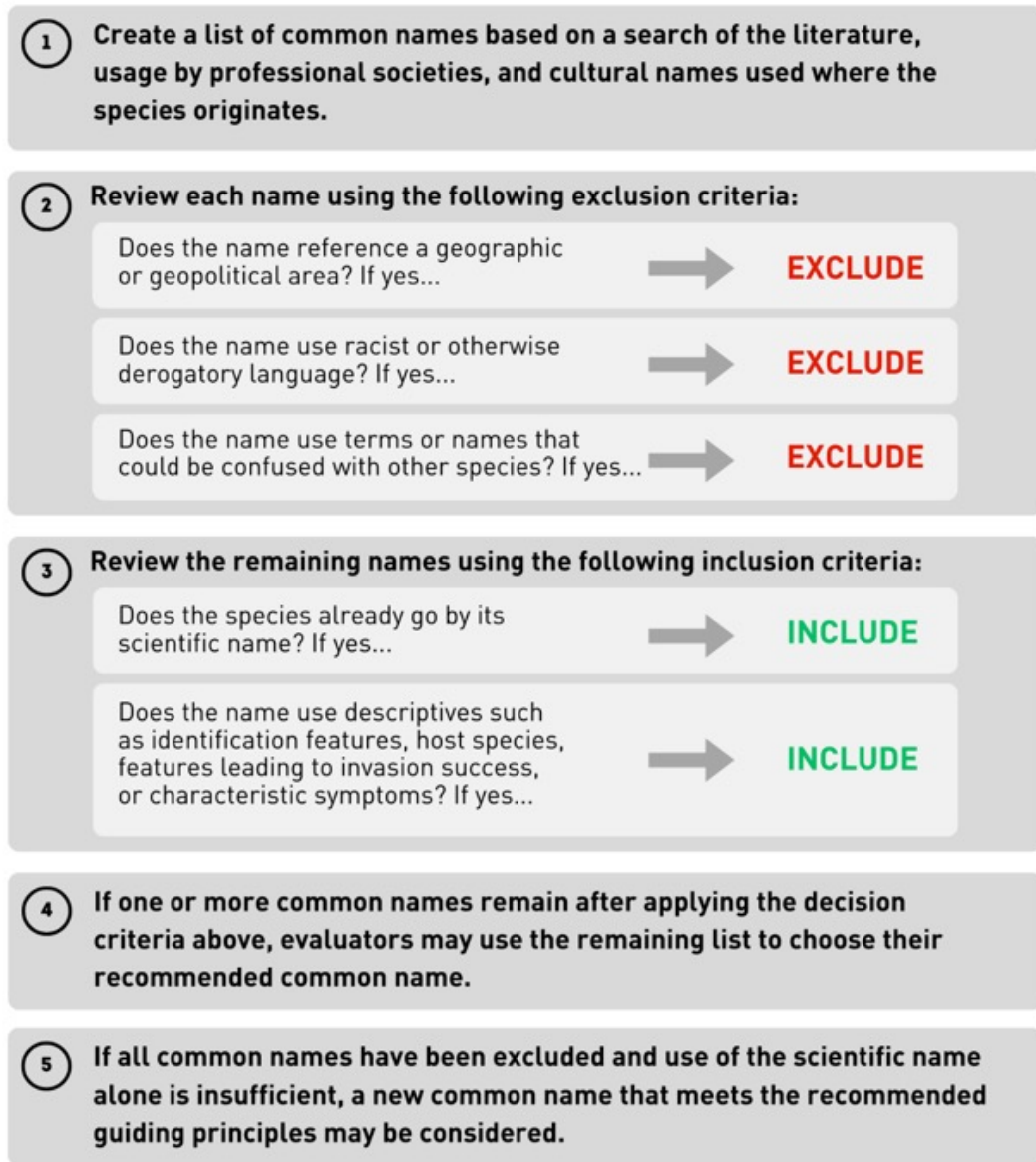


Figure 1. The common name selection process, as outlined in the guiding principles.

THLADIANTHA DUBIA

University of Minnesota Extension educators were confronted with the opportunity to post some of the first information about a new species showing signs of invasiveness in Minnesota, *Thladiantha dubia* (Cucurbitaceae). Although it is a relatively uncommon species in the United States, the common name used most widely, Manchu tubergourd, referenced the Manchurian region in central Asia (Minnesota Noxious Weed Advisory Committee, 2020). Knowing that this name could be problematic, the ISCoP embarked on the common names journey outlined in this paper. An early application of the guiding principles landed on the proposed common name “golden creeper.” ISCoP members quickly pointed out golden creeper is a relatively common generic name applied to many vines with golden flowers, which could lead to confusion and thus made it a poor choice for a primary common name. A slightly reconfigured small group identified “red hailstone” as an existing alternative name that was consistent with our naming recommendations. Red hailstone is descriptive of the color and approximate size of the ripened fruit produced by the plant. Supportive feedback from the ISCoP and our foreign-born colleagues resulted in final approval of red hailstone, which has now been broadly adopted.

CORBICULA FLUMINEA

Corbicula fluminea is a freshwater clam and has often been cited as the most invasive freshwater species in the world (Sousa et al., 2008). The discovery of live *C. fluminea* in an inland Minnesota lake outside its predicted range (Weber & Cibulka, 2022) sparked a need for increased education and outreach in our Extension programming in Minnesota. A literature review and Internet search of outreach materials for *C. fluminea* overwhelmingly returned materials using the common name Asian clam or Asiatic clam. Other identified common names in use included golden clam, good luck clam, basket clam, freshwater Asian gold clam, prosperity clam, golden freshwater clam, and pygmy clam (Adirondack Park Invasive Plant Program, n.d.; Foster et al., 2019; iNaturalist, n.d.; Minnesota Department of Natural Resources, 2020; Sheehan et al., 2019). Asiatic clam, freshwater Asian gold clam, and Asian clam were eliminated from the list of common names in use because of their geographic reference. Pygmy clam was eliminated as a potentially derogatory term with little to no descriptive value. Basket clam and golden clam could be confused with other related species of clams (R. McMahon, personal communication, February 3, 2021). Good luck clam and prosperity clam were eliminated as they were not descriptive terms helpful for species identification. As such, “freshwater golden clam” was selected from the list of common names in use to replace Asian clam in Extension publications and educational materials.

Table 1. List of Species and Species Groups Evaluated by the ISCoP as of the Article Submission Date and Their Recommended Common Names, Based on the Guiding Principles Process

	Scientific name	Recommended common name
Terrestrial plants	<i>Celastrus orbiculatus</i>	Round leaf bittersweet
	<i>Metaplexis japonica</i>	Rough potato
	<i>Thladiantha dubia</i>	Red hailstone
	<i>Rhamnus davurica</i>	Long stalk buckthorn
	<i>Rhamnus utilis</i>	Frozen green buckthorn
	<i>Rhamnus japonica</i>	Rigid hair buckthorn
Molluscs	<i>Corbicula fluminea</i>	Freshwater golden clam
Annelids	<i>Amyntas spp</i>	Jumping worms
	<i>Amyntas agrestis</i>	Rustic jumping worm
	<i>Amyntas corticis</i>	Green jumping worm
	<i>Amyntas gracilis</i>	Thin jumping worm
	<i>Amyntas hupeiensis</i>	Green stink worm
	<i>Amyntas loveridgei</i>	Curling earthworm
	<i>Amyntas minimus</i>	Tiny jumping worm
	<i>Amyntas tokioensis</i>	Compact jumping worm
	<i>Metaphire spp</i>	Metaphire
	<i>Metaphire hilgendorfi</i>	Large jumping worm
	<i>Perionyx spp</i>	Perionyx
	<i>Perionyx excavatus</i>	Iridescent blue worm

CONCLUSIONS AND LOOKING FORWARD

Science communicators working with invasive species face the challenge of raising awareness about particular pests and characterizing costs/benefits of management alternatives, while recognizing how other people might use and interpret those words in a broader social context (Simberloff, 2003). For example, Davies (2022) noted a rise in the use of similar rhetoric and metaphors in British tabloid articles focused on invasive species topics as with those containing anti-immigrant narratives during the Brexit movement in the United Kingdom. This issue has been recognized in other fields, such as public health, where the World Health Organization identified stigma

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and negative unintended consequences of place-based disease names and issued new guidelines for naming novel diseases in 2015, which discouraged names with geographic references (World Health Organization, 2015).

In addition to the improvements to the guiding principles, the feedback from our foreign-born colleagues during the development phase also challenged us to work within our field to push for changes to naming conventions. In that spirit, we shared newly approved common names with database administrators at Minnesota Wildflowers (www.minnesotawildflowers.org), iNaturalist (www.inaturalist.org), EDDMapS (www.eddmaps.org), and elsewhere. Several adopted the names identified through this process. Additionally, we shared these names with staff at natural resource agencies, who also want to improve the descriptiveness of common names for invasive species communication.

Common names frequently have complex histories, with few rules governing their development or use. Some professional scientific societies oversee common names, which represents an opportunity to limit duplication of efforts and avoid a patchwork of alternative common names from multiple organizations seeking alternatives to place-based names. Some of these societies, such as the Entomological Society of America (Lancette, 2021), have started to address problematic common names. However, not all taxa have a governing authority for common name selection. We urge others involved with invasive species outreach, education, communication, research, and management to carefully consider the words they use and alternatives to place-based names in their work. These efforts offer opportunities to limit the harmful unintended consequences of using place-based names and to make invasive species efforts more welcoming.

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