

A GUIDE TO THE

Identification and Control of Exotic Invasive Species

IN ONTARIO'S HARDWOOD FORESTS

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http://www.isri.ca/current-projects/guidebook_electronic-versio.pdf

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Oriental Bittersweet (*Celastrus orbiculatus*)

Other common names:
Asian bittersweet, Japanese bittersweet, Asiatic bittersweet,
Round-leaved bittersweet

Priority Rating: MODERATE

IDENTIFICATION

Oriental bittersweet is native to Japan, China and Korea (Kaufman & Kaufman, 2007). It is a perennial woody vine. Leaves are round with toothed margins, ending in an abrupt tip. The leaves have an alternate arrangement along the stem. Oriental bittersweet is dioecious with separate male and female plants. Only female plants produce the distinctive berry-like fruits with 3 seed compartments (Fig. 198). These compartments are encased in a yellow capsule that opens as the fruit ripens (Swearingen, 2006). The exotic and the native bittersweet are often mistaken for one another, which makes control difficult. The leaves of American bittersweet (*Celastrus scandens*) are not as circular and the tips are not as abruptly pointed as in Oriental bittersweet leaves (Fig. 199).



Figure 198. Oriental bittersweet fruits⁴

ENVIRONMENTAL & ECOLOGICAL IMPACTS

As a vine, Oriental bittersweet can girdle trees and smother understory vegetation (Fig. 200). It can establish in a forest understory and remain relatively unobtrusive until a canopy gap appears. As light penetrates through the canopy, Oriental bittersweet will quickly grow and climb over native species to compete for available light (Greenberg et al. 2001). Oriental bittersweet competes with native American bittersweet for space and nutrients. As a result, American bittersweet is declining (Steward et al. 2003). Hybridization between the two species is also becoming a problem, as valuable genes may be lost. It is very important to ensure that American bittersweet is not damaged during management activities (Swearingen, 2006).

CONTROL

Hand-pulling is only practical in areas with a few scattered individuals. The entire plant, including the roots, should be removed to prevent re-sprouting. For large vines that have become tangled around valuable trees it is best to make two cuts in the stems so that the portion within reach is severed. The root system can either be removed to prevent re-sprouting or regular cuttings can be made throughout the season to exhaust the root reserves (Kaufman & Kaufman, 2007). A combination of manual and chemical control is recommended for large invasions. A licenced exterminator using the basal bark or cut-stem methods can apply herbicides. Repeated applications may be required to kill the vines. Monitor the area and cut any re-sprouts or perform a second herbicide treatment (Swearingen, 2006).



Figure 199: Comparing the leaves of American bittersweet¹⁵ (left) to those of Oriental bittersweet¹⁵ (right).

Figure 200: Oriental bittersweet girdling a tree⁶ (left) and smothering native vegetation¹² (right).