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# Notes on the ecology of the invasive Himalayan wineberry (*Rubus ellipticus* Sm.) in Tāmaki Makaurau / Auckland, Aotearoa / New Zealand

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## Abstract

The invasive Himalayan wineberry, *Rubus ellipticus* (Rosaceae), indigenous to the Himalayan region of Asia, was first recorded in Albany in northern Aotearoa / New Zealand in 2019. This plant has caused significant issues in other regions, such as the Hawaiian Islands and Australia, raising concerns about its potential impact in Aotearoa. Here, we report on the spread and ecology of Himalayan wineberry in the Tāmaki Makaurau / Auckland region. To understand this species, we conducted surveys within and around the known sites in Albany, a suburb of Auckland City. The survey sites we visited were those set by Auckland Council, as per designated polygons based on predicted occurrences from a previous council survey with transects spaced 10 metres apart. Field data found higher numbers of seedlings compared to adult plants, suggesting that the species is in an active phase of spread. Plants were also predominantly found in disturbed areas in association with other invasive plants, indicating it struggles to grow in remnant indigenous forests. Given Himalayan wineberry's spread in Tāmaki Makaurau / Auckland, there is an opportunity for early intervention to prevent further establishment and potential ecological impacts in Aotearoa / New Zealand more widely.

## Keywords

Himalayan wineberry, *Rubus ellipticus*, invasive plant, field survey, ecology, Tāmaki Makaurau / Auckland, Aotearoa / New Zealand

## Introduction

Himalayan wineberry, *Rubus ellipticus* Sm. (Rosaceae), indigenous to the Himalayan region of Asia from southern China to Thailand (Ding et al. 2008; Rojas-Sandoval & Pasiecznik 2015), is a versatile and adaptable species, suited to a wide variety of habitats (Karn et al. 2022; Misra & Sharma 1972; Stratton 1996; Wagner et al. 1999). Himalayan wineberry has two accepted infraspecific ranks, *Rubus ellipticus* Sm. var. *ellipticus*, and *R. ellipticus* var. *obcordatus* (Franch.) Focke, both introduced to many countries as an ornamental plant and source of fruit (Lamichhane et al. 2023). The circumscription of these intraspecific taxa is problematic, and as far as we can judge the differences are slight; in this respect we note that combinations also exist for these intraspecific taxa at the rank of formae. As this paper is not about the taxonomy of *R. ellipticus* but about its occurrences and generic ecology, hereafter we refer to Himalayan wineberry at species rank only. These cultivated ornamental plants have acted as a source for naturalisation and Himalayan wineberry is now regarded as a highly invasive plant, having significant impacts in the ecosystems that it invades. Its invasive range includes the continental United States of America (Lamichhane et al. 2023), South Africa, Australia (Lalla et al. 2018; Karn et al. 2022) and, in particular, Hawai'i, where the species poses a significant threat to native species (Stratton 1996). Himalayan wineberry is a strong competitor, having a fast growth rate and being self-fertile, setting copious fruit and regenerating via underground shoots, making control a protracted task (Lalla et al. 2018). Himalayan wineberry infestations result in a reduction of understorey diversity, and the plant is indicated as being allelopathic (Stratton 1996).

*Rubus ellipticus* was first reported in Aotearoa / New Zealand in 2019, when it was found in wasteland bordering Gills Road, Albany (de Lange et al. 2019). Naturalisation likely stemmed from trial plantings at a local nursery conducting research into the commercial benefits of the fruit (Kelly Wooton, personal communication with Amy Gwynn, April 2024). The largest population of this species was in the proximity of the original nursery, now the North Shore Golf Club. Surveys since the 2019 discovery have found plants in a range of locations, and most seen in this study were seedlings

and juveniles, suggesting that fruits are being widely dispersed, probably by birds, even though fruit has yet to be observed (de Lange et al. 2019). Since the 2019 reported wild occurrence, concern has arisen about the potential invasiveness of Himalayan wineberry, based on its invasive status globally and its overseas behaviour, thriving in a variety of habitats (Jacobi & Warshauer 1992; Karn et al. 2022) and significantly impacting native species (Lalla et al. 2018; Rojas-Sandoval & Pasiecznik 2015; Stratton 1996). This paper documents the ecology of *R. ellipticus* based on observations and data obtained during a survey of Himalayan wineberry within the Albany area.

## Methods

Field surveying was conducted from April to September 2024 (see Figure 1) in areas dictated by Auckland Council (Lydia Starr, personal communication with Amy Gwynn, April 2024). Designated sites in Albany (such as reserves, suburbs, native and mixed forest) surrounding the known population were systematically searched by three-to-four-person groups, individuals searching the area through walking, transects set 10 metres apart until the survey area was covered (Figure 1). Observations of Himalayan wineberry were recorded using ArcGIS Field Maps (v.24.1.3). Collected information included coordinates, total density, population structure (percentage of seedlings and adults) and total counts of plants. Notes were also taken on proportion of light available (fully, partly or not shaded) and vegetation associations. Additionally, there was a risk of misidentifying Himalayan wineberry with other brambles (*Rubus* spp.). To mitigate this identification issue, a site visit with Kelly Wooton, previously familiar with the wineberry, assisted with correct identification, and images or specimens were collected for verification of identification. Removal of plants was to be revisited later by a third party, informed by collected coordinates. Maps displaying all current and previous observations of Himalayan wineberry were made using ArcGIS Pro (v.3.3.1).



**Figure 1.** Study sites surveyed for presence / absence of Himalayan wineberry (*Rubus ellipticus*) in Albany, Tāmaki Makaurau / Auckland. Sites surveyed in 2024: **1**, Gills Scenic Reserve, site where the plant was originally discovered; **2**, Lucas Heights, forest south of The Avenue; **3**, Fernhill Escarpment / Massey University, Auckland Campus; **4**, Lucas Creek, south of Primrose Lane; **5**, North Shore Golf Club; **6**, North Shore Memorial Park; **7**, Schnapper Rock Road forest; **8**, Te Wharau Creek forest; **9**, Forest and pasture, south of Schnapper Rock Road; **10** and **11**, Kyle Road / Seasons Way forest.

## Results

In Albany a total of 73 Himalayan wineberry plants were found – 62 seedlings and 11 adults (Figure 2). These plants were distributed across an area that included Schnapper Rock Road, North Shore Golf Club and Albany Village. Most observations were recorded in a c. 5 ha forest reserve between Schnapper Rock Road and Pin Oak Drive. This forest had an association typical of that found in Tāmaki Makaurau / Auckland kauri forest; i.e., kauri (*Agathis australis* (D.Don) Lindl.), tōtara (*Podocarpus totara* G.Benn. ex D.Don var. *totara*), tānekaha (*Phyllocladus trichomanoides* D.Don), with occasional mataī (*Prumnopitys taxifolia* (D.Don) de Laub.), also with a mix of indigenous and exotic taxa in some areas, with a canopy mainly of rawirinui (*Kunzea robusta* de Lange & Toelken) and *Pinus radiata* D.Don. The understorey of these sites commonly included

rangiora (*Brachyglottis repanda* J.R.Forst. et G.Forst.), hangehange (*Geniostoma ligustrifolium* A.Cunn. var. *ligustrifolium*), karamū (*Coprosma lucida* J.R.Forst. et G.Forst.), māhoe (*Melicytus ramiflorus* J.R.Forst. et G.Forst. subsp. *ramiflorus*), māpou (*Myrsine australis* (A.Rich.) Allan) and kawakawa (*Piper excelsum* G.Forst. subsp. *excelsum*), as well as stands of ponga (*Alsophila dealbata* (G.Forst.) Corda). Vegetation along and above the creeks included kiekie (*Freycinetia banksia* A.Cunn.), supplejack (*Ripogonum scandens* J.R.Forst. et G.Forst.), kahili ginger (*Hedychium gardnerianum* Ker Gawl) and, in one waterlogged area, a large stand of arum lily (*Zantedeschia aethiopica* (L.) Spreng.).

A large pine located on the ridge in the middle of the Schnapper Rock Road forest had uprooted and fallen, collapsing several rawirinui to create a large light pocket. Wineberry seedlings were frequently counted in this area, particularly on the soil at the base of the



**Figure 2.** Occurrences of Himalayan wineberry (*Rubus ellipticus*) found during and prior to the 2024 survey in Albany, Tāmaki Makaurau / Auckland. White triangles represent observations of Himalayan wineberry (*Rubus ellipticus*) before the 2024 survey discussed in this paper. These occurrences of the plant were eradicated by a contracted company (Kelly Wooton, personal communication, Auckland Council, April 2024).



**Figure 3.** Himalayan wineberry (*Rubus ellipticus*) seedling as seen in the Schnapper Rock Road forest. Associated with *Alsophila dealbata*, *Dicksonia squarrosa*, *Paesia scaberula*, *Deparia petersonii* subsp. *congrua* and *Carex* spp. Photo: C. J. James, 20 June 2024.

uprooted pine, seedlings frequently concentrated in areas up to 3 m<sup>2</sup>. Here, the seedlings were often associated with inkweed (*Phytolacca octandra* L.), black nightshade (*Solanum nigrum* L.), *Coprosma* spp. and woolly nightshade (*Solanum mauritianum* Scop.), and less commonly with buttercup (*Ranunculus repens* L.), annual poa (*Poa annua* L.) and *Nertera dichondrifolia* (A.Cunn.) Hook.f. Seedlings were also found growing amongst sedges (*Carex* spp.), pig fern (*Paesia scaberula* (A.Rich.) Kuhn), *Deparia petersenii* subsp. *congrua* (Brack.) M.Kato, whekī (*Dicksonia squarrosa* (G.Forst.) Swartz) (Figure 3) and tradescantia (*Tradescantia fluminensis* Velloso). A few wineberry plants were also found on the edge of this reserve (along Schnapper Rock Road), with the plants growing outside the canopy with large woolly nightshade trees and gorse (*Ulex europaeus* L.). The largest plant found was in the large, waterlogged area dominated by arum lily, where the *R. ellipticus* specimen was found scrambling beneath these plants with branches of approximately two metres in length and in a largely shaded environment. A larger plant was also found on the edge of this reserve (30 Pin Oak Drive), under rawirinui and tōtara, though mostly shaded by houses near the plant. It was also noted that plant leaves occasionally had insect damage, though no insects were observed on the plants.

Several seedlings were also found at the southern end of the North Shore Golf Club, an area where previous incursions of the plants were eradicated by Auckland Council (c. February 2024). These seedlings were

growing in sunny sites within a sward of kikuyu grass (*Cenchrus clandestinus* (Hochst. ex Chiov.) Morrone) with occasional shrubs of gorse, large woolly nightshade and, in some areas, members of the blackberry complex (*Rubus fruticosus* L. agg.). There were no plants recorded alongside the otherwise ‘weedy’ Oteha Stream that passes through Fernhill Escarpment, despite being located between known areas of infestation. This site is composed of remnant podocarp forest, dominated by large tōtara, with kauri, tānekaha, rimu (*Dacrydium cupressinum* Lamb.) and kahikatea (*Dacrycarpus dacrydioides* (A.Rich.) de Laub.), and a dense, mainly undisturbed understorey of indigenous species. Notably, no wineberry was recorded in the north-western side of Lucas Creek. The ridgeline of this area is dominated by large (c. 15 m) rawirinui, while the valleys are vegetated with large taraire (*Beilschmiedea taraire* (A.Cunn.) Benth. et Hook.f. ex Kirk), tawa (*Beilschmiedea tawa* (A.Cunn.) Benth. et Hook.f. ex Kirk) and pūriri (*Vitex lucens* Kirk), with a rich native understorey. Located west of the golf club (across Lucas Creek), a recent landslide hosted many weed species – woolly nightshade, gorse, blackberry, inkweed and pampas (*Cortaderia selloana* (Schult. et Schult.f.) Asch. et Graebn.) – though wineberry was not present despite a thorough search.

## Discussion

The study has several limitations, including potential sampling bias due to the use of 10-metre transects, which may have led to an underrepresentation of seedlings, or small and isolated stands of Himalayan wineberry. Access issues, such as obtaining landowner consent and difficulties in contacting all landowners, also posed challenges. To improve landowner consultation, pamphlets were distributed by Auckland Council in early 2024 before the survey began, alerting the public to the work that would be commencing in the area and providing relevant information on the pest plant species. Furthermore, navigating through dense vegetation such as gorse, climbing asparagus (*Asparagus scandens* Thunb.) and supplejack made it difficult to precisely follow transects, potentially causing some sections to be missed.

Nevertheless, numerous wineberry seedlings and vines were found across various sites, giving insight into the ecology of the plant. The lack of well-developed indigenous vegetation in the areas where Himalayan wineberry is found suggests that it is more adapted to



**Figure 4.** Himalayan wineberry seen growing from the pavement in Kitenui Avenue, Mount Albert, Tāmaki Makaurau / Auckland. Note: P.J. de Lange, 15818, UNITEC 14774, <https://www.inaturalist.org/observations/257625863>. Photo: P. J. de Lange, 7 January 2025.

the disturbed conditions typical of urban and semi-urban vegetation associations. These conclusions agree with research on Himalayan wineberry undertaken overseas, where the plant was reported to grow in predominantly disturbed areas, including a range of habitats such as forest edges and roadsides, where indigenous plants may struggle to grow (Mzumara et al. 2012; Wu et al. 2013). These disturbed areas provide favourable conditions for Himalayan wineberry, allowing it to outcompete the indigenous flora. This is unsurprising, as such indigenous taxa often lack the resilience or rapid growth necessary to reclaim disturbed areas (Wu et al. 2013). The absence of wineberry in areas of undisturbed remnant forest supports the theory of biotic resistance to invasion by complex indigenous plant communities (Feldman et al. 2024; Wang et al. 2022). The association of invasive species with disturbed landscapes is supported by previous literature, in which Himalayan wineberry was reported to be growing with other invasive species such as Ceylon raspberry (*Rubus*

*niveus* Thunb.), a bird-dispersed species, and various alien grasses in Hawai'i (Rentería et al. 2012; Dvorak et al. 2011). In our study, associations with plants such as inkweed and woolly nightshade, which are both invasive plants spread by bird frugivory, corroborate this theory (Gosper et al. 2005; Price 2008).

Furthermore, locations of Himalayan wineberry were contained to the Albany / Schnapper Rock Road area, with no evidence that this species was expanding its range into suitable disturbed habitats in Lucas Heights. Observations of the plant also occurred in areas previously controlled (Figure 2), and more seedlings were found in the same area of Schnapper Rock Road forest in August 2025, advocating that known sites be revisited to ensure eradication. However, wineberry seeds are bird dispersed, so the plant could be expected to be in areas in Tāmaki Makaurau / Auckland that were not covered in this survey. This concern was borne out by the discovery of a plant growing in a crack within an asphalt pavement (Figure 4) at Kitenui Road, Mount Albert (P.J. de Lange, 15818, UNITEC14774, <https://www.inaturalist.org/observations/257625863>). It is quite likely that further undetected naturalisations are present in the region.

## Conclusion

The Albany survey confirmed the presence of Himalayan wineberry in a range of known sites with a few mature, potentially reproductive, specimens seen ( $n=11$ ), though flowers and fruits remain unobserved. The survey also found numerous seedlings within small, concentrated areas (3 m<sup>2</sup>), which indicates active local dispersal and potentially a long-lived seed bank. Auckland Council has previously conducted control of this species, particularly mature vines in the Albany area, the success of which is evident by the small number of mature plants detected in this survey. Despite the 2025 Mount Albert discovery some 20 km south of known infestations, eradication remains a viable option for Himalayan wineberry as plants are easily identified, and known infestations are small and localised. To verify this, it is suggested that further surveys are conducted in areas of Tāmaki Makaurau / Auckland extending out from the perceived initial locations in Albany. However, critical to our understanding of the wineberry is determining its phenology. When Himalayan wineberry was first reported as naturalised in Aotearoa / New Zealand in June 2019, de Lange et al. (2019) observed plants flowering but not

in fruit. The numerous seedlings attest to Himalayan wineberry setting fruit, yet our survey did not find fruiting plants. We recommend that research into wineberry flowering and fruiting times is undertaken, and that data is collected on fruit dispersal vectors.

## Data Accessibility Statement

No additional database.

## Author Contributions

**Amy Gwyne:** Data curation (lead); investigation (lead); methodology (lead); validation (equal); visualisation (equal); writing – original draft (equal); writing – review and editing (equal).

**Campbell James:** Investigation (equal); methodology (equal); validation (equal); visualisation (equal); writing – original draft (lead); writing – review and editing (equal); image curation (lead).

**Diane Fraser:** Conceptualisation (equal); validation; visualisation (equal); writing – review and editing (equal).

**Jemma Owen:** Investigation (equal); methodology (equal).

**Peter de Lange:** Conceptualisation (equal); validation (equal); visualisation (equal); writing – original draft (equal); writing – review and editing (equal).

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## References

- de Lange, P. J., Blanchon, D. J., Doyle, E., Marshall, A. J., Schönberger, I., Killick, S. (2019). First record of Himalayan wineberry (*Rubus ellipticus* var. *obcordatus* (Franch.) Focke., Rosaceae) in New Zealand. *Perspectives in Biosecurity*, 4: 33–39. <https://www.unitec.ac.nz/epress/wp-content/uploads/2019/12/Perspectives-in-Biosecurity-4-deLange-et-al.pdf>
- Ding, J., Wu, K., Zhang, J. (2008). *Preliminary exploration for natural enemies of Rubus ellipticus in China*. Wuhan: Chinese Academy of Sciences. 20 pp. <https://dlnr.hawaii.gov/hisc/files/2013/03/Johnson-Rubus-ellipticus-final.pdf>
- Dvorak, M., Fessler, B., Nemeth, E., Kleindorfer, S., Tebbich, S. (2011). Distribution and abundance of Darwin's finches and other land birds on Santa Cruz Island, Galápagos: Evidence for declining populations. *Oryx*, 46(1): 78–86. <https://doi.org/10.1017/s0030605311000597>
- Feldman, E. V., Walsworth, T. E., Kettenring, K. M. (2024). Native species identity drives plant community growth and biotic resistance. *Applied Vegetation Science*, 27(3): e12808. <https://onlinelibrary.wiley.com/doi/10.1111/avsc.12808?af=R>
- Gosper, C. R., Stansbury, C. D., Vivian-Smith, G. (2005). Seed dispersal of fleshy-fruited invasive plants by birds: Contributing factors and management options. *Diversity and Distributions*, 11(6): 549–558. <https://doi.org/10.1111/j.1366-9516.2005.00195.x>

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- Jacobi, J. D., Warshauer, F. R. (1992). Distribution of six alien plant species in upland habitats on the island of Hawai'i. In: Stone, C. P., Smith, C. W., Tunison, J. T. (eds.), *Alien plant invasions in native ecosystems of Hawai'i: Management and research* (pp. 155–188). Honolulu: University of Hawai'i Cooperative National Park Resources Studies Unit. 888 pp. <http://www.hear.org/books/apineh1992/pdfs/apineh1992ii2jacobiwarshauer.pdf>
- Karn, A., Quasim, M. A., Hmar, E. B. L., Paul, S., Sharma, H. K. (2022). An updated review of *Rubus ellipticus* (an edible shrub), its bioactive constituents and functional properties. *Sciences of Phytochemistry*, 1(2): 76–86. <https://doi.org/10.58920/sciphy01020022>
- Lalla, R., Cheek, M. D., Nxumalo, M. M., Renteria, J. L. (2018). First assessment of naturalised *Rubus ellipticus* Sm. populations in South Africa – A potential invasion risk? *South African Journal of Botany*, 114: 111–116. <https://doi.org/10.1016/j.sajb.2017.10.020>
- Lamichhane, A., Lamichhane, G., & Devkota, H. P. (2023). Yellow Himalayan raspberry (*Rubus ellipticus* Sm.): Ethnomedicinal, nutraceutical, and pharmacological aspects. *Molecules*, 28(16): 6071. <https://doi.org/10.3390/molecules28166071>
- Misra, L. P., Sharma, V. K. (1971). Preliminary investigations on the control of weeds in the apple orchard. *Himachal Journal of Agricultural Research*, 1(1): 46–8.
- Mzumara, T. I., Hockey, P. A. R., Ridley, A. R. (2012). Re-assessment of the conservation status of Malawi's 'Endangered' yellow-throated Apalis *Apalis flavigularis*. *Bird Conservation International*, 22(2): 184–192. <https://doi.org/10.1017/S0959270911000335>
- Price, O. F. (2008). Indirect evidence that frugivorous birds track fluctuating fruit resources among rainforest patches in the Northern Territory, Australia. *Austral Ecology*, 29(2): 137–144. <https://doi.org/10.1111/j.1442-9993.2004.tb00306.x>
- Renteria, J. L., Gardener, M. R., Panetta, F. D., Atkinson, R., Crawley, M. J. (2012). Possible impacts of the invasive plant *Rubus niveus* on the native vegetation of the *Scalesia* forest in the Galapagos islands. *PLOS One*, 7(10): e48106. <https://doi.org/10.1371/journal.pone.0048106>
- Rojas-Sandoval, J., Pasiecznik, N. (2015). *Rubus ellipticus* (yellow Himalayan raspberry). *CABI Compendium*, 47994. <https://doi.org/10.1079/cabicompendium.47994>
- Stratton, L. (1996). *The impact and spread of Rubus ellipticus in 'Ola'a Forest Tract Hawai'i Volcanoes National Park* (Technical Report 107). Honolulu: Cooperative National Park Resources Studies Unit, University of Hawai'i at Manoa. 35 pp. <https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/c37afb09-7350-425d-8967-8bbba119d5fd/content>
- Wagner, W. L., Herbst, D. R., Sohmer, S. H. (1999). *Manual of the flowering plants of Hawai'i*. Revised edition. Honolulu: University of Hawai'i Press. 1952 pp.
- Wang, C., Yu, Y., Cheng, H., Du, D. (2022). Which factor contributes most to the invasion resistance of native plant communities under co-invasion of two invasive plant species? *Science of the Total Environment*, 813: 152628. <https://doi.org/10.1016/j.scitotenv.2021.152628>
- Wu, K., Center, T. D., Yang, C., Zhang, J., Zhang, J., Ding, J. (2013). Potential classical biological control of invasive Himalayan yellow raspberry, *Rubus ellipticus* (Rosaceae). *Pacific Science*, 67(1): 59–80. <https://doi.org/10.2984/67.1.5>