

Eltham Copper Butterfly "The people's choice"

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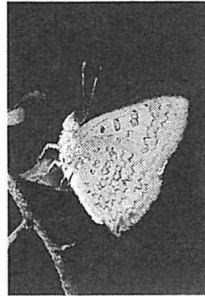


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Many Victorians will be familiar with the name Eltham Copper Butterfly, due to the significant publicity which has accompanied community efforts to ensure its survival in the urban environs of Eltham and Greensborough.

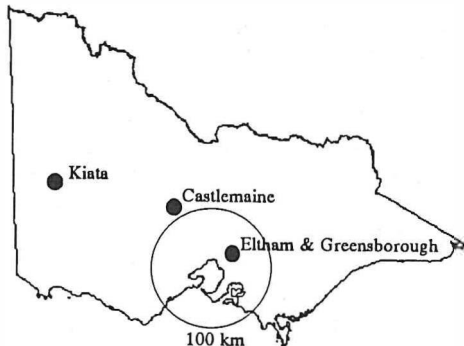
The Eltham Copper (*Paralucia pyrodiscus lucida*) is restricted to a few scattered areas in central and western Victoria (Braby et al. 1992), and is classified by the Department of Conservation and Natural Resources (CNR) as vulnerable (Baker-Gabb 1991). Although discovered only in 1938 at Eltham, a marked reduction in the abundance of the Eltham Copper was noted during the 1950's until, eventually, the sub-species was feared to have become extinct near Melbourne (New 1991).



The Eltham Copper Butterfly showing pattern on lower surface of wings. Its body length is 1cm and wingspan 2.5cms.

However, the discovery in 1987 of several colonies at Eltham resulted in a call from local residents and naturalist groups for protection of the butterfly. This led to purchase of a small area of private land ("Diosma Road" site), otherwise destined for sub-division, and the securing of a government block ("Eucalyptus Road" site) also scheduled for sale.

Public fund-raising and policy initiatives ultimately saw the key parts of these properties reserved for the butterfly. Other lesser colonies still occur on community-owned land at a nearby linear reserve, as well as at Eltham Lower Park and at Yandell Reserve, Greensborough. Additional small colonies exist on private land in the surrounding urban area, three of these being adjacent or near to the established butterfly reserves, another two being more isolated.



Location of Eltham Copper Butterfly colonies in Victoria.

Other colonies are known in rural environments at Castlemaine (south of Bendigo) and in the Kiata-Salisbury area (west of Dimboola). However, the public interest in the butterfly clearly springs from its situation in urban Eltham, where local residents, supported by the wider community, have vigorously expressed the view that they value the Eltham Copper as part of their urban environment.

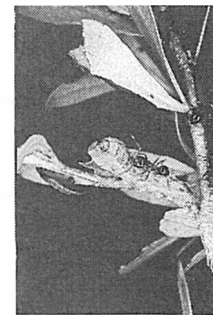
Life of the Eltham Copper

The butterfly presents a fascinating example of co-operation between two very different insect groups, sharing a host plant. Its eggs are laid on plants of a spiny dwarfed form of Sweet Bursaria (*Bursaria spinosa*), at the bases of which nest ants of the genus *Notoncus*. The larvae (caterpillars) which hatch from the eggs are constantly tended by the ants, which accompany the larvae into the ant nest during daylight or during inclement weather (Vaughan 1988).



Sweet Bursaria, food plant of the Eltham Copper larva, and source of nectar for the butterfly, is easily recognised by its purse-like seed capsules.

The larva obtains both shelter and protection from the ants, while the ants probably harvest sugar and amino acid secretions from the larva. Larvae pupate in or near the ant nest, with adult emergence occurring from about late November to mid-January at Eltham. The adults feed on nectar of *Bursaria* flowers, and that of other species such as *Hakea* spp. A second wave of emergence occurs during March-April, possibly reflecting a December egg-laying. Alternatively, this second generation may overwinter as larvae until the next season, depending upon vegetation and climatic conditions during the summer months (Vaughan 1988).



*(Left) Eggs of the Eltham Copper Butterfly laid near the base of a Sweet Bursaria plant a few centimetres above the ant nest. They may also be deposited amongst leaf litter. (Right) At night ants *Notoncus enormis* attend an Eltham Copper larva feeding on Sweet Bursaria.*



The largest colony at Eltham, occupying only a few hundred square metres, contained 300-500 larvae when estimated directly by nocturnal counts. Adult Eltham Coppers are fast flyers, defending a territory of perhaps 20m radius and, although small, are exquisitely marked, with the male hind-wing bearing a distinctively sharp patch of bright copper scales (Vaughan 1988).

Benefits of butterflies to landholders

Landholders living in and around the haunts of the Eltham Copper may be interested to learn not only what they can do to benefit the butterfly, but what benefits they themselves might experience.

The continued presence of natural vegetation and specialised native butterfly species, such as the Eltham Copper, helps to reassure residents that urbanization and pollution have not overshadowed the natural features of the local environment. This perception can enhance the quality of urban community life. CNR has been advised by the Real Estate Institute of Victoria (REIV), as well as by individual agents, that it can also improve property values. The REIV considers that flora and fauna conservation on a property "is often relied upon as a positive benefit, adding value to that particular property asset" (DCE, 1991). Grace (1988), in a socioeconomic valuation focussing on the Eltham Copper, argued that a 10% increase in market values of properties near Eltham Copper Butterfly colonies within 11 months of their discovery was due to "some positive force unique to Eltham area", not simply to market forces. Grace suggests this force to be the "proximity to areas of tranquillity and environmental significance".

Butterfly conservation has other potential spin-offs. The retention of butterfly reserves on sites otherwise destined for development may effectively reduce future pollution and congestion from traffic and people, even though the reserves might themselves attract numerous visitors. Intangible benefits include satisfaction for local residents in living close to, and having access to, wildlife areas, and knowing that their children will also have this option. Vicarious consumers (remote supporters of the butterfly's conservation) may also derive satisfaction and, clearly, the growing scarcity of natural bushland within Melbourne's suburbs works to enhance this satisfaction (Grace 1988).

The natural history of the Eltham Copper Butterfly also has great educational potential. Few people are unimpressed by the delicate and complex relationship between the butterflies, the ants, and the foodplants. The fact that local residents, with a little effort, can host this fascinating life-cycle on their own private land provides the community with a potential bonus of experience, awareness and prestige.

Our outlook and future management

While much effort and funding has been expended to attain the current level of protection, the long-term survival of the "urban" Eltham Copper population is still considered highly dependent upon the adequacy of existing buffers around colonies and the ultimate effect of proximity to urban housing developments (New 1991).

New (1991) suggests that an increasing emphasis on wildlife resources in people's gardening practices, at the expense of neatness, is likely to accordingly influence local councils in their management of community-owned lands. Such practices may include deliberate planting of larval food plants and other attractant nectar plants as food supplies for adult butterflies. In the developing estates adjacent to butterfly reserves at Eltham, opportunities exist for landholders to retain at least small groves of native *Bursaria* and associated plants, and to protect these

from garden sprays, trampling, grazing, weed invasion, unnatural drainage regimes, pollution and slashing. Protection should also currently be given from fire, although further studies may reveal the need for periodic burning to retain the natural elements of the butterfly habitat.

The technology of translocating Eltham Copper Butterfly larvae or pupae from one site to other suitable nearby sites (an operation requiring a CNR permit) is undergoing promising developments, and offers the prospect that landholders re-establishing suitable *Bursaria* habitat might one day expect to host further colonies of the butterfly.

Landholders interested in the Eltham Copper, especially those who believe they may have suitable habitat on their properties, may obtain expert advice and assistance by contacting the Eltham Copper Butterfly Ranger or the *Land for Wildlife* Extension Officer of CNR's Melbourne Region, the Conservation Officer at the Shire of Eltham, or the *Friends of Eltham Copper Butterfly*, on the numbers given below.

People with suitable habitat, especially in the Eltham-Greensborough area, are encouraged to apply to CNR for membership of the *Land for Wildlife* scheme. The scheme, which is jointly hosted by CNR and the Bird Observers Club of Victoria, can offer sound advice on how to manage your potential butterfly habitat, regular newsletters and notes to keep you better informed, and an attractive sign to display on your property, indicating your commitment to voluntary conservation.

Contacts:

Eltham Copper Butterfly Ranger or *Land for Wildlife*
Extension Officer 03 844 2659
Shire of Eltham 03 430 1122
Friends of Eltham Copper Butterfly 03 439 9015

People with inquiries on butterfly colonies in Castlemaine or Kiata should contact CNR offices in Bendigo (054 446666) and Horsham (053 811255) respectively.

References & further reading

- Baker-Gabb, D. (1991). List of threatened fauna in Victoria in 1991. Unpublished report, Department of Conservation and Environment.
- Braby, M.F. (1990) Life history and biology of *Pyrodiscus lucida* Crosby (Lepidoptera: Lycaenidae), J. Aust. ent. Soc., 29, 41-50.
- Braby, M.F., D.F. Crosby and P.J. Vaughan (1992). Distribution and range reduction in Victoria of the Eltham Copper Butterfly *Paralucia pyrodiscus lucida* Crosby. *Victorian Nat.* 109(5): 154-161.
- DCE (1991). "What the Real Estate Institute of Victoria said about the value of natural vegetation on a property." *Land for Wildlife News* 1(3): 9, June 1991; Department of Conservation and Environment.
- DCNR (1992) Action Statement No. 39, Eltham Copper Butterfly *Paralucia pyrodiscus lucida* compiled by Alan Webster, Department of Conservation and Natural Resources.
- Grace, R. (1988). The social valuation of endangered wildlife. Discussion Paper No. 45; Economics Unit, Department of Conservation, Forests and Lands.
- New, T.R. (1991). *Butterfly Conservation*. Oxford Univ. Press Australia; 224 pp.
- Vaughan, P.J. (1988). Management plan for the Eltham Copper Butterfly (*Paralucia pyrodiscus lucida* Crosby). Arthur Rylah Institute Tech. Report Series No. 79, Department of Conservation, Forests and Lands.