

Orthotomicus erosus

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Scolytidae

Common name European bark beetle (English), Mediterranean pine engraver beetle (English)

Synonym

Similar species *Ips latidens*, *Ips pini*, *Orthotomicus caelatus*

Summary *Orthotomicus erosus* is an engraver beetle of the family Scolytidae. It is being introduced around the world, often due to the wood packaging material used in the shipment of textiles and other products. *Orthotomicus erosus* is a carrier for pathogenic fungi and is known to carry *Sphaeropsis sapinea*, which causes extensive mortality of many *Pinus* spp.



[view this species on IUCN Red List](#)

Species Description

Cavey *et al.* (2004) reports that the length of *Orthotomicus erosus* is generally between 2.7 and 3.5mm. It is reddish brown in colour. The anterior portion of the pronotum (the region of an insects body immediately behind the head) on this species is asperate (rough with points or projections). The elytral declivity (downward slope of the modified forewings of beetles serving as protective coverings for the hindwings) is also moderately concave with lateral spines or teeth on it. Please see [Cavey et al. 1994](#) for aid in identification.

Habitat Description

Campbell (2004) states that, "*O. erosus* primarily attack pine species (*Pinus*) but can also occur on Douglas-fir (*Pseudotsuga menziesii*), spruce (*Picea*), fir (*Abies*), and cedar species (*Cedrus*). The beetle infests recently fallen trees, slash, and stressed living trees."

Reproduction

Campbell (2004) states that, "While beetles inhabit non *Pinus* species, beetle reproduction is limited to infestations in pine species."

General Impacts

Campbell (2004) states that, "As with other bark beetles, one of the major dangers from *O. erosus* is the transmission of pathogenic fungi, including blue stain fungi such as *Ophiostoma minus*." Wylie (2000) states that, "The fungus *Sphaeropsis sapinea* has caused extensive mortality of *Pinus* spp. following hail damage in South Africa, and Zwolinski *et al.* (1990) have estimated that losses of US\$ 3.2 million per year have been incurred. Damage due to *Sphaeropsis* dieback is often exacerbated through infestation of trees by the weevil *Pissodes nemorensis* and *Orthotomicus erosus*."

Management Info

Integrated management: Henin and Paiva (2004) state that, "Management of bark beetle populations, such as *O. erosus* can only be achieved by adopting an integrated approach. Among preventive measures, this approach must combine "prophylactic" silviculture practices with an enhancement of their natural enemies, some of which have been shown to exert a significant impact upon bark beetle populations."

Chemical: In field experiments, Klimetzek and Vite (1986) were able to lure *O. erosus* into traps baited with a combination of the beetle produced compounds 2-methyl-3-buten-2-ol and ipsdienol. The authors state that, "When offered along with 2-methyl-3-buten-2-ol, an up to 1000-fold increase in concentration of racemic ipsdienol led to a continual increase in catch of *O. erosus* and *Ips sexdentatus*, accompanied by a steady increase of .female..female.-%. It is assumed that 2-methyl-3-buten-2-ol influences landing behaviour of *O. erosus*, while ipsdienol acts as a long distance signal".

Mechanical: In South Africa, Wylie (2000) reports that, "Sanitation felling and removal of Rhizina-infected older trees is necessary to prevent build-up of *O. erosus*."

Biological: Tribe and Kfir (2001) have been studying *Dendrosoter caenopachoides*, which was introduced into South Africa for the biological control of *O. erosus*.

Pathway

Orthotomicus erosus has most commonly entered the United States from other countries through various crated exports such as, crating tiles, marble, and granite (Haack, 2001).

Principal source: Campbell (2004) states that, "While beetles inhabit non *Pinus* species, beetle reproduction is limited to infestations in pine species."

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Prof. Dr. Maria Rosa Paiva DCEA, Faculdade de Ciências e Tecnologia Universidade Nova de Lisboa Portugal

Publication date: 2005-08-29

ALIEN RANGE

[1] CHILE

[4] SOUTH AFRICA

[1] FIJI

[7] UNITED STATES

BIBLIOGRAPHY

31 references found for *Orthotomicus erosus*

Management information

Campbell, F. T. 2004. Mediterranean Pine Engraver Beetle *Orthotomicus erosus* Wollaston. The Nature Conservancy: Gallery of Pests: Potential Exotic Pest Threats to North American Forests.

Summary: Available from: <http://tncweeds.ucdavis.edu/products/gallery/orter1.html> [Accessed 4 January 2005]

Delabie, J. H. C., Jahyny, B., Cardoso do Nascimento, I., Mariano, C. S. F., Lacau, S., Campiolo, S., Philpott, S. M. & Leponce, M. (2007). Contribution of cocoa plantations to the conservation of native ants (Insecta: Hymenoptera: Formicidae) with a special emphasis on the Atlantic Forest fauna of southern Bahia, Brazil. *Biodiversity and Conservation* 16: 2359-2384.

Haack, R. A. 2001. Intercepted Scolytidae (Coleoptera) at U.S. ports of entry: 1985-2000 *Integrated Pest Management Reviews* 6: 253-282.

Summary: Information on interception of Scolytidae, at US ports, origin and frequency.

Henin, J. M., and M. R. Paiva. 2004. Interactions between *Orthotomicus erosus* (Woll.) (Col., Scolytidae) and the Argentine ant *Linepithema humile* (Mayr) (Hym., Formicidae). *Journal of Pest Science*. 2004; 77(2): 113-117.

Klimetzek, D., and J. P. Vite. 1986. The role of insect produced attractants on the aggregation behavior of the Mediterranean Pine Engraver Beetle *Orthotomicus erosus* *Journal of Applied Entomology*. 1986; 101(3): 239-243.

Mendel, Z., O. Boneh, and J. Riov. 1992. Some foundations for the application of aggregation pheromone to control pine bark beetles in Israel. *Journal of Applied Entomology*. 1992; 114(3): 217-227.

Tribe, G. D., and R. Kfir. 2001. The establishment of *Dendrosoter caenopachoides* (Hymenoptera: Braconidae) introduced into South Africa for the biological control of *Orthotomicus erosus* (Coleoptera: Scolytidae), with additional notes on *D. sp. nr. labdacus* Afr. Entomol. 9: 195-198.

Global Invasive Species Database (GISD) 2024. Species profile *Orthotomicus erosus*. Available from: <https://www.iucngisd.org/gisd/species.php?sc=787> [Accessed 26 April 2024] Pag. 2

General information

- Amezaga, I., and M. A. Rodriguez. 1998. Resource partitioning of four sympatric bark beetles depending on swarming dates and tree species. *Forest Ecology and Management*. 1998; 10(1-3): 127-135.
- Boer, P. & Vierbergen, B. (2008). Exotic ants in The Netherlands (Hymenoptera: Formicidae). *Entomologische Berichten* 68(4): 121-129
- Bright, D. E. 1989. Additions to the Scolytidae fauna of the Azores North Atlantic Ocean Coleoptera. *Bocagiana* (Funchal). 1989; (129): 1-2.
- Cavey, J., Passoa, S. and Kucera D. 1994. [Screening Aids for Exotic Bark Beetles in the Northeastern United States. NA-TP-11-94. Northeastern Area: U.S. Department of Agriculture, Forest Service.](#)
- Summary:** Available from: <http://www.barkbeetles.org/exotic/oreross.html> [Accessed 4 January 2005]
- Choe, H. C., Lim, J. O., & Lee, S. (2009). *Tapinoma melanocephalum* (Fabricius), a new exotic pest in Korea. *Journal of Asia-Pacific Entomology* 12: 67-69.
- [Cooperative Agriculture Pest Survey. 2004. Reported Status of Mediterranean Pine Engraver B., *Orthotomicus erosus* in US and Puerto Rico. National Agricultural Pest Information System.](#)
- Summary:** Available from: <http://www.ceris.purdue.edu/napis/pests/barkb/imap/medpine.html> [Accessed 4 January 2005]
- [ITIS \(Integrated Taxonomic Information System\), 2004. Online Database *Orthotomicus* spp.](#)
- Summary:** An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
- Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=654066 [Accessed December 31 2004]
- [Iziko Museums of Cape Town. 2004. *Orthotomicus erosus* \(European Bark Beetle\). Biodiversity Explorer.](#)
- Summary:** Available from: http://www.museums.org.za/bio/insects/beetles/scolytidae/orthotomicus_erosus.htm [Accessed 4 January 2005]
- Jurc, M. UNDATED. Bark Beetles (Scolytidae, Coleoptera) in Slovenia with Special Regard to Species in Burnt Pine Forests. University of Ljubljana, Biotechnical Faculty, Department of Forestry and Renewable Forest Resources.
- Kadyrov, A. K. 1988. On the bark beetle fauna Coleoptera Scolytidae of tree species in the Southwestern Tadzhik SSR USSR. *Entomologicheskoe Obozrenie*. 1988; 67(1): 42-47.
- Kirkendall, L. R.. 1989. Within-Harem Competition among Ips females an overlooked component of density-dependent larval mortality. *Holarctic Ecology*. 1989; 12(4): 477-487.
- Mendel, Z. 1983. Season history of *Orthotomicus erosus* Coleoptera Scolytidae in Israel. *Phytoparasitica* 1983; 11(1): 13-24.
- Mendel, Z., and J. Halperin. 1982. The biology and behavior of *Orthotomicus erosus* in Israel. *Phytoparasitica*. 1982; 10(3): 169-182.
- Mendel, Z., Z. Madar, and Y. Golan. 1985. Comparison of the seasonal occurrence and behavior of 7 Pine Bark Beetles Coleoptera Scolytidae in Israel. *Phytoparasitica* 1985; 13(1): 21-32.
- Neville, P. J., O Dowd, D. J. & Yen, A. L. (2008). Issues and implications for research on disturbed oceanic islands illustrated through an ant survey of the Cocos (Keeling) Islands. *Journal of Insect Conservation* 12: 313-323.
- Ramsden, M., J. McDonald, and F. R. Wylie. 2002. Forest pests in the South Pacific region: A review of the major causal agents of tree disorders. Department of Primary Industries, Agency for Food and Fibre Sciences, Forestry Research, Queensland, Australia.
- Schvester, D. 1986. Forest Entomology Problems in the Mediterranean zone of France. *Bulletin OEPP*. 1986; 16(4): 603-612.
- [Texas A&M University. \(2008\). Ghost Ant, *Tapinoma melanocephalum* \(Fabricius\). Accessed 26 June, 2009 from](#)
- Summary:** Available from: <http://urbanentomology.tamu.edu/ants/ghost.cfm> [Accessed 25 June 2009]
- Tribe, G. D. 1991. Phenology of three exotic pine bark beetle species Coleoptera Scolytidae colonising *Pinus radiata* logs in the south-western Cape Province. *South African Forestry Journal*. 1991; (157): 27-31.
- Wetterer, J.K. (2002). Ants of Tonga. *Pacific Science* 56(2):125-135.
- Wingfield, M. J., B. Slippers, J. Roux, and B. D. Wingfield. 2001. Worldwide Movement of Exotic Forest Fungi, Especially in the Tropics and the Southern Hemisphere. *Bioscience* 51(2): 134-141.
- [Wylie, R. 2000. Integrated Pest Management in Tropical Forestry. Proceedings of the International Conference on Timber Plantation Development.](#)
- Summary:** Available from: http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/005/ac781e/AC781E07.htm [Accessed 4 January 2005]
- Zhou, X., W. De-Beer, B. D. Wingfield, and M. J. Wingfield. 2002. Infection sequence and pathogenicity of *Ophiostoma ips*, *Leptographium serpens* and *L. lundbergii* to pines in South Africa. *Fungal Diversity*. 2002; 10: 229-240.
- Zwolinski, J. B., W. J. Swart, and M. J. Wingfield, 1995. Association of *Sphaeropsis sapinea* with insect infestation following hail damage of *Pinus radiata*. *Forest-Ecology-and-Management*. 1995; 72(2-3): 293-298.
- Summary:** An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
- Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648901 [Accessed 18 March 2008]