

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ЕВРОПЕЙСКАЯ И СРЕДИЗЕМНОМОРСКАЯ ОРГАНИЗАЦИЯ ПО ЗАЩИТЕ РАСТЕНИЙ
ORGANIZATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES

Data Sheets on Forest Pests

Corymbia succedanea

IDENTITY

Name: *Corymbia succedanea* Lew.

Synonym: *Leptura succedanea* L. (Miroshnikov, 1998; Miroshnikov A. I., personal communication);
Anoplodera succedanea Lew. (Miroshnikov, 1998; Miroshnikov A. I., personal communication).

Taxonomic position: Insecta: Coleoptera: Cerambycidae

Common Name: Asian conifer borer (English)

Bayer computer code: CRMASU

HOSTS

C. succedanea attacks all available species of conifers, but prefers *Pinus koraiensis*, *Pinus pumila* and *Picea* species (Pavlovskii and Shtakelberg, 1955; Cherepanov, 1979).

GEOGRAPHICAL DISTRIBUTION

EPPO region: Russia (Transbaikalia, South Far East).

Asia: Russia (Transbaikalia, south Far East), northern China, Japan, Korea, (Plavilshchikov, 1936; Pavlovskii and Shtakelberg, 1955; Cherepanov, 1979).

EU: Absent

BIOLOGY

Adults of *C. succedanea* fly from the end of June to the beginning of September and the mass flight usually occurs at the end of July and the beginning of August. Adult beetles live 3 to 4 weeks. The pest usually attacks stressed or dying trees, as well as felled timber and stumps. Females lay eggs into cracks in the bark and one female may lay as many as 200 eggs. Embryonic development lasts about 3 weeks and the larvae continue to emerge until September. Larvae make longitudinal galleries, first just under the bark and later into the wood, which are 10 to 16 mm wide and filled with frass. Overwintering occurs in the galleries

and, in the spring, the larvae continue to feed and then make pupation cells in the sapwood, parallel to the surface of the trunk. Pupation cells are 35 - 50 mm long and 10 - 14 mm wide. Pupal development takes 16 - 18 days and the callow adults stay in the pupation cells for about one week. The whole developmental cycle of the pest takes one year (Plavilshchikov, 1936; Pavlovskii and Shtakelberg, 1955; Cherepanov, 1979).

DETECTION AND IDENTIFICATION

Symptoms

Characteristic symptoms are: large entrance and emergence holes in trunks, loose bark, boring dust at the bases of infested trees, beetles sitting on the trunks and tunnels made by the large larvae.

Morphology

Egg

The egg is white, elongated, 1.8 mm long, 0.5 mm wide, pointed at one end, widely rounded at the other, and covered by well-developed cell sculpture (5-6 sided cells) (Cherepanov, 1979).

Larva

The larva of *C. succedanea* is white, and reaches 34 mm in length just before pupation. It has a reddish-orange head, which is about 5 mm wide, covered with sparse, reddish hairs, with a red labrum and black mandibles. The hypostoma is prominent, the epistoma is depressed, with a brown longitudinal suture in the middle. The pronotum is transverse, slightly widened to the front, covered from the lateral sides by long hairs. Dorsal ambulatory warts (ampullae) on the 1st to 7th segments are prominent, well sclerotised, with hyaline granules forming two transverse ellipsoids (internal and external). Within the internal ellipsoid, there are 4-6 bristles. The weight of the larva before pupation reaches 300-560 mg (Cherepanov, 1979).

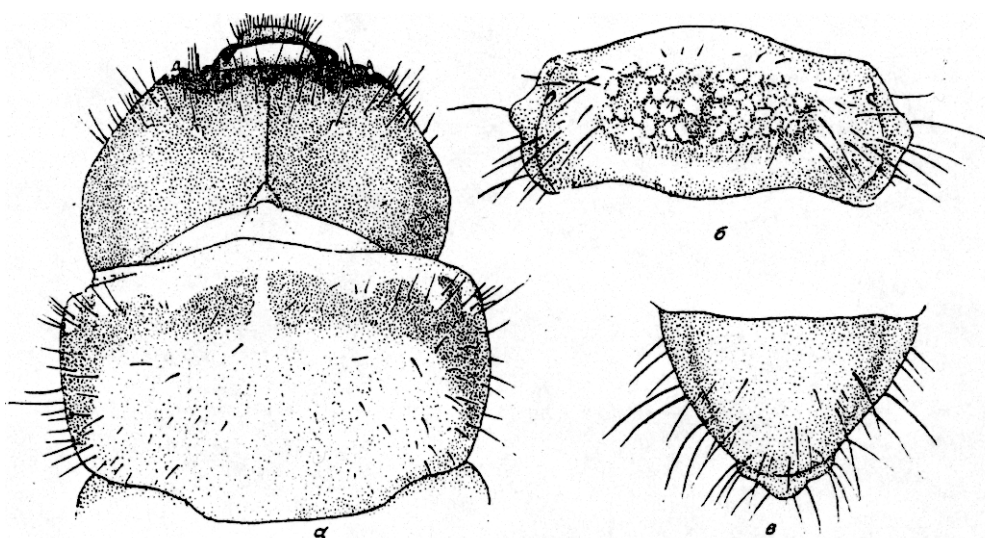


Fig. 1. Larva of *Corymbia succedanea*: a – head and pronotum; b – abdominal tergite with a dorsal ampulla (ambulatory wart); c – end of the abdomen (Cherepanov, 1979)

Pupa

The pupa of *C. succedanea* has an elongated body and is 20 - 24 mm long and 4 - 5 mm wide. The head is depressed behind the antennae which are curved toward the body. There are four short, acute thorns at the base of the antennae. The pronotum is prominent, slightly narrowed to the front, with a longitudinal fissure in the middle. The mesonotum is covered with small thorns. The abdomen is elongated, slightly narrowed to the front, more narrowed to the back. Abdominal tergites have multiple acute thorns forming transverse stripes and wide longitudinal fissure in the middle. The top of the abdomen has a pair of well-developed urogomphal outgrowths, which finish by acute thorns curved upwards and to the exterior. The weight of the pupa reaches 170-416 mg (Cherepanov, 1979).

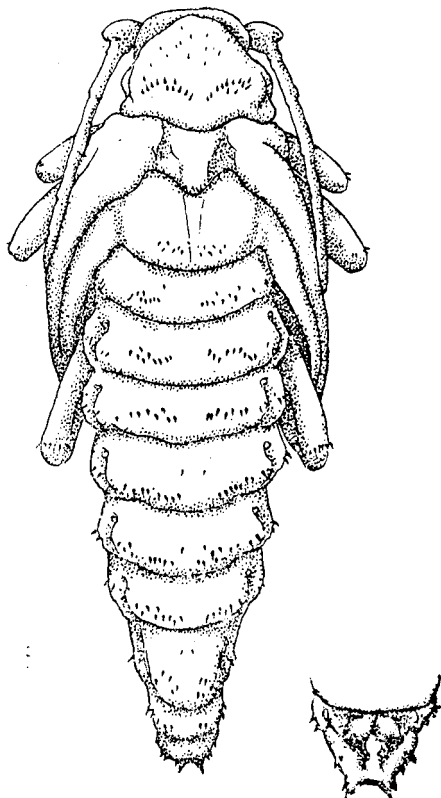


Fig. 2. Pupa of *Corymbia succedanea* (Cherepanov, 1979)

Adult

The adult of *C. succedanea* is elongated, 12 - 21 mm long. The head is covered with brownish hairs and dense punctuation, and has a clear longitudinal fissure in the middle. Antennae are serrate, and reach the second half (in females), or almost the top (males) of the elytra. The 3rd antennal segment is slightly longer than the 5th segment and much longer than the 1st and 4th segments (which are of equal length). The pronotum is red, sometimes black at the base and at the top, longer than wide, covered with small hairs and dense round punctuation, much narrowed to the front, with a deep transversal fissure at the base. The elytra are red, 2.5 times longer than wide, narrowed to the back, cut at the top, covered with small yellowish hairs. The bottom of the body is black. The rear tarsus is longer than the tibia. The 1st segment of the rear tarsus is longer than all other segments together. Femora and tarsi are black. Tibiae are red, sometimes black at the top. Back tibiae are black. The weight of an adult beetle reaches 102-359 mg (Plavilshchikov, 1936; Cherepanov, 1979).

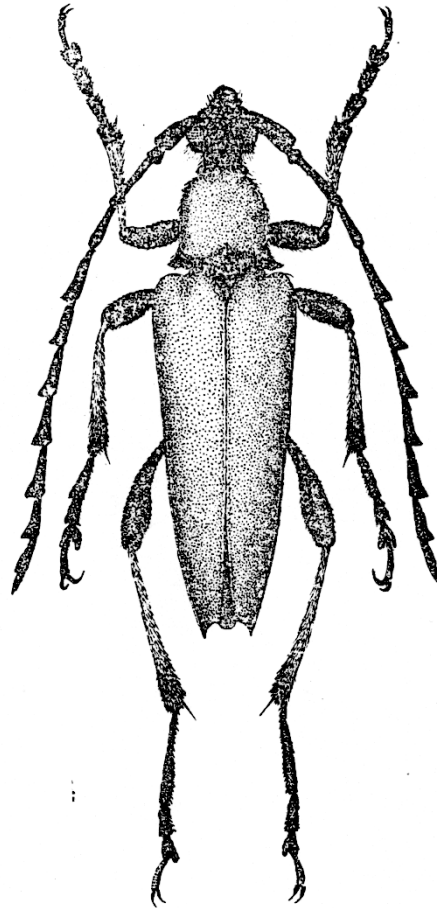


Fig. 3. Adult of *Corymbia succedanea* (Cherepanov, 1979)

MEANS OF PEST MOVEMENT AND DISPERSAL

The natural spread of the pest with flying adults can be fast. Because *C. succedanea* may be hidden in the wood and, therefore, difficult to detect, it may be easily transported with untreated coniferous wood products moving in trade. The pest may also be carried as a hitchhiker on planting material.

PEST SIGNIFICANCE

Economic Impact

C. succedanea is a frequent pest of coniferous species in the region of its present distribution. It may attack stressed and dying trees of different ages. The infestation may result in loss of vigour and of wood marketability (because of the bore holes). It is one of the most frequent pests of coniferous forests that have been stressed by defoliators or damaged by diseases, forest fires or winds (Plavilshchikov, 1936; Pavlovskii and Shtakelberg, 1955; Cherepanov, 19796).

C. succedanea has been listed as a potential vector of the pine wood nematode *Bursaphelenchus xylophilus* (Kulinich, Orlinskii, 1998).

Environmental Impact

Because it normally attacks only stressed and dying trees, *C. succedanea* is unlikely to significantly alter ecological relationships.

Control

The control measures undertaken in the area of the present distribution include forestry and sanitary measures (mainly cutting and elimination of all infested trees), as well as treatments with chemical and biological preparations (Maslov, 1988; Vorontsov, 1995).

Phytosanitary risk

C. succedanea is not a quarantine pest for any individual country (as far as is known) or any regional plant protection organization. It is considered as a serious forest pest in areas where it occurs. It is likely to establish in many coniferous areas within EPPO region. It is unlikely to be transported in planting material since the species does not attack branches, small trunks or root stocks which constitute planting material. Adults may, however, be resting on the surface of such material. Coniferous trees are important forest trees in many parts of the EPPO region.

PHYTOSANITARY MEASURES

The major risk of spreading of *C. succedanea* is with coniferous wood in which eggs, larvae, pupae and young adults may be under the bark and in the wood. Adults may also be transported on the surface of trunks. Wood should be debarked and inspected for bore holes. Cut branches and plants for planting should be inspected.

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