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## *Cerchysiella mesosae* Yang sp. nov. (Hymenoptera: Encyrtidae), a parasitoid of *Mesosa myops* (Dalman) (Coleoptera: Cerambycidae) larvae in China

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### Abstract

*Cerchysiella mesosae* Yang sp. nov. (Hymenoptera: Chalcidoidea: Encyrtidae), is described from China. It is a gregarious koinobiont endoparasitoid in mature larvae of *Mesosa myops* (Dalman) (Coleoptera: Cerambycidae), a wood boring pest of many broad-leaved tree species in China, particularly *Quercus mongolica* and *Q. liaotungensis* (Fagaceae) in forest areas of northeastern China. The new species is one of the principal natural enemies of the wood borer and it may have potential as a biological control agent for suppression of the pest.

**Key words:** new species, endoparasitoid, longhorn beetle, oak trees

### Introduction

The longhorn beetle, *Mesosa myops* (Dalman) (Coleoptera: Cerambycidae), is widely distributed in northeastern Asia, including the Far East of Russia, Korea, Japan and China (Chen *et al.* 1959; Yu 1992) where it has been reported from nine provinces from northern to southern China (Yu 1992). It attacks many broad-leaved tree species in China, including *Fraxinus mandshurica*, *Juglans mandshurica*, *Salix* spp., *Populus* spp., *Ulmus pumila*, *U. parvifolia*, and *Quercus* spp., but in particular *Q. mongolica* and *Q. liaotungensis* in forests of northeastern China. In recent years there have also been outbreaks of another longhorn beetle, *Massicus raddei* (Blessig) in forests of the latter two *Quercus* species in the same areas, i.e. Liaoning and Jilin provinces as well as Inner Mongolia. In the oak forests about 45% of the trees have been affected, which has resulted in great ecological and economic losses. Therefore, a biological control program was initiated in an attempt to control the pests, including a survey of the natural enemies of both pests. Two larval parasitoids belonging to *Cerchysiella* Girault 1914 (Hymenoptera: Chalcidoidea, Encyrtidae) were reared from *M. myops* and *M. raddei*, respectively. Both parasitoids were determined as new species and the one reared from *M. raddei* was described as *C. raddeii* Yang (Yang *et al.* 2012). Here the other species reared from *M. myops* is described and biological observations provided.

### Material and methods

Tree trunks and branches of *Q. liaotungensis* attacked by *M. myops* were cut and split. Mature larvae of the longhorn beetle were then collected and reared individually inside glass tubes (length 120 mm, diameter 30 mm) at room temperature (about 23~25°C). Several fresh oak twigs (one-year-old) were placed in each tube and the tubes plugged tightly with cotton to maintain humidity. During the rearing, the twigs were replaced every seven days for the larvae to feed on. The cerambycid larvae usually developed well and were checked daily. When larvae were found to stop feeding and were immobile they were removed and reared individually in smaller glass tubes (length 100mm, diameter 18 mm) for parasitoid emergence. Emerged parasitoid adult wasps were killed with ethyl acetate and counted, including the number of females and males reared from each host larva. Some specimens of the