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Dieback of Reed Likely Caused by Reed Scale Insect (*Nipponaclerda biwakoensis*)

Figure 1

Small area of reed at Sha Po Marsh in Kam Tin area was found to have turned yellow and wilted (Figure 1) on 12 August 2022. Subsequent investigation on 23 August found that the area of wilted reeds had expanded to an estimated area of 0.5 hectare. On 18 August, fifteen wilted adult reed shoots were examined and had many scale insects consisting of both adults and young instars, probably *Nipponaclerda biwakoensis*, under the leaf sheaths (Figure 2). Five green adult reed shoots examined also had scale insects but in smaller number under the leaf sheaths. New growth of young shoots were present in the reedbed and no scale insects were found in the five young shoots examined. Previously in Hong Kong, mass dieback of reed was reported in

Figure 2

Scale insects consisting of both adults and young instars, probably *Nipponaclerda biwakoensis*, found under the leaf sheaths of *Phragmites australis*.

artificially established wetlands and caused by a hemipteran bug, *Dimorphopterus spinolae* (Chan *et al.*, 2008). In this incident at Sha Po Marsh, we did not find any *Dimorphopterus spinolae*.

Nipponaclerda biwakoensis is native in East Asia and widely distributed on reeds (Shen *et al.* 1995). Specimens had been collected from Hong Kong Wetland Park (Schneider SA, 2019). According to Xiong *et al.* (2010), adult females settle in aggregations on reed shoots under leaf sheaths and remain there throughout their lives. They winter as adults, and nymphs move to newly emerged shoots. A number of natural enemies have been reported including parasitic wasps (Xu and Wang 2003; Kaneko 2004) and various insectivorous birds inhabiting reedbed (Xiong *et al.*, 2010). Some of these birds such as Oriental Reed Warbler, Zitting Cisticola and Penduline Tit also occur in Hong Kong. A quick search on the internet did not find any report of this insect causing mass dieback in its native range. However, it has been introduced to Louisiana, USA and has caused mass die-off of the Gulf lineage of reed (Knight *et al.*, 2018).

Since this infestation has just been observed, it is not clear if it will affect the reproduction, growth and/or survival of the reed. In Sha Po Marsh, *Cyperus malaccensis* and the terrestrial *Ipomoea cairica* also occur among or next to the reed and cover a substantial area of the marsh. The dieback of the reed, even if temporary, may lead to the spread of the competing plants and make reed regrowth more difficult. In fact *Cyperus malaccensis* appears to have spread within the short duration of the three visits. Longer-term monitoring is needed to find out the impacts of this insect on the reed and the marsh habitat. It is also worth looking out for reed dieback in other wetlands both locally and regionally, check for the cause and report the findings.

By Hong Kong Wetlands Conservation Association (HKWCA)
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