臺中市 100 年度以化學氣味誘捕小黑蚊之防治工作計畫

內容摘要

一、中文計畫名稱：臺中市 100 年度以化學氣味誘捕小黑蚊之防治工作計畫
二、英文計畫名稱：Develop of trapping *Forcipomyia taiwana* by chemical odor for defense this biting midge
三、計畫編號：
四、執行單位：中臺科技大學
五、計畫主持人：林春福、李憲明、吳正男
六、執行經費：99,000 元
七、執行開始時間：2011/03/01
八、執行結束時間：2011/11/30
九、報告完成日期：2011/12/05
十、報告總頁數：59 頁
十一、使用語文：中文
十二、報告電子檔名稱：臺中市政府環境保護局委託研究報告建議事項.doc
十三、報告電子檔格式：pdf
十四、中文摘要關鍵詞：臺灣銳蠓、小黑蚊、氣味誘捕、人工汗液
十五、英文摘要關鍵詞：*Forcipomyia taiwana*, small black biting midge, odor for trapping, artificial sweat
十六、中文摘要（約三百至五百字）：

臺灣銳蠓 (*Forcipomyia taiwana*) 俗稱小黑蚊，雌成蟲比黑芝麻小，叮咬皮膚時難以發現，但之後會感覺搔癢難耐，並引起紅腫疼痛之過敏反應。本蟲於白天活動嗜吸人血，對當地居民、學童及遊客造成嚴重騷擾，故生活品質、上課與旅遊均受到極大影響。小黑蚊幼蟲為陸生偏好潮濕滋長藻類 (青苔) 之環境，造成各縣市主要小黑蚊危害均位在郊區與低海拔山區 (統稱山腳地帶)，已知山腳地帶屬於觀光休閒發展重點區域，故對於未來觀光產業之發展，將造成衝擊。

由於山腳地帶之背陽面，日照普遍不足，農民以種植竹筍為主，竹筍需要大量水源灌溉，加上夏季山區常有午後雷陣雨等，造成適合小黑蚊生存之環境，又農民常穿著短褲汗衫從事農作，且多數不怕小黑蚊叮咬 (叮後無過敏反應)，成為小黑蚊之供養者，另外來遊客對小黑蚊普遍認知不足，更加劇問題的嚴重性。

雖然歷年來均採用環境用藥進行小黑蚊之防治，但由噴藥前後之密度調查結果分析，證實噴藥並無法有效控制小黑蚊之密度。因此本試驗應用市售之誘捕劑及其裝置進行小黑蚊之誘捕並與人體之小腿誘捕進行比較，試驗結果發現，市售之蚊蟲誘捕劑 A 及人工汗液 A 誘捕效果不佳，但蚊蟲誘捕劑 B 及人工汗液 B 具有良好的誘捕效果，在 10 月份進行 5 小時 (10:00 – 15：00) 之誘捕試驗中，得知潭子區以新鮮蚊蟲誘捕劑 B 誘集，最高可捕獲 200 隻小黑蚊 (40 隻/小時)；民政里以新鮮人工汗液 B 誘集，最高可捕獲 250 隻小黑蚊 (50 隻/小時)。另當誘捕劑配製約二週後，誘引小黑蚊之效率會急遽下降。未來將嘗試改變人工汗液 B 之配方與劑型，提升誘捕小黑蚊之效能，達到能替代傳統以人體進行小黑蚊密度調查法，並應用於防治小黑

蚊之目的。

十七、英文摘要：

Forcipomyia taiwana commonly known as little black biting midge, which smaller than black sesame seeds therefore female black biting midges bite the skin is difficult to find it. After bite would feel intolerable itching, swelling and pain and cause the hypersensitivity. The insects prefer to bite human during the day and cause serious harassment to local residents, students and tourists, therefore life quality, on school and travel are greatly affected. *Forcipomyia taiwana* larvae prefer the environment with moist terrestrial and growth of algae, resulting in major harmful area between cities and counties that are low altitude mountains, are known that area belong to the important tourism and leisure development, therefore, the development of the tourism industry for the future, will be under attack.

The area of mountain back the sun, the general lack of sunshine, farmers grow bamboo mainly, which need a lot of water for irrigation, combined with frequent raining after afternoon in summer, resulting in survival for larvae, and farmers often wear shorts T-shirt engaged in farming, became the donor because they are not afraid of *Forcipomyia taiwana* bite, in addition to tourists general do not know *Forcipomyia taiwana*, but also exacerbated the problem.

Although environmental pesticides are used over the years for control the *Forcipomyia taiwana*, but compare the *Forcipomyia taiwana* density before and after spraying environmental pesticides, we confirmed that ould not effectively with the density of *Forcipomyia taiwana*. Therefore, the application of commercially biting midge-trapping agent to trapping *Forcipomyia taiwana* and compare with the leg trapping. The results found that commercially mosquito trapping agent B and artificial sweat B have good and specificity trapping effect in October for 5 hours (10:00 - 15:00) of the trapping experiments, that Tantzu area with fresh mosquito trapping agent B could capture up to 200 female *Forcipomyia taiwana* (40/h); Chung-Zheng Lane with fresh artificial sweat B, capture up to 250 female *Forcipomyia taiwana* (50/h). When the trapping agents are not fresh the trapping efficiency will be rapid decline. Therefore, we will attempt to change artificial sweat B formulation to enhance the effectiveness of trapping female *Forcipomyia taiwana* to replace the conventional method using human leg trapping the female *Forcipomyia taiwana* and applied to control *Forcipomyia taiwana*.