Aural myiasis caused by *Parasarcophaga (Liosarcophaga) dux* (Thomson) in Thailand

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**Abstract.** Herein is reported the first case in Thailand of aural myiasis caused by the flesh fly, *Parasarcophaga (Liosarcophaga) dux* (Thomson). A 5-day-old infant was taken to hospital with a slightly bloody ear. Two fly larvae exiting the ear and another recovered by a physician were alive, and confirmed as *P. dux* species from adult examination results. This case brought attention to the need for protection against synanthropic flies, particularly for infants and/or hearing impaired patients.

Although numerous myiasis producing fly species are indigenous to Thailand's fauna, myiasis cases might have been underreported for several reasons (e.g. personal reasons, not worth reporting, difficulty in fly identification etc.). The species reported to have caused myiasis in Thailand were *Chrysomya bezziana* (Papasarathorn & Piyarasana, 1962; Papasarathorn *et al.*, 1967; Koranantakul *et al.*, 1991; Nacapunchai & Laohavichit, 1999; Sukontason *et al.*, 2006), *Chrysomya megacephala*, *Achoetandrus rufifacies* (Sukontason *et al.*, 2005), *Oestrus ovis* (Nacapunchai *et al.*, 1998), *Eristalis tenax* (Siripoonya *et al.*, 1993), and *Dermatobia hominis* (Thanapatcharoen *et al.*, 2012). Only a single species of flesh fly, *Liopygia ruficornis*, was recorded (Suchart *et al.*, 1981). Herein, we report a case of aural myiasis caused by the larva of another flesh fly species; *Parasarcophaga dux*.

**Case History and Entomological Finding**

A 5-day-old infant was taken to hospital with a slightly bloody ear, from which two second instar (each ~0.5 cm) were exiting and later died. Another invasive larva was removed with fine forceps by a physician during check up, thus revealing a stout-bodied flesh fly, recognized by its pair of posterior spiracles deep within a cavity. This larva was then placed in a small petri dish containing a tiny piece of beef (2x2 cm.) as a food source. The larva completed development and the adult was kept for identification (Figure 1). Species identification confirmed that the resulting adult male was a *P. dux* (Figure 2), based on the key of flesh flies in Thailand (Kurahashi & Chaiwong, 2013). The characteristic of the terminalia *P. dux* is presented in Figure 2A, the cercus normal in shape, not enlarged dorsally and without spines; ventralia composed of 1 lobe; lateral arm of juxta bifid at apex and Y-shaped of the fifth sternite (Figure 2B). The wound on the ear of the patient was treated with an antibiotic (amoxicillin 1.5 mg/ml) and ofloxacin ear drops (0.3%, 5 ml) according to the symptoms. Follow-up after treatment revealed complete resolution of the wound.
DISCUSSION

To the authors’ knowledge, this is the first report in Thailand of myiasis in humans caused by *P. dux*. A previous study reported myiasis caused by the flesh fly, *L. ruficornis* (Sucharit *et al.*, 1981). In Thailand, both these flesh fly species are synanthropic, thereby enhancing the risk that females could larviposit on humans, thus the risk of myiasis.

Biological knowledge of *P. dux* helps in understanding how humans may become an accidental host for this flesh fly species. In Thailand, female *P. dux* larviposit in both feces and carrion (Bänziger and Pape, 2004), and are found commonly in a synanthropic environment (Chaiwong *et al.*, 2012), thus allowing their involvement in human myiasis. According to the literature, *P. dux* causing human cases of myiasis is rare (James, 1947). In domestic animals, this species has been thought to be associated with flies in camels (Wernery and Kaaden, 2002).

Figure 1. Male *P. dux* that emerged from reared puparium

Figure 2. Light micrographs of the male genitalia. (A) Lateral view of the terminalia *P. dux* showing the cercus (ce) normal in shape, not enlarged dorsally and without spines; ventralia (v) composed of 1 lobe; lateral arm of juxta (j) bifid at apex. Ph, phallus; ep, epandrium; hyp, hypandrium; su, surstylus; prg, pregonite and pog, postgonite. (B) Ventral view of fifth sternite demonstrating Y-shaped sternite. Sa, sternal arms and sw, sternal window
Although reports of myiasis in infants are very rare in Thailand, this case exhibits the need for vigilant sanitation that may offer protection against synanthropic flies that dwell in human environments.

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REFERENCES


