

Short Communication

A Short Note on a Dipterous Parasite Infesting the Local Locust *Poecillocerus bufonius* Klug (pergomorphidae) in Central Saudi Arabia

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Abstract. The local locust *Poecillocerus bufonius* klug (Abu Haliema) is a widely distributed insect in all regions of Saudi Arabia though it does not infest economic crops to warrant any economic importance. It is a polyphagous insect feeding on a variety of host plants where its host range further extends to include a number of wild plants that are considered poisonous. Among these plants, its most preferred hosts include the evergreen shrubby desert plant (Milky bush) oshaar, *Calatropis procera* (wild), (Family : Asclepiadaceae) which grows widely and extensively in all regions and under all types of soils. In addition to that is the poisonous ornamental plant *Nerium oleander* which is extensively grown along streets and parks, together with the perennial widely grown medicinal herbaceous desert plant harmal, *Peganum harmala* L. (Family : Zygophyllaceae) that is adapted to such arid and semi-arid conditions.

Introduction

During 1984 and in the Central Region (Durma) at Albor area (30 km from Durma) along the old Riyadh-Makkah road and on quite a number of green pockets, in no mans' land, predominantly covered with herbaceous plants ie. Harmal, *Cassia italica*, *C. senna*, with other thorny low plants, the author observed that many individuals of the local locust were hanging and clinging (with heads upwards) to the top of harmal stems (Fig. 1) and other thorny bushes. In addition to that many other dead ones were scattered all over the ground. It was an unusual seen where those clinging to the stem (averaged 3/harmal plant) adhered tightly with their legs but already dead. Some of the living ones were taken to the laboratory, kept in polyethylene bags and kept at normal room temperature and humidity.

Some valuable observations were reported on the infested locusts which are characterized by pronounced elongation of their abdomens (Fig. 2), where the inter-segmental membranes were clearly shown as white areas between the heavy pig-



Fig. 1. The local locust *P. bufonius klug.* cling tightly to the top stem of harmful plant



Fig. 2. Pronounced elongation of the abdomen

mented segments. Whitish larvae were observed moving inside the locust body. Mature dipterous maggots recovered through exits on intersegmental membranes (Fig. 3) left to pupate and adults emerged (Fig. 4). The Commonwealth Institute of Entomology (CIE) at the British Museum (Natural History) identified it as *Sarcophaga* sp. (Family : Sarcophagidae).

It is clearly evident that this is a parasite (*Sarcophaga*)/host (locust) case. Members of the family Sarcophagidae were reported to have predaceous habits although they are predominantly parasitic on other arthropods especially eggs, nymphs and adults of locusts and grasshoppers [1, p. 316; 2, p. 321; 3, p. 511] and could be raised from dead or moribund animals [4, p. 688].

The author believes that this is a typical example of a parasite, pressure being exerted on its host. It explains one facet of the natural control phenomenon exhibiting the role played by nature in preserving itself through the parasitism by limiting the population buildup of this polyphagous insect. Such an "epidemic" or an "outbreak" by the parasite on the local locust has kept the pressure and decreased its population so as not to decrease the host plant severely. These host plants are considered best refuges in the barren desert for a variety of arthropod visitors on which the parasite would have a wide choice in selecting suitable hosts for its own survival. No explanation is given yet for how did the parasite get access inside its host which needs more investigations.

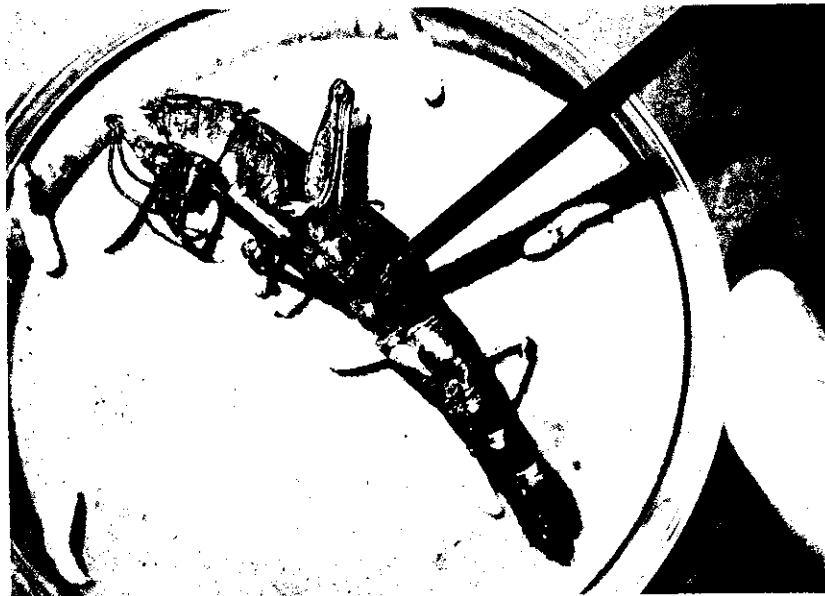


Fig. 3. Close-up of *Sarcophaga* maggots after emerged from locust body



Fig. 4. Adults of *Sarcophaga* sp.

References

- [1] Askew, R.R. *Parasitic Insects*. London: Heinemann Educational Books Ltd. 1971
- [2] De Bach, P. *Biological Control by Natural Enemies*. Great Britain: Cambridge University Press. 1974.
- [3] Huffaker, C.B. *Biological Control*. New York: Plenum Publishing Corporation, 1971.
- [4] Clausen, C.P. *Entomogenous Insects*. New York: Hafner Publishing Corporation, 1940.

ملاحظة عابرة عن طفيل من رتبة ذات الجناحين يصيب الجراد المحلي (أبو حليلة) في المنطقة الوسطى من المملكة العربية السعودية

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ملخص البحث. يعتبر الجراد المحلي *P. bufonius* من أوسع الحشرات انتشاراً في جميع مناطق المملكة وهو يهاجم العديد من العوائل التي تضم بعض النباتات البرية السامة مثل نبات العشر والتفلة والحرمل. وقد لوحظ سنة ١٩٨٤م وجود بعض أفراد من هذا الجراد عالقة بسيقان نبات الحرمل والشجيرات الأخرى النامية في منطقة قريبة من ضрма بطريق الرياض - مكة ورؤوسها متجهة لأعلى. وكانت بعض هذه الحشرات العالقة بأرجلها بالسيقان ميتة كما وجدت بعض أفراد أخرى ميتة ومتناثرة على الأرض. وقد تميزت هذه الحشرات باستطالة بطونها ووجود يرقات من رتبة الذباب بيضاء اللون تتحرك داخل أجسامها خرجت بعضها من خلال ثقب بالجسم. وقد تم تسمية الحشرات الكاملة الناتجة عن تطور هذه اليرقات في المتحف البريطاني على أنها تتبع جنس ذباب اللحم *Sarcophaga*. وقد اتضح أن هذه هي حالة تطفل لهذا النوع من الذباب على الحشرات وينظر إليها كإحدى وسائل مكافحة التي تلعبها الطبيعة لإحداث التوازن الطبيعي بين الكائنات.