

Short Communication

Description of the Naiads of *Gomphidia t-nigrum* Selys and *Anax parthenope* Selys (Anisoptera: Odonata)

RIAZ HUSSAIN AND MUHAMMAD RIAZ†

Pest Warning and Quality Control of Pesticides, Burewala and †Vehari, Pakistan

ABSTRACT

The naiads of *Gomphidia t-nigrum* Selys and *Anax parthenope* Selys belonging to families Gomphidae and Aeshnidae, respectively collected from various localities of the Sindh Province are described in detail with illustrations.

Key Words: Naiads; Descriptions; Taxonomy; Gomphidae; Aeshnidae; Odonata

INTRODUCTION

The odonate naiads or nymphs are aquatic, predacious and in turn fall a prey to other predators, such as fishes, ducks and water-rails. Needham (1911) described seven Gomphid nymphs from India and Brazil. In 1930, He described 41 species of the odonate naiads from China. Longfield (1949) and Gardner (1960) identified naiads of the Great Britain. Musser (1962) published the dragonfly nymphs of Utah. Belyshev (1963) keyed out the nymphs and adults of Siberian Odonata. In Pakistan no work was done on these naiads. Therefore, the present paper includes descriptions and illustrations of naiads collected from the Sindh Province of Pakistan.

***Gomphidia t-nigrum* Selys.** The naiads of this species represents an earlier instar (Fig. 1A-B).

Head. Small, its hind angles tuberculated and thus angulated, its hind margin almost straight with two prominent tubercles on posterior side. Eyes small, raised, slightly longer than wide, with their posterior margin slightly concave, inner corners short and pointed. Antennae hairy, third segment longer and sub-cylindrical. Labium short, squarish (excluding labial palpi), its hinge reaching the bases of fore-legs; median lobe slightly convex and provided with short spine-like setae, its ventral side with numerous, blunt, closely-set, microscopic teeth, lateral lobes blunt (not sharply pointed) and margined with minute reddish-brown dents on their inner sides.

Thorax. Prothorax narrower than hind margin of head, tuberculated with its anterior lobe fairly raised. Wing-pads short and parallel. Legs short, thick and less hairy, pro and meso-legs almost of equal length with slightly curved femora and without tibial burrowing hooks, tarsi 2-segmented, the hind ones with last segment very long, hind legs extending beyond caudal appendages.

Abdomen. Circular in outline, segment 10 slightly shorter than 9, its dorsal hooks present on segment 1-9, rather ridge-like and laterally, flattened, giving it a carinated appearance, lateral spines present on segments 7-9, short, incurving, slightly decreasing in length rearwards, with the first one strongly divergent and the last one almost equal to the level of tips of cerci; caudal appendages straight and covered with hair; lateral sides of segments fringed with spine-like setae; epiproct slightly shorter than paraprocts, not carinated dorsally; cerci reaching almost half the length of paraprocts.

Remarks. The naiad can easily be distinguished due to its circular abdomen, third long and sub-cylindrical antennal segment and absence of burrowing hooks on tibiae.

Material examined. Total 1, collected from Sonda (Thatta), 3-9-87.

Fig. 1. Naiad of *Gomphidia t-nigrum* (A) and its Labium (B)

***Anax parthenope* Selys.** The naiads are very large, non hairy and decorated with a pattern of green color when freshly collected (Fig. 2A-B).

Head. Depressed, broad and rounded in appearance, its hind angles low and broadly rounded, with hind margin between them slightly concave. Eyes markedly flattened dorsally, longer than wide, their posterior margins almost straight, with inner corner elongated and tapering. Third antennal segment longest of all segments. Labium with its hinge reaching the meta-coxae, its prementum three times longer than its basal width (excluding labial palpi); median lobe bordered with a fringe of hair and its closed cleft with open end; lateral lobes narrowly elongated, with very strong, curving movable hooks, which have a line of fine spinules on its upper surface (when seen under high magnification), their ends truncate and terminate in an inner robust tooth, their inner and front sides having minute, granular reddish-brown dents.

Thorax. Prothorax narrower than hind margin of head, its anterior lobe greatly sunk and thus considerably lower than head. Wing-pads not divergent. Legs long and slender, with apices of tibiae having tridentate setae.

Abdomen. Elliptical, lateral spines on segments 7-9 increasing in size posteriorly, those of 9th almost reaching the end of lateral sides of 10th, caudal appendages slightly longer than the total dorsal length of segments 8-10, epiproct shorter than paraprocts, carinated dorsally and rectangularly notched at tip, paraprocts and lateral spines with sharp black tips, cerci less than half the length of paraprocts.

Remarks. The representatives of this species differ from the published description of Needham (1930), Gardner (1960) and Musser (1962) in the following points. The inner margins of lateral lobes of labium bear more than fifteen brown dents. The posterior margins of eyes form almost a straight transverse line. The margin of head behind each eye is not lined with pale stripes.

Material Examined. Total 3, collected from the following locations: Tando Muhammad Khan (Hyderabad) 2,2-9-87; Sindhri (Mirpur Khas) 1, 31-8-87.

Fig. 2. Naiad of *Anax parthenope* (A) and its Labium (B)

REFERENCES

- Belyshev, B.F., 1930. Form of Siberian dragonfly at adult and nymphal stages. *Acad. Sci. U.S.S.R.*, : 65-86.
- Gardner, A.E., 1960. "A key to the larvae of the British odonata". The new naturalist dragonflies. Collins St. James London, pp: 190-225.
- Longfield, C., 1949. The dragonflies of the British Isles. Frederick Warne and Co., Ltd., London, pp: 231-3.
- Musser, R.J., 1962. Dragonfly nymphs of Utah (Odonata: Anisoptera). *Univ. Utah Biol. Ser.*, 12(6).
- Needham, J.G., 1911. Notes on some nymphs of Gomphinae (Order Odonata) of the Hagen Collection. *Ent. News*, 22: 392-6.
- Needham, J.G., 1930. A manual of dragonflies of China. Fan. Mem Inst. Biol. Peiping, China.

(Received 03 May 1999; Accepted 01 December 1999)