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Feeding Behaviour in Dytiscus Marginalis

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ABSTRACT
The present research work on dytiscus marginalis reveals that, how much it is capable of being ecofriendly with aquatic – ecosystem, due to its strong voracious nature as well as a great diving property in aquatic – fauna also.
Keywords: Predacious Behavior, Voracious Appetite, Water Tiger, Suction Cup, Ampulla, Carrion, Deterring.

INTRODUCTION

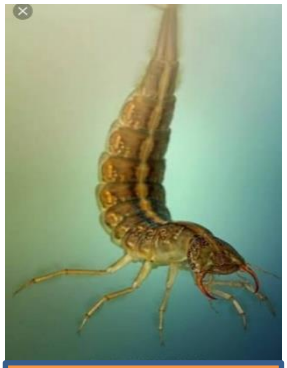
- Dytiscus marginalis is very widespread and common species, which are able to dive so called- 'A Great Diving Beetle' also.
- Dytiscus marginalis is a fresh water beetle which occurs in most still or slow moving aquatic habitats.This beetle generally prefers habitat on silty or muddy substrates with plenty of vagetations.

FOOD – HABITS

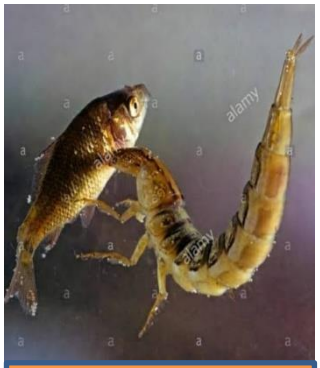
- Both the adults and larvae of dytiscus marginalis are voracious predators which feed on anything in their reach.
- The larvae are commonly known as 'Water Tiger'due to their voracious appetite. They feed on a wide range of aquatic–life.
- Adults and larvae are carnivorous in nature and search their prey by diving and swimming actively in aquatic medium where light reaches.

FOOD MATERIALS

- It includes newts [tadepole resembles baby fish] and fishes etc. They will also consume carrion.
- Young larvae are canniblastic at high densities.
- It includes other insects and larvae of mosquitoes also.



Dytiscus marginalis larva



Dytiscus marginalis larva hunting a fish

FEEDING–APPARATUS

- Dytiscus marginalis is a very significant predators in fresh water aquatic – ecosystem .
- The jaws of a great diving beetle are very strong compared to their body size.
- The larvae are elongate with a round and flat head. Their mandibles are also very strong and sharp which plays a significant role in biting the prey.
- Their mandibles have grooves on their inner edge through which they are able to suck the body fluids of their prey.

The first two pair of legs of the male beetle are equipped with suction cups, enabling them to obtain a secure grip helps in predatory behavior or while mating.

Male & Female

Front leg of D. marginalis male from underside.

FEEDING OR PREDATORY BEHAVIOUR

- The structural features of D. marginalis allow them to dive quickly in search of food.
- They are good fliers, usually fly at night. Reflection of moonlight or other light – resources helps the beetle to locate new water – sources as well as cause them to land on wet - roads or other wet – surfaces , in search of food.
- The tarsus of the forelegs in male is modified to form a circular sucker which are used to grip the female in mating. A reduced sucker is also seen is midleg of the male.
- Before they dive in aquatic–medium , they collect air–bubbles in their wing–cases which goes through the spiracles hidden under elytra.

AMPULLA: HELPS IN DEFENCE - MECHANISM

- A digestive structure , the ampulla contains an extremely unpleasant smelling liquid that the beetle ejects through the anus if it is being seized. The adult beetle will exude this unpleasant smell liquid from the abdomen when it is alarmed or threatened or detering the predators.
- The main toxins that the beetle uses in defense mechanism are benzoic – acid and its various derivatives.

CONCLUSION

- On the whole , we can see that the great diving beetles ; Dytiscus marginalis plays a very significant role to balance the aquatic – system by controlling insets as well as pests.
- Dytiscus marginalis also consume carrion due to its canniblastic and carnivorous behavior. Thus this is very much ecofriendly with aquatic – ecosystem.
- Therefore europian – scientists are trying to extend protection to the Dytiscus – marginalis and other water – beetle also by just restricting its collection.

REFERENCES

[1]. Crowson, R. 1981. The biology of the coleopteran. New York: Academic press.
[2]. Evans, A., C. Bellamy. 1996 An Inordinate Fondness for Beetles. New York: Nevraumont Publishing Company.
[3]. Gullan, P., P. Cranston. 1994. The Insects: An outline of Entomology. Londan: Chapman and Hall.
[4]. McCafferty , A. 1998. Aquatic Entomology. Boston: Jones and Bartlett Publishers.
[5]. Van Nostrand, B. 1972. Grzimeck's Animal life Encyclopedia: Insecta. New York: Reinnold Company.
[6]. Borror , D. , R. White. 1970. A field Guide to Insects: America North of Mexico.. Boston: Houghton Mifflin Co.