

CONTRIBUTION TO THE STUDY OF AQUATIC
BEETLES (COLEOPTERA) 14. ON THE
COLLECTION OF DYTISCIDAE
FROM GUJARAT PART 2.

By

T G. VAZIRANI

Desert Regional Station, Zoological Survey of India, Jodhpur

(With 2 Text-figures)

INTRODUCTION

During December 1972 and January 1973 the author surveyed the 4 districts of Gujarat viz Bhavnagar, Mahesana, Palanpur and Bhuj. The last three districts fall within the Kutch region of Gujarat. In an earlier report (Vazirani, 1973), which covered districts of Junagadh, Jamnagar and Surendranagar 22 species were recorded. During the present coverage the number of species collected comes to 20. Five species marked with asterisc which were not collected earlier constitute new records from the general area under consideration, thus bringing the number of species known from Gujarat to 27. Infra-specific variation has been observed in 2 species which call for some comments. For the remaining species only the localities have been listed under each species. For the keys to genera and species known from India the reference may be made to Vazirani (1969 a, b, 1970, a, b). Geographical distribution of these beetles in the Saurashtra and Kutch areas of Gujarat has also been discussed.

SYSTEMATIC ACCOUNT

Family DYTISCIDAE

Subfamily NOTERINAE

1. *Canthydrus laetabilis* Walker

Gujarat : 2 ex stn 14 Mahesana 24. xii. 72; 1 ex Palanpur 28. xii.72; 2 ex Palanpur below Dantiwada Dam 29. xii. 72; 2 ex Deesa 29. xii. 72; 8 ex stn 27 Radhanpur 31. xii. 72; 1 ex stn 7 Bhavnagar 18. xii. 72.

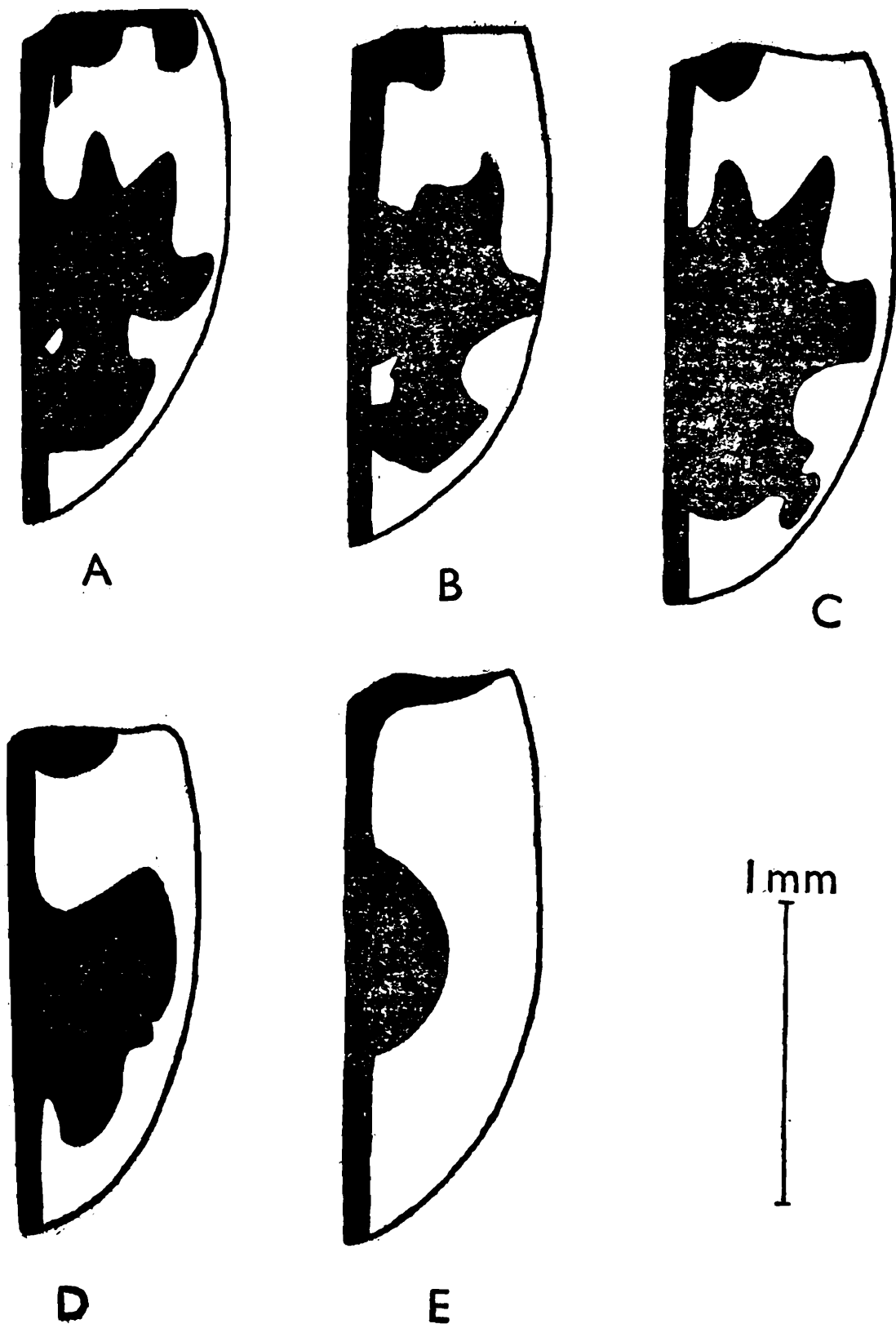
Subfamily LACCOPHILINAE

2. **Laccophilus inefficiens** Walker
Gujarat : 1 ex stn 2 Bhavnagar 17.xii. 72; 1 ex stn 7, 18. xii. 72; 1 ex Palanpur 28. xii. 72.
3. **Laccophilus flexuosus** Aubé
Gujarat : 2 ex stn 24 Deesa 24. xii. 72.
4. **Laccophilus parvulus** Aubé
Gujarat : 4 ex stn 11 Mahesana 30.xii. 72; 5 ex stn 27 Radhanpur 31.xii. 72.
5. **Laccophilus sharpi** Régimbart.
Gujarat : 2 ex stn 2 Bhavnagar 16.xii. 72; 3 ex stn 11 Mahesana 23.xii. 72; 4 ex stn 18 Palanpur 28.xii. 72; 7 ex stn 24 Deesa 29.xii.72.
- *6. **Laccophilus wewalki** Vazirani
Gujarat : 1 ex stn 7 Bhavnagar 18.xii.72.
Remarks.—This species is so far known only from its type locality Goa and is now being reported from Gujarat.
- *7. **Neptosternus circumductus** Régimbart
Gujarat : 2 ex stn 37B Bhuj, 10.i.73.
Remarks.—This species has so far been recorded from Madhya Pradesh, Tamil Nadu, Maharashtra, Orissa and Uttar Pradesh. Its present record from the Kutch region of Gujarat shows that this species is very widely distributed in India. Species of this genus are generally confined to swift flowing streams but in this case the specimens were collected from a pool cut off from the main current of the river above the dam site. No waters were flowing at this time of the year, but there is no doubt that during the monsoon, at least, the river has generally fast flowing waters in the nearby upper reaches and that specimens had been trapped in this drying pool of water.

Subfamily HYDROPORINAE

8. **Hydrovatus** sp.
Gujarat : 1 ex stn 37A Bhuj 10.i.73.
9. **Herophydrus musicus** (Klug)
Gujarat : 1 ex stn 3 Bhavnagar 17.xii. 72; 2 ex stn 14 Mahesana 24.xii.72; 2 ex stn 23 Palanpur, Dantiwada Dam 29.xii.72; 1 ex stn 30 Radhanpur 2.i.73; 2 ex stn 34 Anjar 7.i.73; 1 ex stn 35 Anjar 7.i.73; 19 ex stn 36 Anjar 7.i.73.

10. **Peschetius toxophorus** Guignot
Gujarat : 3 ex stn 18 Palanpur 28.xii.72; 1 ex stn 36 Anjar 7.i.73; 1 ex stn 6 Bhavnagar 18.xii.72.
11. **Peschetius quadricostatus** (Aubé)
Gujarat : 2 ex stn 3 Bhavnagar 17.xii.72.
12. **Hyphydrus (Apriophorus) flavicans** Régimbart
Gujarat : 2 ex stn 14 Mahesana 24.xii.72; 1 ex stn 34 Anjar 7.i.73.
13. **Guignotus flammulatus** Sharp
Gujarat : 1 ex stn 6 Bhavnagar 18.xii.72; 1 ex stn 7 Bhavnagar 18.xii.72; 20 ex stn 11 Mahesana 23.xii.72; 18 ex stn 14, 24.xii.72; 10 ex stn 27 Radhanpur 31.xii.72; 2 ex stn 32 Gandhidham 5.i.73; 2 ex stn 34 7.i.73.
Remarks.—This species is very variable in the elytral markings as shown in Text-figure 1. (A to E).
14. **Guignotus gujaratensis** Vazirani
Gujarat : Mahesana, 21 ex stn 10 Mahesana, 22.xii.73; 5 ex stn 12, 23.xii.72; 9 ex stn 13, 24.xii.72; 7 ex stn 14, 24.xii.72; 6 ex stn 15, 24.xii.72; 13 ex stn 18 Palanpur, 28.xii.72; 5 ex stn 19, 28.xii.72; 5 ex stn 27 Radhanpur, 31.xii.72; 8 ex stn 30, 2.i.73; 5 ex stn 35 Anjar, 7.i.73; 8 ex stn 36 Gandhidham 7.i.73; 8 ex stn 37A Bhuj 10.i.73.
15. **Guignotus pendjabensis** Guignot
Gujarat : 40 ex stn 2 Bhavnagar 16.xii.72; 9 ex stn 10 Mahesana, 22.xii.72; 4 ex stn 11, 23.xii.72; 26 ex stn 13, 24.xii.72; 13 ex stn 14, 24.xii.72; 17 ex stn 15, 24.xii.72; 8 ex stn 22 Palanpur, 24.xii.72; 6 ex, 29.xii.72; 9 ex stn 26, Radhanpur 31.xii.72; 6 ex stn 27, 31.xii.72; 1 ex stn 30, 2.i.73; 35 ex stn 35 Anjar 7.i.73; 12 ex stn 36, 7.i.73; 40 ex stn 37A Bhuj 10.i.73.
Remarks.—This species is very variable in its elytral markings as shown in the Text-figure 2. (A to E) The most interesting instance of this variability is the example shown in Text-figure 2E which has different markings on each elytron.
- *16. **Clypeodytes (Lioclypeus) orissaensis** Vazirani
Gujarat : 1 ex stn 37A Bhuj 10--;73.
Remarks.—This species is so far known only from Orissa : Cuttack and Pakistan. Its present record from the extreme South West corner of India indicates that it is widely distributed but has been missed in several collections due to its very small size viz less than 2.0 mm.

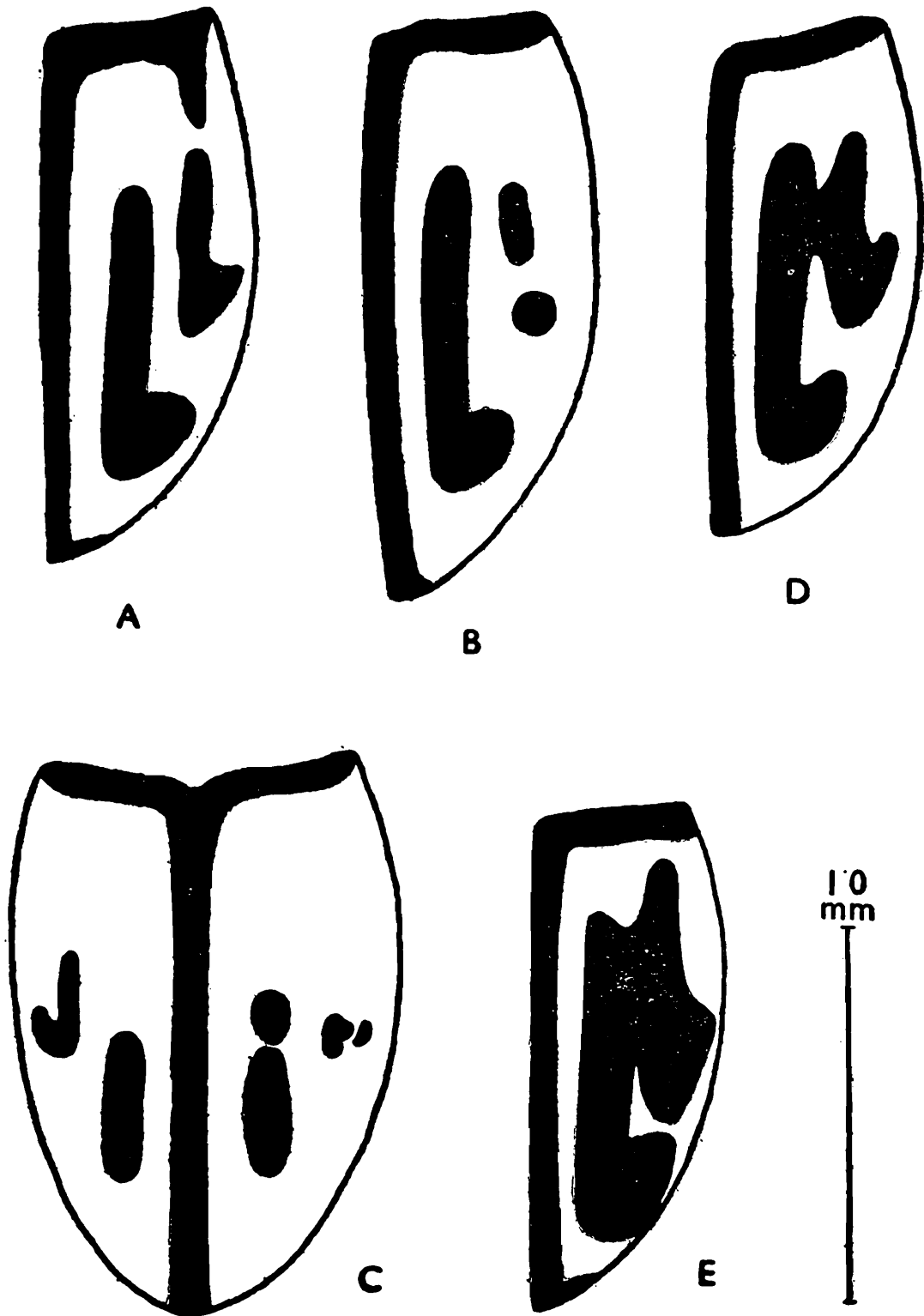


Text-fig. 1. *Guignotus flammulatus*, showing variation in the markings on elytron.

*17. *Uvarus genitilis* (Sharp)

Gujarat : 1 ex stn 37A Bhuj 10.i.1973.

Remarks.— Being very small in size viz 2.0 mm, like the above species, it is quite rare in collections though it is widely distributed in India : Bihar, Orissa; Malayasia and Pakistan. The present record from the S.W corner of India is therefore of zoogeographical interest.



Text-fig. 2. *Guignotus pendjabensis* showing variation in the markings on elytron

Subfamily DYTISCINAE

18. **Eretes sticticus** (Linnaeus)
Gujarat : 1 ex stn 34 Anjar 7.i.73.
- *19. **Cybister (Meganectes) limbatus** (Fabricius)
Gujarat : 1 ex stn 34 Anjar 7.i.73.

Remarks.—This species is very widely distributed in India, Pakistan, Southern China, Japan, Indochina, Formosa &

Philippine Islands. In India it is known from Bihar, Kerala, Madhya Pradesh, Maharashtra, Goa, Orissa, Arunachal Pradesh and W Bengal. However it is now being recorded from Gujarat for the first time.

20. *Cybister (Meganectes) tripunctatus asiaticus* Sharp
Gujarat : 1 ex stn 35 Anjar 7.i.1973.

Geographical Distribution of Dytiscidae in Saurashtra and Kutch areas of Gujarat.

The Dytiscid fauna of the Saurashtra and Kutch regions of Gujarat is typically that of the Indian subregion as shown in the table of distribution of species.

There is only 1 species whose origin may be considered Ethiopian viz *Herophydrus musicus* (Klug) and which occurs in this region but it is very common in India extending up to Nepal, indicating its very early intrusion into the Oriental Region.

Nine species marked with asterisk* i.e. 33% of the species recorded from this area extend into Pakistan, which is included in the Palaearctic region. This may be considered as intrusion of the Oriental Fauna into this area before the formation of the Great Indian Desert which separates Pakistan from the area under consideration.

Twelve species i.e. nearly 45% species extend to Ceylon and 10 species i.e. 27% extend their distribution into N. E. India (Indo-Chinese subregion) and 14% of the species extend to the Malayasian subregion.

Only one species, *Eretes sticticus*, is cosmopolitan.

Certain genera like *Rhantus*, *Hyphoporus* may also be present in the area.

The absence of most of the Colymbetinae genera which generally prefer perennial sources of water may be due to absence of any such reservoirs of water in the area.

SUMMARY

This is a report on the collection of Dytiscidae made by the author mostly in Kutch region of Gujarat in the year 1972-73. Earlier the author had made collections in the Saurashtra region of the same state (vide Vazirani 1973). Twenty species spread over 13 genera are being recorded of which the following 5 species *Laccophilus wewalki* Vazirani, *Neptosternus circumductus* Regimbart, *Clypeodytes (Lioclypeus) orissaensis* Vazirani, *Uvarus genitilis* (Sharp) and *Cybister (Meganectes) limbatus* (Fabricius) constitute first records of these species from this region. Variation of elytral markings in *Guignotus flammulatus*, and *G. pendjabensis* has also been shown. Geographical distribution has been discussed separately. The absence of the subfamily Colymbetinae is suspected to be due to lack of perennial sources of water in the region.

ORIENTAL

Name of species	Ceylonese subreg.		Indo-chinese subreg.					Malaysian subreg.					REMARKS	
	ETHIOPIAN	Palaeartic	Ceylon	India S. of Mysore	Indian Subreg.	N. E. India	Burma	Thailand	Indo-China	Malayasia	Indonesia	Phillipine		AUSTRALIAN
<i>Peschetius quadricostatus</i>				×	×									
<i>P. toxophorus</i>				×	×									
<i>Guignotus flammulatus</i>		×	×		×	×	×	×	×		×			S. China Japan, Pakistan Pakistan
<i>G. pendjabensis</i>		×			×									
<i>G. gujaratensis</i>														
<i>Clypeodytes (Lioclypeus) orissanensis</i>		×	×		×									
<i>Uvarus genitilis</i>		×	×		×					×				Pakistan
<i>Yola consanguinea</i>				×					×					
<i>Copelatus mysorensis</i>				×										
<i>Eretes sticticus</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	Cosmopolitan Pakistan, Formosa, China, Japan
<i>Hydaticus (Guignotites) vittatus</i>		×	×	×	×	×								
<i>H. (G) luczonicus</i>				×			×							
<i>Sandracottus dejeani</i>		×			×									Pakistan
<i>Cybister (Meganectes) limbatus</i>		×		×	×	×			×					Pakistan Formosa S. China, Japan, Phillipine Island.
<i>Cybister (Meganectes) tripunctatus asiaticus</i>		×	×	×	×	×	×	×	×	×	×			Pakistan

REFERENCES

- VAZIRANI T. G. 1969. a. Contribution to the study of aquatic beetles (Coleoptera)—2. A review of the subfamilies Noterinae, Laccophilinae, Dytiscinae and Hydroporinae (in part) from India. *Oriental Ins.*, 2 : 221-341 (1968).
- VAZIRANI, T. G. 1969 b. Contribution to the study of aquatic beetles (Coleoptera)—5. Revision of Indian species of *Hyphoporus* Sharp (Dytiscidae). *Bull. Mus. natn. Hist. nat.*, (2) 41 (1) : 203-225.
- VAZIRANI, T. G. 1970 a. Contribution to the study of aquatic beetles (Coleoptera)—6. A review of Hydroporinae : Dytiscidae in part, from India. *Oriental Ins.*, 4(1) : 93-129.
- VAZIRANI, T. G. 1970 b. Contribution to the study of aquatic beetles (Coleoptera)—7. A revision of Indian-Colymbetinae (Dytiscidae). *Oriental Ins.*, 4 (3) : 303-362.
- VAZIRANI, T. G. 1973. Contribution to the study of aquatic beetles (Coleoptera)—12. On a collection of Dytiscidae from Gujarat. *Rec. zool. Surv. India, Calcutta*, 67 : 287-302.