

OSTRACODS (*F. CYPRIDAE*) FROM NORTHERN PUNJAB AND PESHAWAR

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Taxonomic studies of freshwater ostracods were carried out from different localities of Northern Punjab and Peshawar. Five genera and six species from the Cypridae were described.

Key words: Ostracods, N. Punjab, Peshawar.

INTRODUCTION

The freshwater crustacea of Pakistan have been studied by only a few workers. Arora [1] studied the Entomostraca of Lahore and recorded 18 genera and 27 species. Chaudhri *et. al.* [4] recorded 8 species of Crustacea from Deg Nullah. Mahoon *et. al.* [4, 5] described various species of Crustacea from different localities of Punjab. Chaudhri *et. al.* [3] studied the aquatic fauna of the Swat valley, including crustaceans. Arshad *et. al.* [2] recorded 4 species of Copepoda and 3 species of Ostracoda from North and West Frontier Provinces. In the present paper 5 genera and species of Ostracoda from Northern Punjab and Faquirabad, Peshawar are reported and described for the first time.

MATERIAL AND METHODS

Six samples were collected from three different localities with the help of plankton net and dipnet and preserved in 5% formalin. Ostracods were sorted out in the laboratory. Specimens were dissected under a high power stage binocular microscope with the help of fine needles. Temporary mounts were made in water and glycerine. Figures were made with camera lucida. For the identification of the species Arora [1], Tressler [7], were followed.

Systematic Account

Order: Ostracoda

Suborder: Podocopa

Family: Cypridae

Subfamily: Cyprinae

Cyprinotus fretens Brady, 1885 (Figs. 1-9). Shell oval, rights valve with tubercles at anterior margin; antennary natatory setae reaching to the tip of the claws, antennules with a large coxa, basipodite small with 1 seta, 1st endopodite podomere longer than basipodite and with 3 long setae, terminal endopodite (5) with 3 long setae; antenna with small coxa, basipodite long, 1st endopodite podomere as long as basipodite and setae extending beyond 3rd podomere, 3rd podomere with three terminal claws, gnathobase of mandible with 7 teeth, upper bidentate and lower tridentate; palp 4-segmented, 1st podomere (basipodite) with 2 median setae and 4th podomere with 3 setae at the top, 1st leg 5-segmented, with a short claw, 2nd leg with claw long and

denticulated, 3rd leg with short hook like claw and a long backwardly directed seta, furca with terminal and subterminal claws, terminal claw longer than subterminal claw, dorsal and terminal setae nearly equal and shorter than the claws.

Locality. Fiqirabad, Peshawar, 71°-35'N and 34°-01'E.

Date of collection. 5-9-1986.



Fig. 1. *Cyprinotus fretens* Brady, 1885 (♀ lateral view).

Fig. 2. 1st antenna (antennule).

Fig. 3. 2nd antenna.

Fig. 4. Mandible.

Fig. 5. 1st maxilla and 2nd maxilla.

Fig. 6. 1st leg.

Fig. 7. 2nd leg.

Fig. 8. 3rd leg.

Fig. 9. Furca.

Cyprinotus chandri. [1] (Figs. 10-19). Shell oblong, shell longer than height, dorsal margin slightly arched, and ventral margin nearly straight, right valve with tubercles at anterior margin; antennary natatory setae reaching upto the tips of the claws, sympod of 1st maxilla (maxillules) large, sympod with 4 endites, 1st and 2nd jointed 1st podomere with 4 setae, 2nd with 6 setae, 3rd and 4th with 5 setae, vibratory plate large with 10 tentacles; 2nd maxilla with lobe like sympod, sympod endite with 11 setae, palpa a long lobe with 2 terminal setae, vibratory plate with 7 tentacles; mandible with long apophysis, condyle short, gnathobase

margin with 2 bidentate teeth; palp 5-segmented, 1st (basipodite) broad with 2 distal median setae, 2nd podomere with 2 median and 2 outer setae, 3rd podomere with 4 outer setae, 4th podomere with 3 long setae on the outer side, 5th podomere with 3 long setae at the tip and 3 setae on the outer side; 1st leg 5-segmented, with long and denticulated claw; 2nd leg with a short claw; 3rd leg with a short hook like denticulated claw and a long seta directed backward; ovary not spirally wound; furca with a dorsal and terminal seta, terminal seta shorter than dorsal seta, terminal claw longer than subterminal claw, both claws armed with teeth.

Locality. Gujar Khan, 73°-18'N and 33°-15'E.

Date of collection. 22-8-1987.

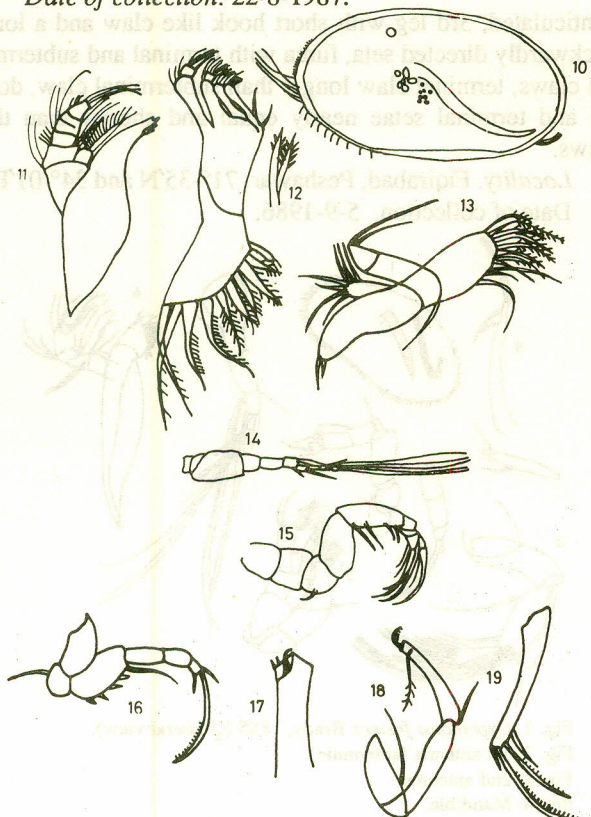


Fig. 10. *Cyprinotus chandri* Arora, 1931 (♀ lateral view).
 Fig. 11. Mandible.
 Fig. 12. 1st maxilla (Maxillule) and spine of maxillary process.
 Fig. 13. 2nd maxilla (Maxilla).
 Fig. 14. 1st antenna.
 Fig. 15. 2nd antenna.
 Fig. 16. 1st leg.
 Fig. 17. 2nd leg.
 Fig. 18. 3rd leg.
 Fig. 19. Furca.

Eucypris reticulata. (Zaddach) 1844 (Figs. 20-28). Shell of normal shape, elongated, shell length greater than 1 mm; dorsal margin of valve slightly arched and ventral slightly sinuate; surface of valves reticulate; natatory setae of antenna 2nd reaching upto the tips of claws; one spine of maxillary process toothed, 2nd faintly toothed; mandible with long and deep apophysis, condyle solid and large;

gnathobase dorsoventrally compressed with 7 marginal teeth, lower bidentate and other tridentate; mandibular palp 4-segmented with median setae, setae on the tip of last segment also present; 1st trunk leg 4-jointed, with a long claw and setae; 2nd trunk leg 5-jointed with a long scyth-shaped claw, terminal end of claw denticulated; 3rd leg with a short curved claw and a long seta; furca with long and slender shaft; terminal claw half the length of shaft, subterminal claw shorter than terminal claw, both claws armed with teeth; dorsal seta longer than terminal seta; ovary not spirally wound.

Locality. Kala Shah Kaku, 74°-15'N and 31°-40'E.

Date of collection. 27-9-1974.

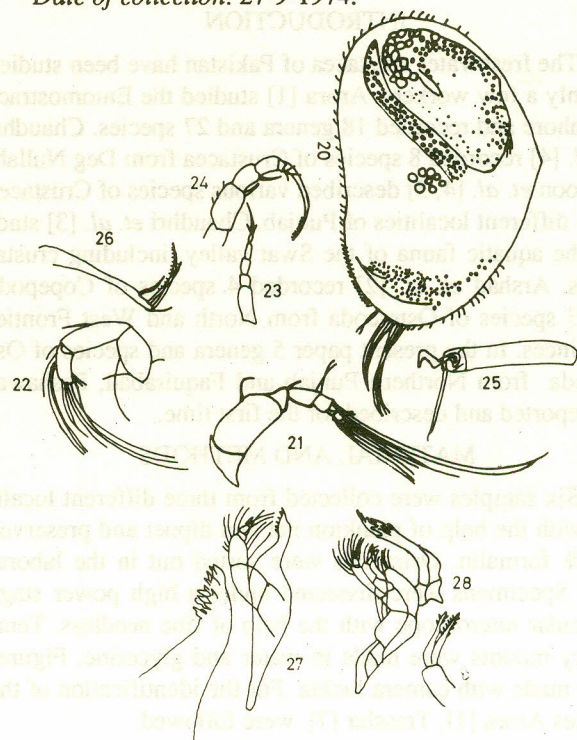


Fig. 20. *Eucypris reticulata* zaddach (1844) (♀ lateral view).
 Fig. 21. 1st antenna.
 Fig. 22. 2nd antenna.
 Fig. 23. 1st leg.
 Fig. 24. 2nd leg.
 Fig. 25. 3rd leg.
 Fig. 26. Furca.
 Fig. 27. Mandible with marginal teeth.
 Fig. 28. 1st maxilla, 2nd maxilla and spines of maxillary process.

Cypricercus tuberculatus. (Sharpe) 1908 (Figs. 29-39). Shell length less than 1 mm; shell surface very tuberculated, sparsely hairy; natatory setae reaching to the tip of claws; 1st maxilla (maxillules) with a large muscular basal plate (Sympod), sympod with 4 process, larger one is jointed, is the maxillary process, armed with 5 long setae, the other 3 process are the masticatory lobes of maxilla, the 1st masticatory lobe armed with 2 spines, which are toothed, the 2nd armed with 2 setae; branchial plate large with numerous setae or tentacles; sympod of 2nd maxilla

(maxilla) lobe like, sympod endite with 10 long setae, palp short with terminal setae and vibratory plate with numerous tentacles mandible with long and deep apophysis; gnathobase margin with 7 teeth; mandibular palp 4-segmented, 1st segment (basipodite) large with 2 distal median setae extending beyond gnathobase, 2nd segment small, 3rd segment with 1 long setae on the outer side, 4th segment with 5 setae at the tip and 4 setae on the outer side; 1st thoracic leg with a small, straight and denticulated claw, 2 setae located anterior and posterior to the claw, 2nd leg with a large curved claw, teeth present at the anterior end of claw, one setae located on the outside of claw; 3rd leg with a

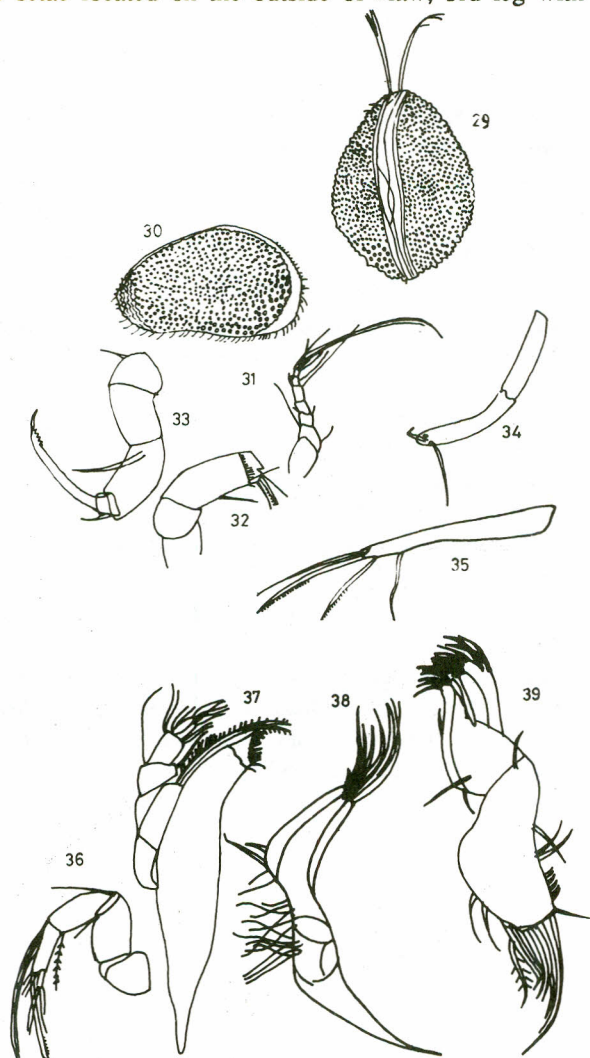


Fig. 29. *Cypricercus tuberculatus* (Sharpe) 1908 (ventral view).
 Fig. 30. *Cypricercus tuberculatus* (Sharpe) 1908 (lateral view).
 Fig. 31. 1st antenna.
 Fig. 32. 1st leg.
 Fig. 33. 2nd leg.
 Fig. 34. 3rd leg.
 Fig. 35. Furca.
 Fig. 36. 2nd antenna.
 Fig. 37. Mandible.
 Fig. 38. 2nd maxilla.
 Fig. 39. 1st maxilla.

small hook shaped claw and a large backwardly directed setae; furca long with terminal and subterminal claws, dorsal seta shorter than subterminal claw, terminal seta very long but shorter than terminal claw, claws denticulated.

Locality. Gujar Khan. 73°-18'N and 33°-15'E.

Date of collection. 22-8-1987.

Stenocypris malcolmsoni (Brady) 1859 (Figs. 40-48).
 Size small; length greater than height, surface of valves with scattered puncta; antennary natatory setae reaching upto the tips of claws; maxillary spine toothed; mandible with long and deep apophysis, condyle solid, gnathobase long, gnathobase margin with 6 teeth; 1st segment, (basipodite) of palp with 2 long median distal setae and 4th segment with 4 setae at the tip; 2nd leg with a long curved claw; 3rd leg with a short hook like claw and a long seta directed backward, claws with teeth; furca long, dorsal seta of furca absent, terminal seta longer than terminal claw, ter-

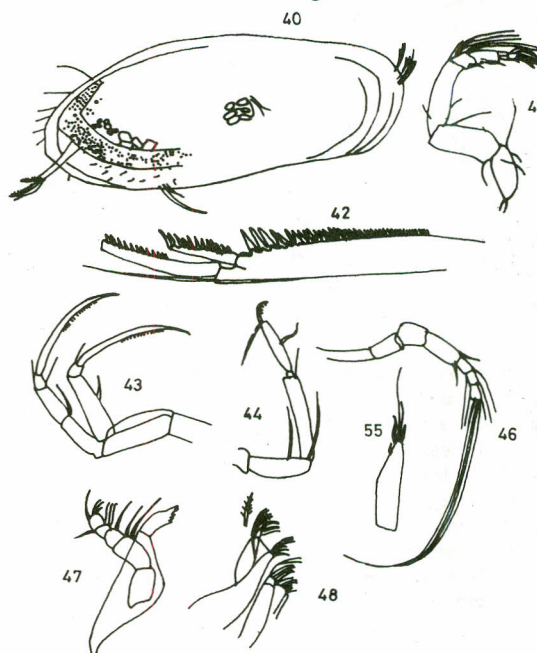


Fig. 40. *Stenocypris malcolmsoni* (Brady) 1859. (♀ lateral view).
 Fig. 41. 2nd antenna.
 Fig. 42. Furca.
 Fig. 43. 2nd leg.
 Fig. 44. 3rd leg.
 Fig. 45. 1st leg.
 Fig. 46. 1st antenna.
 Fig. 47. Mandible.
 Fig. 48. 1st maxilla (distal part).

terminal claw slightly curved and armed with 12 subequal teeth; subterminal claw straight, shorter than terminal claw, stoutly armed with 12 teeth, nearly half of the distal margin of the shaft armed with 42 subequal spines.

Locality. Kala Shah Kaku, 74°-15'N and 31°-40'E.

Date of collection. 27-9-1974.

Cypretta brevisaepta. Furtos 1936 (Figs. 49-58). Shell longer than height; dorsal margin strongly arched and ven-

tral margin nearly straight; antennary setae reaching the tip of the claws; coxa of antennula (1st antenna) long, basipo-

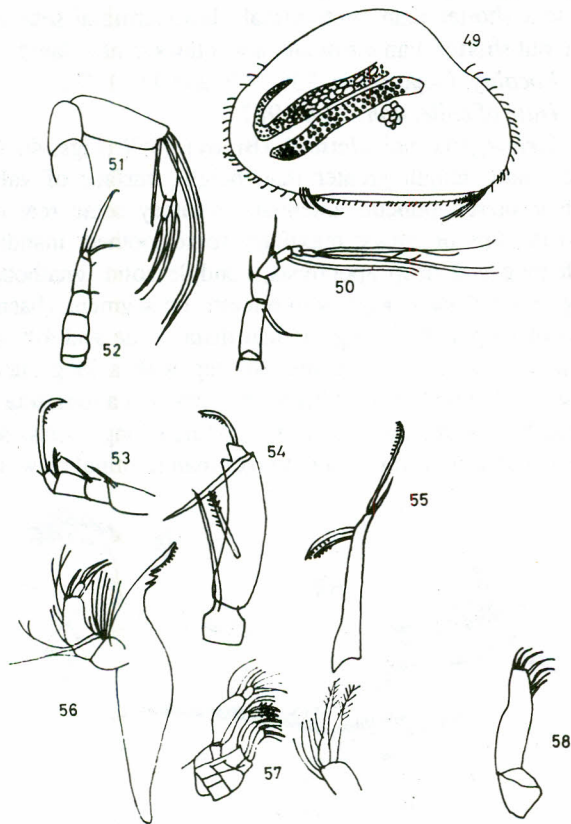


Fig. 49. *Cypretta brevisaepta* Furtos, 1936 (♀ lateral view).
 Fig. 50. 1st antenna.
 Fig. 51. 2nd antenna.
 Fig. 52. 1st leg.
 Fig. 53. 2nd leg.
 Fig. 54. 3rd leg.
 Fig. 55. Furca.
 Fig. 56. Mandible.
 Fig. 57. 1st maxilla (distal part) and spine of maxillary process.
 Fig. 58. 2nd maxilla (distal part).

dite and 1st endopodite podomere equal in size, 2nd and the last 2 podomere with long setae; coxa and basipodite of antenna (2nd antenna) equal in size; 1st endopodite podomere long and seta extending beyond 3rd podomere, 3rd podomere with 3 strong claws; maxilla with maxillary spines; mandible with long and deep apophysis, condyle solid; gnathobase with 10 teeth, mandibular palp 4-segmented, last segment with 2 spines at the tip; 1st leg weak, 5-segmented with a straight claw and 2 spines, one on each side of claw; 2nd leg with scyth-shaped denticulated claw; 3rd leg with a curved denticulated claw and a long seta; furca with terminal and subterminal claws, terminal claw longer than subterminal claw, both claws denticulated, dorsal seta longer than subterminal claw; ovary spirally wound.

Locality. Kala Shah Kaku, 74°-15'N and 31°-40'E.

Date of collection. 27-9-1974.

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