

XXXI RECORDS OF SOME INDIAN  
CICINDELIDAE.

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Having recently had occasion to re-arrange the Cicindelidae in the collection of the Zoological Survey of India, we found that it contained many specimens from localities unrecorded by Canon Fowler in his volume on the Cicindelidae and Paussidae in the "Fauna of British India" series; and, as in most other groups of Indian insects, much remains to be known about their geographical distribution, we have drawn up the following note in the hope that it will be useful. We have endeavoured to incorporate the few records of Indian species that have been published since Fowler's volume appeared.

It may be mentioned that most of the specimens listed here have been collected by the officers of this department; especially by Dr. S. W. Kemp, in Assam and elsewhere, and Dr. F. H. Gravely in the Darjiling District. Dr. and Mrs. Kemp's collection from the Garo Hills, Assam, made in July and August, 1917 is perhaps the most interesting recent addition to the collection, as these hills were hitherto practically unexplored.

The identifications of all the more critical species mentioned in this paper have been verified by Dr. Walther Horn.

*Collyris brevipennis*, Horn. Talewadi near Castle Rock, N. Kanara Dist. (*Kemp*, 3-10.x.16) and Castle Rock (11-26.x.16). Dr. Kemp tells us that he took the Talewadi specimen on a small bush while it was boring with the posterior end of its body into one of the branches, presumably with a view to oviposition.

*Neocollyris redtenbacheri*, Horn. Tura, Garo Hills, Assam, 200-1500 ft. and above Tura, 3000 ft. This species is not rare in the Darjiling Dist., from 1500-5000 ft. It has also been taken in Kousanie, Kumaon, 6075 ft. (*Tytler*, 25.vii.14).

*Neocollyris attenuata*, Redt. Darjiling Dist., from 1500-5000 ft.

*Neocollyris variitarsis*, Chaud. Tura, 1200-1500 ft., and Singla, Darjiling Dist., 1500 ft.

*Neocollyris variicornis*, Chaud. Tura, 1200-1500 ft., Sitong near Mungphu, 3800-4000 ft., Darjiling Dist. (*Kemp*, 2-5.vii.18) and Singla, 1500 ft. The species has also been taken in Tonkin.

*Neocollyris bonelli*, Guer. Rangamati, Chittagong Hill Tracts, (*Hodgart*, 11-16.vii.15), Siripur, and Khargpur, Bengal. Sib-sagar, Khasi Hills, and above Tura, Assam, Hills near Taiping, Perak (*Annanale*, 26-30.xii.15), This species is widely distri-

buted in Bengal and Fowler's doubt of the Calcutta locality seems, therefore, uncalled for. The variety *ortygia* Buq., has been taken in Siripur (26-27·ix·10), Singla, 1500 ft. and Tura. We have specimens from Pashok, 3500 ft., Darjiling dist. and Tura under the name "var. *diversipes*, Fowl!", but Dr. Horn who examined one of these says that they are really intermediate forms between *N bonelli* and *distincta*. In the "Fauna" volume *distincta* is given specific rank, but it is best considered as a subspecies of *bonelli*. We have examples of *distincta* from Balighai near Puri, Orissa (*Annandale* and *Gravelly*, 16-20·viii·11).

*Neocollyris fuscitarsis*, Schm.-Goeb. Singla, Darjiling Dist., 1500 ft.

*Neocollyris saphyrina*, Chaud. Pashok, 2500 ft., Darjiling Dist.

*Neocollyris insignis*, Chaud. Above Tura, Garo Hills, Assam, 3900 ft. In India the species appears to be entirely confined to the hills, and is rather common in the Darjiling Dist.

*Neocollyris smaragdina*, Horn. Soom, Darjiling Dist., 4000-5000 ft (7·vii·14).

*Neocollyris feae*, Horn. Rangamati, Chittagong Hill Tracts, (*Hodgart* 11-16·vii·15).

*Tricondyla gounelli*, Horn. Trivandrum, Travancore.

*Tricondyla macrodera*, Chaud. A common species in the Darjiling Dist. and in Assam. Dr Kemp took fifteen examples at Tura, and above Tura, on the doorstep of his bungalow and on tree-trunks.

*Tricondyla mellvi* Chaud. Above Tura, 3500-3900 ft.

*Derocrania longesulcata*, Horn. Castle Rock, N. Kanara Dist. (*Kemp*, 11-26·x·16).

*Therates hennigi*, Horn. Above Tura, 3900 ft. Dr Kemp says that the species was rare in the Garo Hills where it occurred only in one place, about 100 ft. below the top of the ridge. The jungle on either side of the path in this locality consisted of very large trees with light undergrowth.

*Therates dohertyi*, Horn. Pashok, 5000 ft., Darjiling Dist. (*Hartless*).

*Therates chenelli*, Bates. N. Shan States, U. Burma (*Mackwood* 4·v·14).

*Therates obliquus*, Fleut. Pashok, 5000 ft. (*Hartless*).

*Therates gestroi*, Horn. A common species above Tura in the Garo Hills, 3500-3900 ft. The subspecies *annandalei* is common in damp shady places, among shrubs and herbage, almost throughout the Eastern Himalayas.

*Prothyma proxima*, Chaud. Balugaon, Puri Dist., Orissa (*Annandale*, 21-30·vii·13) and Coimbatore, S. India (*Fletcher*, 18·xi·13).

*Prothyma reconciliatrix*, Horn. Above Tura, 3500 ft.

*Heptodonta nodicilis*, Bates. A widely distributed species in the Darjiling Dist. and Assam. Fleutiaux records it from Tonkin.

*Heptodonta kraatzi*, Horn. A fairly common species above Tura, 3000–3500 ft. and in the Darjiling Dist. from 1500–5000 ft.

*Heptodonta pulchella*, Hope. Not an uncommon species at Tura, 1000–1200 ft. *H. ferrarii*, Gestro, is sunk as a synonym of this species by Fowler, but Fleutiaux in a recent paper (1917) seems to consider it distinct, and after carefully examining the specimen in the Indian Museum we cannot but agree with him. Our example is from the N. Shan States, Upper Burma (*Mackwood*, 4·v·14), and the species is also recorded from the Karen Hills in Burma and Laos.

*Cicindela viridicincta*, Horn. Mr. Fletcher has taken this species in Pollibetta, Coorg, S. India (15–25·v·14).

*Cicindela tetrastacta*, Wied. Annandale and Dover record this species from Barkuda I., and Gantasila on the Chilka Lake.

*Cicindela dromicoides*, Chaud. Not uncommon in the Darjiling Dist., and Kumaon. Dr. Gravely has taken a specimen in Ghumti, Darjiling Dist., 4000 ft., with the elytron of a common small Chrysomelid in its mandibles. The *Cicindela* probably feeds on the Chrysomelid.

*Cicindela triguttata*, Hbst. Rangamati, Chittagong Hill Tracts, (*Hodgart*, 11–16·vii·15), Siliguri, base of E. Himalayas (*Annandale* and *Kemp*, 3–4·vi·11), Darjiling Dist., 600–4500 ft., Tura, Garo Hills, and Tonkin.

*Cicindela umbropolita*, Horn. Mr. Fletcher has taken this species at Coorg, S. India, in May, 1914.

*Cicindela foveolata*, Schaum. Tura, 1200 ft., Nilgiri Hills, 3000 ft., and Tonkin.

*Cicindela spinolae*, Gestro. Rangamati and Tura, 1000–1500 ft. A jungle species fairly common in the Eastern Himalayas.

*Cicindela bigemina*, Klug. Siliguri (3–4·vii·11), and Chakradharpur, Chota Nagpur (*Gravely*, 1·x·11). The *habitat* of the variety *brevis*, Horn, is given by Fowler as “Indes Orientales.” We have specimens from the bank of the River Sohan in Rawalpindi, Punjab (*Hodgart*, vi–vii·17).

*Cicindela viridilabris*, Chaud. Fowler gives the *habitat* of this species as “East Indes,” but remarks that Dr. Horn thinks that they are probably from North India. Mr. Hodgart has taken it in Kalka at the base of the Simla Hills, 2400 ft., in July, 1917.

*Cicindela seriepunctata*, Horn. A widely distributed form in the Eastern Himalayas.

*Cicindela fastidiosa*, Dej. Annandale and Dover record this species from Barkuda I., Chilka Lake, where they took brownish, greenish and bluish specimens.

*C. decempunctata* var. *obscure-dilatata*, Horn. A species recently described by Horn (1914, p. 28) from Delhi. We have a single specimen from Lahore, Punjab (*B. Das*, 5·x·12, “river-side”).

*Cicindela melancholica*, Fabr. Kalka, base of Simla Hills, 2400 ft. (*Annandale*, 21·vii·11, “in railway carriage”), Ambala, Punjab (*Annandale*, 16·vii·11, “in railway carriage”), Kaladhungi, Naini Tal Dist. (*Hodgart*, 4–6·v·13), and Bushire, Persia.

*Cicindela undulata*, Dej. Annandale and Dover record this species from Barkuda I., and elsewhere. The variety *dubia*, Horn is recorded doubtfully in the "Fauna" from "India." We possess specimens from Singla, Darjiling Dist., 1500 ft., and Mandalay in Upper Burma (Molesworth, 1915, "at light").

*Cicindela imperfecta*, Chaud. Fowler records it from various localities, but adds a note to the effect that Dr. Horn says that some of these records may be erroneous, as this species is known only from Bengal. The Museum possesses two specimens: one from Surat in Bombay, and the other from Ranchi, which are certainly authentic.

*Cicindela distinguenda*, Dej. This species is recorded from Pondicherry and Ceylon, and Annandale and Dover record a single specimen from the shore of Barkuda I., Lake Chilka.

*Cicindela discreta* var. *reducta*, Horn. Tura, Garo Hills, 1000-1500 ft.

*Cicindela grammophora*, Chaud. Widely distributed in Bengal. We have specimens from Kaladhungi, Naini Tal Dist. (Hodgart, 4-6.v.13).

*Cicindela cognata*, Wied. Dr. Gravely has taken this species on the banks of the River Mahanadi in Cuttack, Orissa (21-22.viii.11) and Mr. Hodgart in Goalbathan, E. Bengal (9.vii.09).

*Cicindela minuta*, Oliv. Tura, 1000 ft., and Garobadha (Kemp, 1.ix.17), Garo Hills, Assam; Orissa, Delhi, and Satara Dist., Bombay Presidency. Apparently widely distributed in India and Burma.

*Cicindela nitida*, Wied. Naini Tal Dist. and Orissa. The species though widely distributed is, like *C. biramosa*, which lives only on the seashore, curiously particular in its choice of *habitat*. It inhabits river-banks composed of dry mud with a good amount of sand. We have seen it in very large numbers on the bank of the River Bhagarati at Berhampur, Murshidabad District, in the beginning of July, 1921, where it lives in company with a Muscid fly to which it bears a remarkable resemblance on sunny days. Both the beetle and the fly are extremely difficult to catch as they seem to move by a series of unaccountably swift leaps, and with the sun shining on them it is impossible to tell the beetle from the fly. In the cabinet they bear no resemblance whatever to each other.

*Cicindela angulata*, Fabr. Tura, Garo Hills, Assam, 1000 ft., Sitong, Darjiling Dist., and Cuttack, Orissa (Gravely, 21-22.viii.11, "on bank of R. Mahanadi").

*Cicindela sumatrensis*, Hbst. A widely distributed species usually abundant where it occurs (*cf.* Annandale and Dover, 1921). The variety *imperfecta* Horn is found throughout the Bombay Presidency, and Dr. Gravely has also taken it in the Cochin State. We are of opinion that *C. despectata* Horn (1892, p. 86) from Perak in the Malay Peninsula and the Phillipines will probably prove to be only a form of *C. sumatrensis*.

*Cicindela cardoni*, Fleut. Satara Dist., Bombay Presidency,

2000 ft. In the Manbhum District of Chota Nagpur the species is not uncommon on sand by the river-bank.

*Cicindela chloris*, Hope. A common Western Himalayan species, taken also in the Darrang Dist., Assam-Bhutan Frontier (*Kemp*, 26·xii·10).

*Cicindela funerea*, McLeay. This form occurs in the Darjiling Dist., from 500–5000 ft., and almost throughout Assam. In the Garo Hills it is not uncommon at Tura, 1000 ft. Dr. Annandale has also taken it on the shore of Lake Talé Sap in Patalung, Siam.

*Cicindela intermedia*, Chaud.<sup>1</sup> Taken in Kumaon from 1200–6075 ft.

*Cicindela octonotata*, Wied. Sukna, 500 ft., E. Himalayas. (*Annandale*, 1·viii·08), Darjiling, Garobadha (*Kemp*, 1·x·17) and Tura, Garo Hills, Assam, 1200 ft.

*Cicindela duponti*, Dej. Tura, 1000–1400 ft. and Tonkin. The variety *barmanica*, Gestro, has been taken by Mr. Hannyngton at Coorg, 2000 ft., S. India, and by Mr. Mackwood in N. Shan States, U. Burma. The Museum possesses an example of *C. chinensis*, De Geer, from Simla, but Fowler thinks it probable that this locality is incorrect.

*Cicindela aurulenta*, Fabr. Hills near Taiping, Perak (*Annandale*, 26–30·xii·15), N. Shan States, U. Burma; Tamansari, Idjen Massip, 1600 ft., E. Java (*Kloss*, 1·20). The variety *virgula*, Fleut., is widely distributed in the Eastern Himalayas and in Assam. Dr. Kemp found it not uncommon at Tura, 1000–1400 ft. He has collected specimens of the variety *batesi* Fleut. (*cf.* *Fleutiauxe* 1893, p 491) which is not recorded in the "Fauna", in the Doiphang Valley, Darrang Dist., Assam-Bhutan Frontier (21·x·12).

*Cicindela hamiltoniana*, Thoms. Mr. Fletcher has taken this form in Pollibetta, Coorg, and we have an example from Nadgani, Malabar.

*Cicindela assamensis*, Parry. Tura, Garo Hills, Assam, 1000–1500 ft., above Tura, 3000 ft., Pashok, 2000 ft., Darjiling Dist., and Rungbong Valley in Darjiling. In the Garo Hills the species is found in the same situation as *Therates hennigi*, but at lower altitudes.

*Cicindela mouhoti* var. *cariana*, Gestro. N. Shan States, U. Burma

*Cicindela vigintiguttata*, Hbst. Barkul, Puri Dist., Orissa (*Gravely*, 9–13·xi·12).

*Cicindela striolata*, Ill. Dr. Gravely in June, 1914 found this species not rare in long grass above jungle in the Darjiling Dist.,

<sup>1</sup>. It might be of interest to mention here that a common African Cicindelid has long been known under the name *C. intermedia* Klug (1853), but as Chaudoir described the Indian species of this name a year earlier, Dr. Horn proposes to call the African form *C. intermediola*. I am indebted to Mr. C. N. Barker of the Durban Museum for this information. [C.D.]

3000–3500 ft. It has also been taken at Coorg and Rangamati. The variety *lineifrons* Chaud. is represented in our collection from above Tura, 2500 ft. (Kemp, 15.vii.17, "jungle path").

*Cicindela albina*, Wied. On banks of River Sohan at Rawalpindi, Punjab, and Lohardaga, Ranchi Dist., Chota Nagpur. At Balighai near Puri on the Orissa Coast Dr. Annandale found that it occurred only on sand dunes, not on the seashore.

*Cicindela copulata*, Schm.-Goeb. Fowler gives the distribution as Calcutta and Karachi, but remarks that the former is rather doubtful. Schmidt-Goebel described it from "Cossipore near Calcutta," but this is undoubtedly an error for Cossipore is on the banks of the River Hughli, and fully ninety miles away from the sea, there is soft mud on the fore-shore, and no sand at all. The locality has no resemblance whatever to Karachi. Moreover, *C. copulata* has never again been recorded from near Calcutta, while it has often turned up at Karachi. It is thus safe to assume that it does not occur in the former locality. The species is generally found in open sandy places. Fleutiaux (1917) records what he considered this species from Annam, but in a later paper (1919) he showed that it was really *C. punctatissima*, Schaum.

*Cicindela quadrilineata*, Fabr. In recording this form and *C. biramosa* Fabr., from Chandipore on the Orissa sea-coast Dr. Gravely (1919, p. 398) remarks: "*Cicindela quadrilineata*, Fabricius is sometimes to be found where the ground is muddy. In 1919 it was comparatively abundant on muddy sand at the mouth of the Burhabalang River. Both species are common seashore insects, living near high-tide mark, but I am not aware that they have been found so closely associated before. In Annandale and Horn's Annotated List of Indian Museum Cicindelinae (Calcutta, 1909), *C. biramosa* is recorded from various places from N. Kanara on the Malabar coast to Java, and *C. quadrilineata* from Burma and Bengal to south of Madras; and the known range of the latter species is extended in the 'Fauna of British India' to Sind and Baluchistan. More recent observations both by Dr. Annandale and myself suggest that *C. biramosa* is the common seashore species of the east and southwest coasts of the Indian Peninsula, and that *C. quadrilineata* holds this position on the northern parts of the west coast. Mr. Kemp found both on the coast of Portuguese India." In a fortnight's visit to Chandipore in the latter half of September, 1920, we did not see either of these species, but *C. limosa*, Saund., was occasionally observed in the burrows of the crab, *Ocyropa macrocera*, Milne-Edwards, a brilliant red species of considerable size, very common on the beach. The beetle probably only goes into the burrow for shelter and the case must not be taken as one of commensalism. A damaged example of *limosa* has been taken by Gravely from the nest of a gregarious spider (*Stegodyphus*) at Durgapur, Salt Lakes, near Calcutta. The variety *renei*, Horn, of *C. quadrilineata* has been taken by Kemp at Pamben in the Gulf of Manaar (24.II.13.)

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