GEOGRAPHICAL DISTRIBUTION

The Silvanidae seems to be more diversely represented in the tropical and subtropical climate than in temperate regions. The representatives of the family occur in all the main continental areas of the World, but so far a few species have been recorded from New Zealand and oceanic islands. Hetschko (1930) in Junk's "Coleopterorum Catalogus" listed twentysix genera from the Old World and twenty genera from the New World. Among the New World genera twelve are restricted to this part of the World, whereas of the Old World genera seventeen are restricted to this World and others are recorded from both the Old and New World. The two large subfamilies of Silvanidae namely, Silvaninae and Psammoecinae predominantly occur in the warmer part of the World and well-represented in the Oriental region including India. The third subfamily Cryptamorphinae mainly occur in the temperate climate and also represented in India, especially in the higher altitudes.

The subfamily Silvaninae comprises a number of genera, of which Silvanus Latreille, Silvanoprus Reitter, Monanus Sharp, Airaphilus Redtenbacher are comparatively larger than others. Among these genera Silvanus and Silvanoprus are widely distributed and abundantly occur in India. Of these two genera, Silvanus is more diverse in Oriental, Ethiopian and Australian regions and a few species are known from the New World; whereas Silvanoprus

is predominant in Oriental region and also recorded from Madagascar and tropical Africa, and only one species is known from the New World.

Twelve species of Silvanus Latreille are recorded so far from India (Map 2) including two new species described in this work. Of these species S. lewisi Reitter is widely distributed in India, and also recorded from various parts of Oriental region, Australia and Africa. S. difficilis Halstead is recorded from North and South India, whereas S. rossi Halstead is known only from North India, and S. recticollis Reitter is recorded from the gangetic plain. These three species are also recorded from various parts of the Oriental region and of them S. difficilis is distributed to various parts of Australia, Africa and the New World. Halstead (1973) mentioned that S. bidentatus (F.) is truly a palaearctic species and recorded as far as 66°N and seems to be introduced to Orient. This species is recorded from Nilgiri Hills in India. The distributional records of other Indian species of Silvanus described by Pal and Sen Gupta (1977) are as follows : S. imitatus (Assam), S. curvispinus (Assam), S. nigrans (Darjeeling dist.: West Bengal), S. ruficorpus (Assam, Uttar Pradesh), S. gibbus (Assam, West Bengal and Madhya Pradesh). The two new species namely, S. andamanicus and S. indicus are described from Andaman Is., and Bihar and Kerala respectively.

Silvanoprus Reitter is fairly a large genus, so far nine species are known from India (Map 3), of which four are described here as new. Of them S. cephalotes (Reitter) and S. scuticollis (Walker) are widely distributed in the Oriental region. Of these the former species is unknown from Europe, whereas S. scuticollis is recorded from France and also from Guyana and Africa. The species S. cephalotes, S. scuticollis and S. longicollis (Reitter) commonly occur all over India, whereas S. angusticollis (Reitter) is recorded only from Himalaya and Nilgiri Hills. Four new species of Silvanoprus are described here and their distribution are as follows: S. indicus (Sikkim, Meghalaya), S. nepalensis (Nepal), S. prolixicornis (Uttar Pradesh) and S. palnicus (Tamil Nadu). Another species S. distinguendus Halstead (MS. name) is recorded from South India and Sri Lanka.

Majority of the species of the genus Monanus Sharp are represented in the Oriental region and only a few are known from Australia. The subgenus Monanus (Monanops) is known chiefly from Sumatra, and in the present study a new species Monanus (Monanops) himalayicus is described from Darjeeling district of West Bengal. Of the two species of Monanus (s.str.) found in India, M. (M.) concinnulus (Walker) occur abundantly all over India, whereas M. (M.) longicornis (Grouvelle) is known only from the West coast of India (Malabar) (Map 7).

The genus Airaphilus Redtenbacher is more diversely represented in the temperate climate than in tropics and commonly found in Europe, Mongolia and China. This genus is represented in India by two species namely, A. serricollis Reitter from Tamil Nadu and West Bengal, and A. abnormis Grouvelle from Maharastra and West Bengal (Map 8).

Protosilvanus Grouvelle is comparatively a small genus and widely distributed in the Oriental region. Protosilvanus is hitherto represented in India only by P. lateritius (Reitter), which is very common and abundantly occur throughout India. In the present study two new species namely, P. minutus and P. dehradunus are described from West Bengal and Uttar Pradesh respectively (Map 4).

The genus Oryzaephilus Ganglbauer comprises ten species from the World, of which O. surinamensis (L.) and O. mercator (Fauvel) are well-known stored grain pests and cosmopolitan in distribution. These two species also occur abundantly in stored products in India. Two new species namely, O. elevatus and O. genalis are described from Tamil Nadu and Orissa respectively (Map 6).

Ahasverus Gozis is a small genus and rather common in the temperate climate than in tropics. This genus is represented in India (Map 5) by single species A. advena (Waltl), which is a stored grain pest and cosmopolitan in distribution.

Silvanopsis Grouvelle is a small Oriental genus, represented by two species namely, S. raffrayi Grouvelle and S. simomi Grouvelle from Singapore and Philippines respectively. In the present study this genus is recorded for the first time from India and two new species namely, S. grouvelli from Assam and Bihar, and S. nepalensis from Nepal are described (Map 8).

Silvanolomus Reitter is a small genus, known from the Oriental, African and Australian regions but was unknown from India. S. denticollis (Reitter) is recorded for the first time from Bihar, Karnataka and Kerala in India. An additional new species namely, S. meghalayensis is described from Meghalaya (Map 8).

Halstead (1973) described the genus Silvanoides based on two species namely, S. cheesmanae Halstead and S. foveicollis from Solomon Is., New Guinea and Philippine Is., and Solomon Is. respectively. In the present study S. cribricollis (Grouvelle) (= S. cheesmanae Halstead) is recorded for the first time from India (Meghalaya) (Map 5).

Cathartus Reiche is a small genus, represented mostly in the tropical and subtropical parts of both the New and Old World. This genus is yet to be recorded from India, but C. quadricollis (Guérin-Méneville), a widely distributed species associated with stored products and is recorded from Bangladesh (Map 5).

The genera Psammoecus Latreille and Telephanus Erichson constitute the subfamily Psammoecinae. The former genus predominates in the Old World and especially in the Oriental region, whereas Telephanus predominates in the New World. Eight species of Psammoecus are hitherto recorded from India. In the present study additional seven species are recorded, of which five are described as new (Maps 9 & 10). Of the above species, P. trimaculatus Motschulsky is the most common and widely distributed in India. P. decoratus Grouvelle, P. delicatus Grouvelle, P. gratiosus Grouvelle, P. nitidus Grouvelle and P. impressicollis Grouvelle are recorded only from South India, whereas P. andrewesi Grouvelle and P. lepidus Grouvelle are recorded both from North and South India. P. simoni Grouvelle is recorded for the first time from India (West Bengal).

The subfamily Cryptamorphinae includes the only genus Cryptamorpha Wollaston and this genus is more diversely represented in Australia and New Zealand. In India this genus is so far recorded by two species namely, C. infans Grouvelle from Nilgiri Hills, and C. sculptifrons Reitter from Darjeeling and Sikkim. C. sculptifrons is also known from Bhutan, China and Japan. In the present study four new species are described from Eastern Himalayas (Map 11).

Distributional records of the family Silvanidae of the World is incomplete due to lack of survey especially, in the tropical and subtropical parts of the World. Moreover, their minute

size and hidden habitats are often overlooked by the collectors. For the present study the author and staff of Coleoptera Section of Zoological Survey of India made several surveys all along the foot hills of the Himalaya, gangetic plains and southern parts of India especially, in the Nilgiri Hills. Moreover, the collections of Silvanidae from Zoological Survey of India, Forest Research Institute Dehra Dun and Coimbatore Agricultural College, Tamil Nadu, along with the collections from the different European Museums and Institutions are studied and incorporated in the distributional records.

Relative species composition of World-Orient-India (including Nepal and Bhutan) of the Indian genera :

Genus	World species(No.)	Oriental species (No.)	Indian species (No.)
Silvanus Latreille	24	15	12
Silvanoprus Reitter	20	15	9
Protosilvanus Grouvelle	7	7	3
Silvanoides Halstead	2	2	1
Ahasverus Gozis	11	1	1
Cathartus Reiche	4	1	-
Silvanolomus Reitter	4	2	2
Silvanopsis Grouvelle	4	4	2
Oryzaephilus Ganglbauer	11	5	4
Monanus Sharp	22	14	3
Airaphilus Redtenbacher	29	2	2
Psammoecus Latreille	77	22	15
Cryptamorpha Wollaston	28	7	6