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STUDIES ON THE COCKROACH FAUNA OF KARNATAKA (INSECTA : BLATTODEA)

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INTRODUCTION

Cockroaches are one of the oldest insect orders with a fossil history extending back more than 300 million years. There are 4000 known species worldwide belonging to six families, Blattidae, Cryptoceridae, Polyphagidae, Nocticolidae, Blattellidae and Blaberidae (Roth, 1999 & 2003) under 445 genera. The American cockroach *Periplaneta americana* (Linnaeus) and the Oriental cockroach *Blatta orientalis* Linnaeus are common species known to India. However, the vast majority of cockroach species (more than 99%) lives in the wild and are probably playing an important role in the food web of forest eco system (Bhoopathy, 1997 & Jayakumar *et al.*, 1994). However, there are a few species that thrive in and around human habitations. They are pests because they destroy food and contaminate it with their smelly excreta. The present inventory of Cockroaches is far from complete and further surveys are needed to get a clear picture of their distribution in Karnataka. Out of 57 genera and 156 species accommodated under 5 families reported from India (Mandal, S.K., *et al.*, 1995 & 2000), the present study records 11 genera and 12 species under 4 families from Karnataka.

SYSTEMATIC ACCOUNT

Family BLATTELLIDAE

Subfamily BLATTELLINAE

Genus *Blattella* Caudell, 1903

1. *Blattella germanica* (Linnaeus, 1767)
2. *Blattella humbertiana* (Saussure, 1863)
3. *Blattella biligata* (Walker, 1868)

Subfamily PSEUDOPHYLLODROMIINAE

Genus *Supella* Shelford, 1911

Subgenus *Supella* Shelford, 1911

4. *Supella (Supella) longipalpa* (Fabricius)

Family BLABERIDAE

Subfamily EPILAMPRINAE

Genus *Stictolampra* Hanitsch, 1930

5. *Stictolampra plicata* (Navas, 1904)*

Subfamily PYCNOSCELINAE

Genus *Pycnoscelus* Scudder, 1862

6. *Pycnoscelus surinamensis* (Linnaeus, 1758)

Subfamily PERISPHAERIINAE

Genus *Pseudoglomeris* Brunner von Wattenwyl, 1893

7. *Pseudoglomeris glomeris* (Saussure)*

Genus *Trichoblatta* Saussure & Zehnter, 1895

8. *Trichoblatta sericea* (Saussure, 1863) *

Subfamily EPILAMPRINAE

Genus *Thorax* Saussure, 1862

9. *Thorax porcellana* Saussure, 1862

Family BLATTIDAE

Subfamily BLATTINAE

Genus *Periplaneta* Burmeister, 1838

10. *Periplaneta americana* (Linnaeus, 1758)

11. *Periplaneta australasiae* (Fabricius, 1775)

12. *Periplaneta ceylonica* Karny, 1908*

13. *Periplaneta brunnea* Burmeister, 1838*

Genus *Blatta* Linnaeus, 1758

14. *Blatta orientalis* Linnaeus, 1758

Genus *Neostylopyga* Shelford, 1911

15. *Neostylopyga rhombifolia* (Stål, 1813)
16. *Neostylopyga sexpustulata* (Walker, 1871)*

Family POLYPHAGIDAE

Subfamily POLYPHAGINAE

Genus *Polyphaga* Brullé, 1835

17. *Polyphaga indica* Walker, 1868

Genus *Therea* Billberg, 1820

18. *Therea petiveriana* (Linnaeus, 1758)
19. *Therea hyperguttata* Grandcolas, 1993*

Order BLATTODEA

Family BLATTELLIDAE

Subfamily BLATTELLINAE

Genus *Blattella* Caudal, 1903

1. *Blattella germanica* (Linnaeus, 1767)

(Plate IIc)

1767. *Blatta germanica* Linnaeus, *Syst. Naturae* **1**(2) (ed.12) : 688.
1893. *Ischnoptera parallela* Tepper, *Trans. R. Soc. S. Austral.*, **17** : 53.
1895. *Phyllodromia germanica* : Tepper, *Trans. R. Soc. S. Austral.*, **19** : 150
1908. *Blattella germanica shuguroffi* Karny, *Denkschr. med.-naturw. Ges. Jena* **13** : 377.
1925. *Phyllodromia cuneivittata* Hanitsch, *Sarawak Mus. J.* **3** : 77.
1969. *Blatta germanica*: Princis, *Orthopt. Catalog.* Part **13** : 807-823

Material examined : 1 ex., Uthegabundae, 9.xii.2005; 5 exs., Sunuvara, 10.xii.2005; 3 exs., Kogglahalli, 11.xii.2005; 5exs., Konganjayahundi, 15.xii.2005; 15 exs., Vajmangala, 17.xii.2005; 6 exs., K.Gudi, 21.xii.2005; 5 exs., Ahulibetta, 9.ix.2006; 8 exs., Madhavpatna, 14.ix.06; 15 exs., Mangalore Port Trust, 17.ix.2006; 28 exs., Uttegaseeguda, 22.ix.06; 18exs., Kollukondahalli, 26.ix.2006; 7 exs., Attibelle, Lot-1, 27.ix.2006; 5 exs., Besmapahalli, Lot-2, 27.ix.2006; 11exs., Hallayalla, 13.ix.2007; 23 exs., Kondajji, 17.ix.07; 18 exs., Chellakere, 20.ix.07; 11 exs., Thanganahalli, 23.ix.07; 40 exs., Nagg erhalli, 25.ix.07, coll; 21 exs., Beerandahalli, 28.ix.07, coll. S. Prabakaran.

Diagnosis : Small in size. Head with vertex exposed. Pronotum transeverse, gradually rounded laterally. Tegmen relatively elongated, the subcosta is shorter than anal field, discoidal vein forked before median point. 2 to7 abdominal tergites with latero

caudal portion produced as lobes, 7 and 8 tergites narrowly visible. Supra anal plate semi circular or subtriangular, with lateral margin moderately convergent, weakly convex at the posterior region. Subgenital plate with posterior margin forming a large broad rounded lobe.

Distribution : Widely distributed species in the world.

2. *Blattella humberiana* (Saussure, 1863)

(Plate IIIc)

1863. *Polyzosteria humberiana* Saussure, *Mem. Soc. Geneve*, **17** : 131.
1904. *Phyllodromia humberiana* Kirby, *Syn. Cat.Orth.*, **1** : 90.
1960. *Blattella humberiana* Princis, *Ark. Zool.*, (2) **1** : 27.
1969. *Blattella humberiana* : Princis, *Orthopt. Catalog.* Part **13** : 842-843.

Material examined : 1 ex., Bhagamandala, 13.ix.2006; 6exs., Abayathmangala, 15.ix.06; 4exs., Kollur, 21.ix.2006; 14exs., Uttegaseeguda, 22.ix.06; 7exs., Attibelle, 26.ix.06; 3exs., Ranibennur wildlife sanctuary, 14.ix.07; 6 exs., Kondajji, 17.ix.07; 8 exs., Chellekere; 5 exs., Naggerhalli, 25.ix.07; 9 exs., Beerandahalli, 28.ix.07, coll. S. Prabakaran.

Diagnosis : Brown in colour, head yellow, frontal region yellowish brown. Small in size. Head with vertex exposed. Cerci slender. Supra anal plate strongly transverse, with distal margin broadly convex. Subgenital plate symmetrical. Female plate simple, free margin broadly convex but suddenly and distinctly concave below cerci.

Distribution : India (Karnataka, Meghalaya, West Bengal, Tripura and Arunachal Pradesh), widely distributed in the world.

3. *Blattella biligata* (Walker, 1868)

1868. *Blatta cercalis* Walker, Catalogue of the Specimens of Blattariae in the Collection of the British Museum 214.
1871. *Blatta fasciceps* Walker, Catalogue of the Specimens of Dermaptera Saltatoria in the Collection of the British Museum. V. *Supplement to the Catalogue of Blattariae.* 25
1902. *Blatta mellea* Krauss . *Anz. Akad. Wiss. Wien, math.-naturw. Kl.* 39 : 54
1915. *Ischnoptera modestiformis* Karny. *Suppl. ent.*, **4** : 62
1924. *Ischnoptera fulvastra* Chopard. *Rec. Ind. Mus.*, **26** : 168.
1935. *Symploce persica* Bei-Bienko. *Konowia*, **14** : 125.

*Not recorded in this study

Material examined : 2exs, Malenallasundara, 10.xii.2005; 7 exs, Kondajji, 17.ix.2006; 8 exs, Uttegaseeguda, 22.ix.2006; 11 exs, Besmapalli, 27.ix.2006; coll. S. Prabakaran.

Diagnosis : Male with subgenital plate strongly asymmetrical; styles relatively short and heavy, symmetrical or not, female with subgenital plate simple, not valvate.

Distribution : India (Tamilnadu, Karnataka), Sri Lanka, Pakistan, Kenya, Israel, Mozambique.

Subfamily PSEUDOPHYLLODROMIINAE

Genus *Supella* Shelford, 1911

Subgenus *Supella* Shelford, 1911

4. *Supella (Supella) longipalpa* (Fabricius, 1798)

1798. *Blatta longipalpa* Fabricius, *Suppl. Ent. Syst. Hafniae.*, 185.

1839. *Blatta (Phyllodromia) supellectilium* Serville, *Hist. Nat. Ins., Orth.*, 114.

1868. *Blatta extenuate* Walker, *Catalogue of the Specimens of Blattariae in the Collection of the British Museum* : 221.

1868. *Blatta incisa* Walker, *Catalogue of the Specimens of Blattariae in the Collection of the British Museum* 109.

1868. *Ischnoptera vacillans* Walker, *Catalogue of the Specimens of Blattariae in the Collection of the British Museum*, 114.

1871. *Blatta subfasciata* Walker, *Catalogue of the Specimens of Dermaptera Saltatoria in the Collection of the British Museum. V. Supplement to the Catalogue of Blattariae* : 26.

1871. *Blatta transversalis* Walker, *Catalogue of the Specimens of Dermaptera Saltatoria in the Collection of the British Museum V. Supplement to the Catalogue of Blattariae* : 25.

1969. *Supella (Supella) longipalpa* (Fabricius) : Princis, In Beier [Ed.]. *Blattariae: Subordo Epilamproidea. Fam.: Blattellidae. Orthopterorum Catalogus (13)* : 920.

Material examined : 3 exs, Pettikere, 23.ix.2005; 1 ex, Karigowdanakoppulu, 27.xii.05; 11 exs, Kuthyeru, 11.ix.2006; 3 exs., Madhavapatna, 14.ix.2006; 11exs., Uttega seegode, 22.ix.2006; 24exs, Kollukondahalli, 26.ix.2006; 18exs, Attibelle, Lot-127.ix.2006; 16exs., Besmapahalli, 27.ix.2006; 5exs., Ranibennur Wildlife Sanctuary, 14.ix.2007; 18exs., Kondajji, 17.ix.2007; 15exs., Chellakere reserve forest, 20.ix.07; 13 exs. Devarayana Durga, 22.ix.2007; 21 exs., Naggerhalli, 25.ix.2007; 18 exs. 28.ix.07, coll : S. Prabakaran.

Diagnosis : Pronotum blackish brown with broad yellowish lateral margin; tegmina yellow with a large reddish brown basal spot and also a small oblique paler band. It is winged of a brown colour with varied dark markings. General colour light brown. Sexes are dissimilar. Near the apex of the anal fields a broad pale coloured band crosses the tegmina. Based on the colour pattern it is commonly called as brown banded cockroaches. Because of its light body it flies rapidly.

Distribution : India (Karnataka, West Bengal, and Tamilnadu).

Remarks : A fairly well distributed species throughout the tropical regions.

Family BLABERIDAE

Subfamily EPILAMPRINAE

Genus *Thorax* Saussure, 1862

5. *Thorax porcellana* Saussure, 1862

1862. *Thorax porcellana* Saussure, *Mag. Zool.* 2(14) : 228.

1865. *Paraphoraspis notata* Brunner von Wattenwyl, 1865. *Nouveau Systeme Blattaires* 163.

1967. *Thorax porcellana* : Princis : Blattariae : Subordo [sic] Epilamproidea. Fam. : Nyctiboridae, Epilampridae. *Orthopterorum Catalogus (11)* : 640.

Material examined : 2 exs, Pettikere, 23.xii.05; 2exs, Sidhapura, 24.xii.05; 2exs, Abayathmangala, 15.ix.06; 4exs, Kollur, 21.ix.06; 7exs, Kollukondahalli, 26.ix.06, 2exs, Besmapahalli, 27.ix.06; 5exs, Kondajji, 17.ix.07; 3exs, Chellakerelake, 20.ix.07; 2exs, Devarayanadurga, 22.ix.07, coll. S. Prabakaran.

Diagnosis : Blackish brown in colour. Supra anal plate is similar to that of the male in having hairs and reddish brown spots on the surface. The ootheca which is smooth and flexible. It has a reduced, poorly sclerotized ovipositor. The veins are atrophied in the wings and the entire wing apparatus is reduced in both sexes; the tegmina of this species are hard and tough in both sexes affording mechanical protection, in the female the tegmina are broad and serve to protect the Ist and IInd nymphal stages.

Distribution : Tamilnadu, Karnataka.

Genus *Stictolampra* Hanitsch, 1930

6. *Stictolampra plicata* (Navas, 1904)*

1904. *Opisthopteria plicata* Navás. *Bol. Soc. aragon. cienc. nat.*, 3 : 130.

1910. *Rhincoda plicata* : Shelford. *Gem. Ins.*, 101 : 9.

1967. *Stictolampra plicata* : Princis, In Beier [Ed.]. Blattariae : Suborbo [sic] Epilamproidea. Fam.: Nyctiboridae, Epilampridae. *Orthopterorum Catalogus (II)* : 683.

Diagnosis : Brownish testaceous in colour. Pronotum testaceous with irregular black spots. Head with vertex covered by pronotum. Pronotum broader than long, anterior margin truncated or slightly convex, lateral sides obtusely angular. Tegmina and wings absent. Anteroventral margin of front femur with equal shaped strong spines and distally bristle shaped spines arranged regularly. Supra anal plate with anterior margin convex, posterior margin more or less straight.

Distribution : India, (Tripura, Meghalaya, Orissa, Karnataka and West Bengal), Borneo, Java and Malaysia.

Subfamily PYCNOSCELINAE

Genus *Pycnoscelus* Scudder, 1862

7. *Pycnoscelus surinamensis* (Linnaeus, 1758)

(Plate Ib)

1758. *Blatta surinamensis* Linnaeus, *Syst. Naturae*. 10th Ed.) **1** : 424.

1903. *Pycnoscelus surinamensis* : Rehn, *Trans. Am. Ent. Soc.*, **29** : 131-136.

1964. *Pycnoscelus surinamensis* : Princis, *Orthopt. Catalog.*, **6** : 264.

Material examined : 2exs, Attolipura, 20.xii.2005; 2exs. Pettikere, 23.xii.2005; 2exs., Sidhapura, 24.xii.2005; 3exs., Siddlukallu, 27.xii.2005; 8exs, Ummathur, 11.ix.2006; 1ex., Mangalore port trust, 17.ix.2006; 2exs., Sringeri, 23.ix.2006; 3exs., Anekal, 26.ix.2006; 4exs., Besmapahalli, 27.ix.2006; 3 exs., Byadgi, 15.ix.07; 14 exs., Kondajji, 17.ix.07, 6 exs., Davarayandurga, 22.ix.08.; Tanganahalli, 23.ix.07.; 11 exs., Urdigal, 24.ix.07.; 20 exs., Nagerhalli, 25.ix.07, coll. S. Prabakaran.

Diagnosis : Pronotum shiny blackish brown with yellowish margin anteriorly; tegmina dark brwn in colour. Medium size, head with vertex exposed, ocelli large, approximate to the eye. Pronotum laterally rounded, posterior margin convex. Tegmina and wings extending scarcely upto the apex of the abdomen; subgenital plate with unequally rounded at apex; antroventral margin of front femur with row of slender piliform spinules and terminates in one large spines.

Distribution : India (West Bengal, Tamilnadu and Karnataka). A fairly well distributed species throughtout Oriental region and also in Surinam (South America).

Subfamily PERISPHAERIINAE

Genus *Pseudoglomeris* Brunner von Wattenwyl, 1893

8. *Pseudoglomeris glomeris* (Saussure)*

1863. *Perisphaeria glomeris* Saussure, *Me'm. Soc. Gene've*, **17** : 135.

1869. *Derocolymma glomeris*: Saussure, *Me'm. Soc. Gene've*, **20** : 277.

1895. *Pseudoglomeris glomeris*: Saussure and Zehntner, *Rev. Suisse Zool.*, **3** : 33-40.

1904. *Pseudoglomeris glomeris* : Kirby, *Syn. Cat. Orth.*, **1** : 190.

Diagnosis : Dark in colour, tip of antennae, tarsi and cerci are golden yellow colour; Pronotum pink in colour. Small in size, Body strongly arched shaped, convex. Head with vertex covered by pronotum, ocelli large. Pronotum elevated on the back side, parabolic, irregularly punctured, front margin wide, posterior margin subspherical, Tegmen extends beyond the last abdominal segment. Front femur with anteroventral margin equal shaped strong spines and bristle shaped spines arranged regularly. Cerci bow shaped and inwardly curved. Supra anal plate with posterior margin triangulate. In female pronotum unequal, strongly arched in shape.

Distribution : India (Meghalaya, Orissa, Tamilnadu, Karnataka and West Bengal), Burma, Ceylon, Java and Malaysia.

Genus *Trichoblatta* Saussure & Zehntner, 1895

9. *Trichoblatta sericea* (Saussure, 1863)*

1863. *Perisphaeria blepharodera sericea* Saussure, *Mem. Soc. Geneve*, **17** : 138.

1895. *Trichoblatta sericea* : Saussure and Zehntner, *Rev. Suisse zool.*, **3** : 45.

1964. *Trichoblatta sericea* Princis *Orthopt. Catalog.*, part **6** : 208.

Diagnosis : Black or reddish black in colour, head black with a yellow spot at base of each antenna; antennae uniformly yellowish brown; palpi yellow; throax uniformly black; Elytra elongate, basally punctate, apex rounded; Anteroventral margin of front femur with serially arranged small spines. Supra anal plate a little arched posteriorly. Subgenital plate transverse. Abdomen black in colour, eight segmented. This species ovo-viviparous. Body length 15-30 mm.

Distribution : India (Gujarat, Maharashtra, Bihar, West Bengal, Orissa, Meghalaya, Arunachal Pradesh,

Sikkim, Tamilnadu, Karnataka and Kerala). This species so far not recorded other than India.

Family BLATTIDAE

Subfamily BLATTINAE

Genus *Periplaneta* Burmeister, 1838

10. *Periplaneta americana* (Linnaeus, 1758)

(Plate IIb)

1758. *Blatta americana* Linnaeus, *Syst. Naturae*, (10th Ed.), **1** : 424.

1868. *Periplaneta americana* : Walker, *Cat. Blatt. Brit. Mus.*, London : 124.

1924. *Periplaneta americana* : Chopard, *Rec. Indian Mus.*, **26** : 173.

1966. *Periplaneta americana* : Princis, *Orthopt. Catalog.*, **7** : 405.

Material examined : 6 exs., Abyathmangala, 15.ix.2006; 6 exs., Mangalore port trust, 17.ix.2006; 14exs., Ballighatta, 19.ix.2006; 1 ex., Sringeri, 23.ix.2006; 12 exs., Kollukondahalli, 26.ix.2006; 8 exs, Attibelle, 27.ix.2006; 11 exs, Besmapahalli, 27.ix.2006; 9 exs., Chellekere, 20.ix.2007; 5 exs., Ramasagar, 27.ix.2007, coll. S. Prabakaran.

Diagnosis : Reddish brown in colour. Pronotum with a yellow narrow band at lateral margin. Tegmina uniformly reddish brown in colour. Large in size. Head with vertex exposed; interocular distance narrower than the width of antennal socket. Ocelli small. Pronotum flattened, smooth subelliptical, sides deflexed, wider behind the middle and all angles broadly rounded. Femora and tibiae strongly spined, posterior metatarsus longer than the remaining joints. Subgenital plate symmetrical and divided at the posterior margin. In female subgenital plate with mesodistal portion with valves.

Distribution : This is cosmopolitan species and one of the most important domestic cockroach pest and thrives in tropical and subtropical climates all over the world.

11. *Periplaneta australasiae* (Fabricius, 1775)

1775. *Blatta australasiae* Fabricius, *Syst. Ent.*, 271.

1966. *Periplaneta australasiae*: Princis, *Orthopteran Catalogus*, **8** : 447.

Materials examined : 3exs, K.Gudi, 21.xii.2005; 1ex, Siddhukallu, 27.xii.2005; 2exs, Seeguda,

22.ix.2006; 4exs, Thanganahalli, 23.ix.2007; 6exs, Beerahandahalli, 28.ix.2007, coll : S. Prabakaran.

Diagnosis : It is pale reddish brown in colour with a conspicuous humeral stripe at the base of each tegmina and a yellow area around the margin of the pronotum which forms a double dark blotch on the dorsum. In this Australian cockroach is similar to that of American cockroaches, the size is smaller than the American cockroaches. Tegmina and wings are elongated, extend beyond the abdomen. Anterior dorsal surface of the abdomen coloured alternately pale yellow and dark brown in colour. Posterior segments of the abdomen dark brown. In this Australian cockroach is not a native of that continent but is probably indigenous to Malaysia.

Distribution : It is cosmopolitan species.

Remarks : Australian cockroach, so far not recorded from Karnataka state. It is the new record of this state.

12. *Periplaneta ceylonica* Karny, 1908*

1908. *Periplaneta ceylonica*, Karny, *Wiss. Ergebn. Exp. Filchner nach China u. Tibet*, **10**(1) : 18.

1957. *Periplaneta fallax* Bei-Bienko, *Ent. Obozr.*, **36** : 896.

Diagnosis : Both sexes similar. Antennae very long, slender. Pronotum trapezoidal, not covering vertex of head, sides deflexed, its greatest width behind the middle. Posterior angles of meso- and metanotum not produced as slender membranous processes. Tegmina and wings usually extending considerably beyond the apex of the abdomen, the former coriaceous. Cerci and genital styles long.

13. *Periplaneta brunnea* Burmeister, 1838*

1838. *Periplaneta brunnea* Burmeister, *Handb. Ent.*, **2**(2) : 503.

1868. *Periplaneta concolor* Walker, *Catalogue of the Specimens of Blattariae in the Collection of the British Museum* : 135.

1868. *Periplaneta patens* Walker, *Catalogue of the Specimens of Blattariae in the Collection of the British Museum* : 127.

1892. *Periplaneta truncate* Krauss, *Zool. Anz.*, **15** : 165.

Diagnosis : The brown cockroach is often mistaken for an American cockroach. The adult is reddish-brown, but is somewhat darker in color. It is 1¼-1½ inch long; males have cerci and styli while females have cerci. The cercus of the brown cockroach

is stout and triangular in shape; whereas the American cockroach cercus is long and thin. The brown cockroach occurs mainly outdoors, under the bark of trees and in sewers. The life cycle of the brown cockroach requires 339-351 days to complete. The egg capsules are glued onto surfaces, usually hidden with debris, and may be guarded by the female. This species has a pale border around the pronotum as do most *Periplaneta* but it lacks the pale areas on the forewings, characteristic of *P. australasiae*. It reaches 37 mm in length. Both sexes are winged and can fly.

Genus *Blatta* Linnaeus, 1758

14. *Blatta orientalis* Linnaeus, 1758

(Plate IIa)

1758. *Blatta orientalis* Linnaeus, *Systema naturae*, 1 (10th ed.) *Holmiae* : 424.
 1851. *Blatta castanea* Blanchard, *In Gay. Hist. fis. polit. de Chile*, Zool. 6, Paris 18.
 1863. *Blatta badia* Saussure, *Mem. Soc. Geneve*, 17 : 150
 1909. *Stylopyga orientalis spontanea*, Semenov-Tian-Shansky, 205.
 1966. *Blatta orientalis*: Princis, *In Beier [Ed.]. Blattariae: Suborbo [sic] Blattoidea. Fam. Blattidae, Nocticolidae. Orthopterorum Catalogus*, 8 : 475-492.

Material examined : 4exs. Madhavapatna, 14.ix.06; 3exs. Ballighatta, 19.ix.06; 18exs, Uttegrdeeguda, 22.ix.06; 7exs., Kollukondahalli, 26.ix.06; 3exs., Ranibennur Wildlife Sanctuary, 14.ix.2007; 14exs., Kondajji, 17.ix.07; 4exs., Chellekere, 20.ix.07, 5exs., Ramasagar, 22.ix.07; 9exs.,Thamganahalli, 23.ix.07, coll. S. Prabakaran.

Diagnosis : The oriental cockroach is a large species of cockroach. It is dark brown to black in colour and has a glossy body. Male head with vertex exposed. Tegmina and wings reduced, covering only about two third of abdominal terga. Anteroventral margin of front. Subgenital plate obtusely rounded at apex. In female cockroach anteroventral margin of front femur with strongly spined. Tegmina short. Hind wings absent. Supra anal plate with mediolongitudinal ridge, posterior margin angulate emerginate. Subgenital plate triangular, lateral margin a little concave. It has a wider body than the male.

Distribution : Widely distributed species throughout the World. (Cosmopolitan).

Genus *Neostylopyga* Shelford, 1911

15. *Neostylopyga rhombifolia* (Stoll, 1813)

1813. *Blatta rhombifolia* Stoll, *Reprents. Exact. Coloree d'apres nature d. Specters etc.*, 2 : 5
 1822. *Blatta signata* Eschscholtz, *Entomographien. Erst. Lief. Berlin* : Reimer 88.
 1864. *Periplaneta hiatrio* Saussure, *Blattarum novarum species aliquot. Rev. Mag. Zool.*, (2)16 : 318.
 1865. *Periplaneta decorate* Brunner Von Wattenwyl, *Nouveau Systeme Blattaires*, 244.
 1871. *Polyzosteria heterospila* Walker, *Catalogue of the Specimens of Dermaptera . Saltatoria in the collection of the British Museum. Part V. Supplemnt to the. Catalogue of Blattariae*, 35.
 1915. *Stylopyga rhombifolia* : Hanitsch, *J. Straits Br. R. Asiat*, 69 : 105,163.
 1966. *Neostylopyga rhombifolia* (Stoll) : Princis, *In Beier [Ed.]. Blattariae : Suborbo [sic]. Blattoidea. Fam. Blattidae, Nocticolidae. Orthopterorum Catalogus*, 8 : 534.

Material examined : 3exs., Kollur, 21.ix.2006; 13exs., Kollukonda halli, 26.ix.2006; 16exs., Bydagi, 15.ix.07; 3exs., Devarayandurga, 22.ix.2007, 8 exs, Thanganahalli, 23.ix.2007; 21exs., Urdigere, 24.ix.2007, 16exs., Attibelle, 27.ix.2007; 11exs., Beerahanda halli, 28.ix.2007, coll. S. Prabakaran.

Diagnosis : Male – Size medim. Vertex little exposed. Pronotum with anterior margin a little convex or entire, posterior margin straight, lateral margin rounded, and maximum width just at the posterior margin. Tegmina reduced. Wings absent. Posterolateral tergite a little indented. Supra anal plate with deeply notched medially. Subgenital plate compressed with obtuse apex. Style thin and slender. In female, anterior margin of pronotum a little concave medially. Posterior margin with maximum width. Tegmina with posterior margin obtusely rounded. Supra anal plate slightly depressed medially.

Distribution : India (Karnataka, Meghalaya, Andaman and Nicobar Islands, Andhra Pradesh, Bihar, Madhya Pradesh, Orissa, Utter Pradesh and West Bengal).

Remarks : This species is easily identified by tegminal rudiments with variegated markings.

16. *Neostylopyga sexpustulata* (Walker, 1871)*

1871. *Polyzosteria sexpustulata* Walker, *Cat. Derm. Salt. Mus., V suppl. Blatt.*, : 36.

1966. *Neostylopyga sexpustulata* : Princis, *Orthopterorum Catalogues*, **8** : 537.

Diagnosis : Colour; Brown or dark brown, six brown spots present on the body. Male head with vertex covered by pronotum; intraocular space narrower than the distance between the antennal sockets; pronotum wider than long, anterior margin truncate, posterior margin a little convex medially; tegmina with small lateral pads; supra anal plate symmetrical; sub genital plate broad, posteriorly conical, anteroventral margin of front femur with 3 distally placed large spines.

Distribution : India (Karnataka, Andhra Pradesh, Utter Pradesh, Bihar and Orissa), Java, Indonesia.

Family POLYPHAGIDAE

Subfamily POLYPHAGINAE

Genus *Polyphaga* Brullé, 1835

17. *Polyphaga indica* Walker, 1868

1868. *Polyphaga indica* Walker, Catalogue of the specimens of Blattariae in the collection of British Museum : 14.

1893. *Pseudoglomeris planiuscula* Brunner von Wattenwyl, *Annali Mus. civ. Stor. nat. Genova*, **33** : 44.

1893. *Heterogamia indica*: Saussure, *Rev. Suisse. Zool.*, **1** : 3

1957. *Polyphaga indica*: Princis, *Opusc. Ent.*, **22** : 89.

Material examined : 3exs, Chamrajnagar, 9.ix.06; 2exs, Abayathmangala, 15.ix.06; 3exs, Ullal, 19.ix.06, 5 exs, Uttega seegode, 22.ix.2006; 5exs, Anekal, 26.ix.06; 3exs., Kondajji, 17.ix.2007; 4exs., Nagerhalli, 25.ix.2007, coll. S. Prabakaran.

Diagnosis : Body deep brown in colour, pronotum with anterior and lateral margin with golden yellow line. Head completely covered by pronotum; intraocular space narrow, ocelli large; tegmina extended beyond the abdomen, supra anal plate symmetrical, posterior margin tranverse; both of the lateral margin with tubercular spines; anteroventral margin of front femur with serially presence of hairs and distally with a large spine. In female, wings and tegmina absent; subgenital plate large, posterior margin rounded.

Distribution : India (Andhra Pradesh, Maharashtra, Orissa, Rajasthan and Karnataka), Iran.

Genus *Therea* Billberg, 1820

18. *Therea petiveriana* (Linnaeus, 1758)
(Plate Ia)

1758. *Blatta orientalis* Linnaeus, *Systema naturae*, 1(10th ed.) *Holmiae* : 364.

1820. *Cassida petiveriana* Linnaeus, *Syst. Nat.* (ed.10) **1** : 346.

1964. *Therea petiveriana* : Princis, *Orthopteran Catalogus*, **4** : 346.

Material examined : 2exs, Pettikere, 23.xii.2005; 2exs., Siddlukallu, 27.xii.2005; 4exs, Kollukondahalli, 26.ix.2006; 7exs, Attibelle, 27.ix.2006; 3 exs. Devarayan Durga, 22.ix.2007; 5exs. Beerandahalli (K.G.F) 28.ix.2007, coll. S. Prabakaran.

Diagnosis : Head with pronotum black in colour; tegmina black with four pair of large golden yellow spots; legs are black. Body medium size, head with vertex completely covered by pronotum; interocular space less than the distance between antennal sockets; ocelli distinct; pronotum covered with cilia like hairs, anterior and posterior margin rounded, lateral margin convex; tegmina extended upto the end of the abdomen; wings vestigial; supra anal plate hairy, asymmetrical; subgenital plate hairy asymmetrical with a pair of symmetrical styles; hind margin semicircular; anterior margin of front femur without spine.

Distribution : India (Andhra Pradesh, Kerala, Pondicherry, Karnataka and Tamilnadu).

19. *Therea hyperguttata* Grandcolas, 1993*

1993. *Therea hyperguttata* Grandcolas, *Canadian Journal of Zoology* **71**(9) : 1820.

Remarks : Described from Karnataka.

SUMMARY

From the distribution point of view 4% of the globally distributed Cockroaches occur in India. Karnataka having 19 species accounts for 12% of Indian occurrences. Within Karnataka the Southern districts appear to hold more species due to the presence of more forested terrains. In this work, it is reaffirmed that 12 species of the known 19 species do occur in the Southern districts of Karnataka, necessitating further studies.

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*Not recorded in this study

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PLATE I : COCKROACHES OF KARNATAKA



a. *Thera petiveriana* (Linnaeus)



b. *Pycnoscelus surinamensis* (Linnaeus)

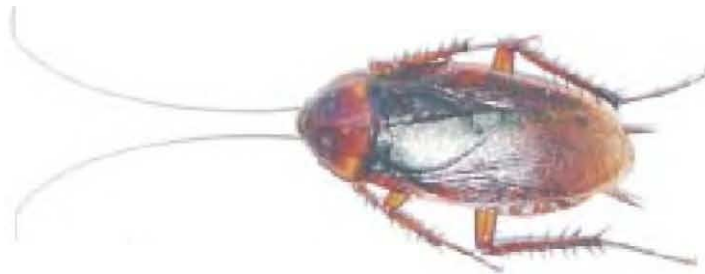


c. *Trichoblatta sericea* (Saussure)

PLATE II : COCKROACHES OF KARNATAKA



a. *Blatta orientalis* (Linnaeus)



b. *Periplaneta americana* (Linnaeus)



c. *Blattella germanica* (Linnaeus)

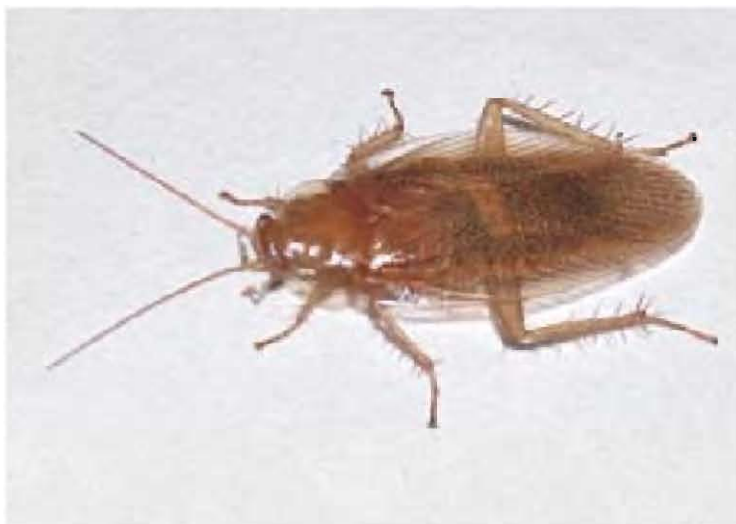
PLATE III : COCKROACHES OF KARNATAKA



a. *Neostylopyga rhombifolia* (Stål)



b. *Periplaneta australasiae* (Fabricius)



c. *Blattella humberiana* (Saussure)