

Two new *Jansenia* species from South India (Coleoptera: Cicindelidae)

Fabio CASSOLA & Karl WERNER

Abstract: Two new *Jansenia* species are described from southern India. The lists of the 47 tiger beetle taxa collected by both authors and their colleague R. NAVIAUX during five independent collecting trips to South India are also given. *Cicindela (Pancallia) goryi* is tentatively raised to distinct full specific status, other than that of *C. (P.) aurofasciata* Dejean, 1826, because of important behavioural reported features of both adults and larvae.

Riassunto: Vengono descritte due nuove specie del genere *Jansenia* dell'India meridionale. Viene fornito anche l'elenco completo delle 47 specie di Cicindelidi raccolte indipendentemente dai due autori e dal collega R. NAVIAUX nel corso di cinque indipendenti spedizioni nell'India meridionale. *Cicindela (Pancallia) goryi* viene tentativamente elevata a specie distinta da *C. (P.) aurofasciata* Dejean, 1826, in considerazione di importanti caratteri comportamentali riportati sia per gli adulti che per le larve.

Zusammenfassung: Zwei neue *Jansenia* Arten aus Südindien werden beschrieben. Die von beiden Autoren und R. NAVIAUX während ihrer Sammelreisen in Südindien gesammelten 47 Sandlaufkäferarten werden aufgelistet. *C. (P.) goryi* wird aufgrund der gemeldeten wichtigen unterschiedlichen Eigenschaften im Imago- und Larvenstadium, von *C. (P.) aurofasciata* getrennt und als eigenständige Art etabliert.

Introduction

The tiger beetle fauna of the Indian subcontinent, apart from FOWLER's early monograph (1912), has been duly revised by ACCIAVATTI & PEARSON (1989, with regard to the former genus *Cicindela* L. (s. auct.) only. Moreover, the speciose tribe Collyrini (subtribes Collyrina and Tricondylina) was recently revised by NAVIAUX (1995, 2002) and one further new *Derocrania* species has been described from South India by NAVIAUX & MORAVEC (2001). A global estimation of the Indian tiger beetle fauna, attempted to by CASSOLA & PEARSON (2000), indicated 208 species in all (108 of which, or 52%, endemic to the country). Our present reckoning would indicate 216 species, 111 of which (51.3%) are Indian endemics. Almost half of these species are known to occur in South India (Karnataka, Andhra Pradesh, Kerala and Tamil Nadu States).

However, the tiger beetle fauna of such a huge country is probably still far from being fully known, especially as far as the tiny tiger beetle species of the genera *Jansenia* Chaudoir, 1865, and *Cylindera* Westwood, 1831, are concerned. In the present paper we describe two new *Jansenia* species, the first one collected by second author in July 1996 (KWC), and the other one for long ago already in first author's collection (FCC). Further specialized research, throughout the whole Indian subcontinent, will likely result into the discovery of additional, previously unknown, new taxa.

Jansenia bangalorensis n. sp.

(Figs 1a–d, 2, 3)

Material examined: Holotype, ♂, and eight paratypes (5 ♂♂, 3 ♀♀) from Karnataka: 15 km N of Bangalore, 23.·24. July 1996, WERNER & LORENZ leg.; two further paratypes (1 ♂, 1 ♀) also from Karnataka: 15 km SE of Bangalore, 25. July 1996, WERNER & LORENZ leg. Holotype and eight paratypes (5 ♂♂, 4 ♀♀) in KWC, two paratypes (1 ♂, 1 ♀) in FCC.

Diagnosis: A small *Jansenia* species of the *corticata*-group, similar to *J. plagatima* (Acciavatti & Pearson, 1989) as far as size, colour and elytral sculpture are concerned, however somewhat brighter, with slightly shorter labrum (with one distinct small tooth in the middle of forward

edge near the female) and with a different male aedeagus (apical hook very short, not lying against apex).

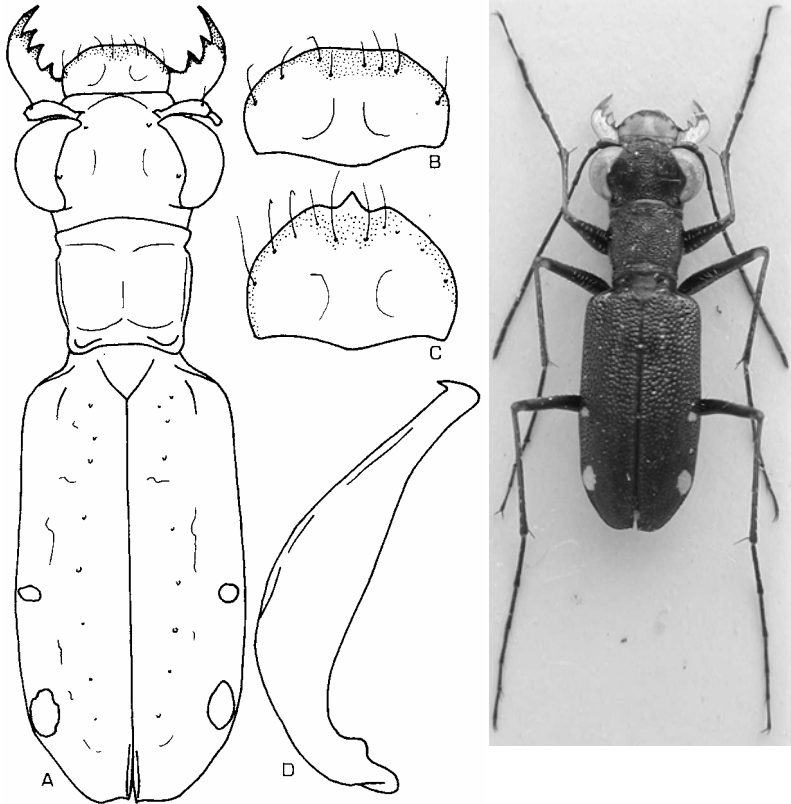


Fig. 1. *Jansenia bangalorensis* **n. sp.**, male holotype, 15 km N of Bangalore, Karnataka, South India: a. habitus, b. labrum, d. aedeagus; female paratype, from same locality: c. labrum.

Fig. 2. *Jansenia bangalorensis* **n. sp.**, male holotype, from 15 km N of Bangalore, Karnataka, South India.

Description: Head dorsally shiny copper with some green reflections near eyes and in middle of clypeus, sides of clypeus reddish bronze, antennal plates greenish black, genae metallic green to blue-green; glabrous, with just two setigerous punctures near eyes at fixed loci. Vertex flattened between eyes, surface covered with fine waved striae longitudi-

nal on vertex, nearly straight on eyes, concentric on frons, obliquely directed outwards behind eyes. Mandibles asymmetrical, right mandible with two teeth distad basal molar, left mandible with three teeth in addition to basal molar; colour mostly ivory-testaceous, apical and inner teeth reddish- to blackish-brown. Labrum testaceous, more or less darkened to metallic black on anterior margin, convex in the middle, with 6–8 small hairs near forward edge and two additional ones on front part of the middle; rounded in front, wider than long in the male; obviously longer in the female (approximately as long as wide), with a small tooth protruding outwards in the middle. Maxillary and labial palpi testaceous, with last joint metallic dark. Antennae rather long, nearly reaching the half of the elytral length in male, shorter in female; scape and articles 2–4 metallic cupric bronze, with some bluish-green reflections on 3rd and 4th antennomeres; glabrous, a single setigerous puncture on tip of scape, joints 5–11 thicker, dull brownish-black, finely and evenly pubescent.

Thorax: glabrous, dorsally shiny copper, blue-green at sides, subsquare, approximately as long as wide, disc with irregular wavy ridges as on head; proepisterna blue-violet, with white long hairs or large setigerous punctures on lower half especially. Mesepisterna mostly glabrous, blue-green to violet-black, with a shallow elongate depression in the middle in female (coupling sulcus); sternal pieces blue-green, covered with white recumbent pubescence.

Elytra mostly shiny copper bronze, elytral surface slightly unevenly contoured within the longitudinal inner half only, with dense, strong punctures in front half of elytra, the punctures becoming finer and almost disappearing towards apex; extreme base and shoulders smooth, a row of 7–8 larger green punctures (sometimes poorly apparent) parallel to, but some distance from, the suture. Elytral apex microserrulate, evenly rounded, with a very small sutural tooth. Two lateral maculae on each elytron, the anterior one just behind the middle, small, slightly transverse, posterior one larger, roundish to comma-shaped, closer to the lateral margin.

Underside metallic green to bluish-green, abdominal sternites with short recumbent white pubescence (sometimes rubbed off). Trochanters rufous, femora greenish-bronze with some coppery reflections, "knees" rufous, tibiae mostly rufescent, darkened apically, tarsi shiny black; a few rows of white spiniform hairs on femora and tibiae.

Male aedeagus distinctive, moderately bulky, widest at middle, with long thickened apical third, apex broadly and evenly rounded; apical hook very short, strong, pointing outwards, not lying against the apex.

Length: 7.5–8.2 mm (without labrum).

Etymology: This small new *Jansenia* species is so named from its type locality (fig. 3), which is close to Bangalore in the Karnataka State. Curiously enough, such a locality (15 km N of Bangalore) is also the type locality of *J. dasiodes* (Acciavatti & Pearson), a different species which was collected there, inside the large G.K.V. Kendra University compound, also by F. CASSOLA & R. NAVIAUX in June, 1998. The new species was collected near, but outside the University compound.



Fig. 3. *Jansenia bangalorensis* n. sp., type locality, 15 km N of Bangalore, Karnataka, South India, 24 July 1996 (Photo: K. WERNER).

***Jansenia nathanorum* n. sp.**

(Fig. 4a–d, 5)

Material examined: Holotype, ♂, and two paratypes, ♀♀, from Kerala: Quilon district, Thenmala, May 1993, T.R.S. NATHAN leg.; five paratypes (2 ♂♂, 3 ♀♀) also from Kerala: Trivandrum district, Poonmudi

Range, 3000ft, V.1989, T.R.S NATHAN leg.; two additional paratypes ♂♂ with same label as the latter, but "VI.1989". Holotype and six paratypes (3 ♂♂, 3 ♀♀) in FCC, two paratypes (1 ♂, 1 ♀) in KWC.

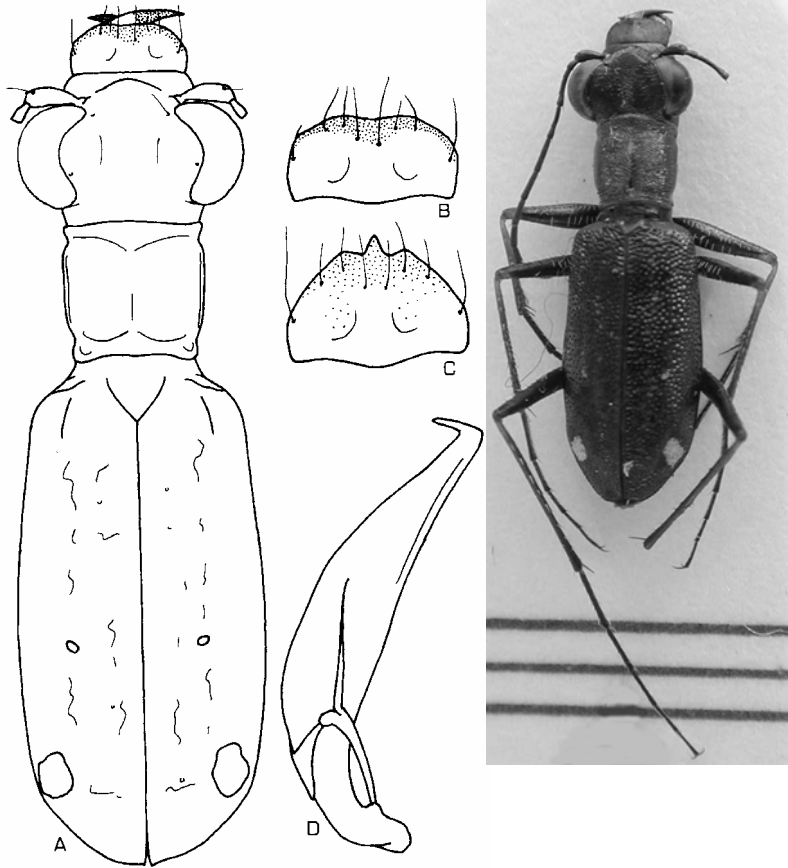


Fig. 4. *Jansenia nathanorum* n. sp., male holotype, from Thenmala, Kerala, South India: a. habitus, b. labrum, d. aedeagus; female paratype, from same locality: c. labrum.

Fig. 5. *Jansenia nathanorum* n. sp., male holotype, from Thenmala, Kerala, South India.

Diagnosis: A small *Jansenia* species of the *corticata*-group, well distinct from all other species of such a group by having the anterior dot very small, placed in the middle of elytron, approximately half-way from both the suture and the lateral margin, instead of near the lateral margin. Labrum testaceous with front margin more or less darkened, sometimes fully metallic, short and transverse in the male, truncated in front; larger, with one distinct tooth in the middle in the female. Apical hook of male aedeagus sharply protruding at a nearly right angle, not lying against apex.

Description: Head dorsally copper bronze, sometimes with very slight green reflections on vertex and clypeus, antennal plates bluish-green, genae metallic golden green with coppery reflections; glabrous, with just two setigerous punctures near eyes at fixed loci. Surface covered with fine longitudinal striae, waved on vertex and neck, concentric on frons, obliquely directed outwards behind eyes. Mandibles mostly ivory-testaceous, apical and inner teeth blackish-brown. Labrum testaceous, darkened on front margin, sometimes (one female) with largely a metallic lustre, convex in the middle, with 6 white hairs near forward edge and two additional longer setae more inside near the middle; truncated in front, obviously much wider than long in the male; nearly as long as wide in the female, three-toothed, the middle tooth longer and more protruding outwards. Maxillary and labial palpi testaceous-rufous, with last joint (sometimes the penultimate one too) dark to piceous-black. Antennae slender, rather short, approximately reaching one third of the elytral length in male, shorter in female; scape and articles 2-4 dark cupric bronze, annulated with bluish-black on 3rd and 4th antennomeres; almost glabrous, a single setigerous puncture on tip of scape and 2-3 spiniform hairs on 3rd and 4th antennomeres; joints 5-11 a bit thicker, dull brownish-black, finely and evenly pubescent.

Thorax glabrous, dorsally copper bronze, subsquare, approximately as long as wide, parallel-sided, slightly restricted behind, disc with irregular wavy ridges as on head, the ridges being straighter at sides; proepisterna shiny black with some green reflections near the notopleural rim, covered with sparse white recumbent hairs or setigerous punctures. Mesepisterna mostly glabrous, shiny black, with a small, distinct circular pit medially in female (coupling sulcus); sternal pieces shiny black, covered with short white recumbent pubescence.

Inner longitudinal half of elytra dark bronze to shiny black, with surface more or less unevenly contoured; outer longitudinal half evenly con-

toured, shiny copper bronze. Elytra with dense strong punctures, especially evident on front two thirds of the elytral length, the punctures becoming much finer towards apex; extreme base and shoulders smooth, a row of poorly apparent larger punctures parallel to, but some distance from, the suture. Elytral apex microserrulate, evenly rounded, with a very small sutural tooth. Elytral markings consisting of two small roundish maculae on each elytron, the anterior one tiny, poorly apparent, placed just behind the middle at approximately half-way between the lateral margin and the suture; posterior one larger, placed near the lateral margin at the subapical angle, sometimes with a short, comma-shaped, apical extension.



Fig. 6. The Nathan family (Pondicherry, Tamil Nadu, South India).

Underside dark greenish to black, with some coppery reflections; abdominal sternites covered with small, short recumbent white hairs (sometimes rubbed off). Trochanters dark rufous, femora greenish-bronze with some coppery reflections, "knees" and tibiae testaceous-rufous, apex of tibiae and tarsi mostly shiny black; a few rows of white spiniform hairs on femora and tibiae, middle tibiae with many short hairs apically (toilette organ).

Aedeagus widest before middle, evenly tapering, evenly rounded at apex; apical hook strong, sharp, pointing outwards at a nearly right angle, not lying against the apex.

Length: 8–8.5 mm (without labrum).

Etymology: This small new *Jansenia* species is so named in honour of the well-known NATHAN family (fig. 6), a three-generation family of expert insect collectors and dealers established at Pondicherry, Tamil Nadu, South India. *J. nathanorum* **n. sp.** was supplied to the first author by Theresa NATHAN, daughter of the starting founder of such an activity, Susai P. NATHAN (fig. 6, second from right in the back), who both have greatly contributed to the knowledge of South Indian tiger beetles.

As recent specialized faunal surveys of southern India are rather uncommon, we think it of some faunistical relevance to give here below the list of all second author's findings (three collecting trips: July 1996, October 1997 and May 2003), as well as those independently collected by the first author in May-June 1998, together with R. NAVIAUX (Domérat, France). Findings from NAVIAUX's 1992 trip are also included. No less than 47 tiger beetle species were collected in all. It is to be emphasized that *C. (P.) goryi* is here tentatively raised to full specific status, other than that of *C. (P.) aurofasciata* Dejean, 1826, because of important different behavioural features of both adults and larvae, as reported by ACCIAVATTI & PEARSON 1989. All specimens recorded (when more than 10 number and sex are not indicated) are presently deposited in first author's (FCC), second author's (KWC), or R. NAVIAUX's (RNC) collections:

Tricondyla (Indotricondyla) gounellei W. Horn, 1900

Tamil Nadu: Kumili, Periyar, 23/26.X.1997, K. WERNER, 1 ♀ (KWC).

Neocollyris (Neocollyris) distincta (Chaudoir, 1860)

Tamil Nadu: N of Tiruchchirappalli, 22.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: North Arcot dist., Elagiri Hills, 26.X.1992, R. NAVIAUX, 2 ♂♂, 2 ♀♀ (RNC); Tamil Nadu: Dharmapura dist., Krihsnagiri, 28.X.1992, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 900m, 2.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, 900m, 2.VI.1998, R. NAVIAUX, 2 ♂♂, 1 ♀ (RNC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 4.VI.1998, F. CASSOLA, 2 ♂♂, 1 ♀ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 10.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC); Tamil Nadu: Salem (Yercaud), 30.V.2003, K. WERNER & R. LIZLER, ♂♂ ♀♀ (KWC), 1 ♀ (FCC); Kerala: 15 km S Panur, Barathapuzha R. nr Ponnani, 9.VI.1998, R. NAVIAUX, 1 ♀ (RNC).

Neocollyris (Neocollyris) bonellii (Guérin, 1834)

Karnataka: Chikmagalur dist., Kemmannugundi, 10.X.1992, R. NAVIAUX, 1 ♂ (RNC); Karnataka: Hassan dist., Arsikere, 12.X.1992, R. NAVIAUX, 2 ♂♂, 2 ♀♀ (RNC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W.

- LORENZ, 2 ♂♂, 4 ♀♀ (KWC); Tamil Nadu: N of Tiruchchirappalli, 22.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC).
- Neocollyris (Orthocollyris) crassicornis* (Dejean, 1825)
Tamil Nadu: S Pudukkottai, 21.X.1992, R. NAVIAUX, 1 ♀ (RNC);
Tamil Nadu: near Vellore, 30.X.1997, K. WERNER, 1 ♂, 2 ♀♀ (KWC).
- Neocollyris (Orthocollyris) subclavata* (Chaudoir, 1860)
Tamil Nadu: Palni Hills, 5 km E Perumalmalai, 19.VII.1996, K. WERNER & W. LORENZ, 1 ♀ (KWC).
- Neocollyris (Leptocollyris) parvula* (Chaudoir, 1848)
Karnataka: Hassan dist., Ganigere, 11.X.1992, R. NAVIAUX, 1 ♀ (RNC); Karnataka: Hassan dist., Dodda Betta, 11.X.1992, R. NAVIAUX, 1 ♂ 1 ♀ (RNC); Karnataka: Nilgiri Hills, Bandipur National Park, 17.VII.1996, K. WERNER & W. LORENZ, ♂♂ ♀♀ (KWC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, 1 ♀ (KWC); Tamil Nadu: Nilgiri Hills, 15 km S Bandipur, 17.VII.1996, K. WERNER & W. LORENZ, 1 ♂ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 2.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, 900m, 2.VI.1998, R. NAVIAUX, 2 ♀♀ (RNC); Tamil Nadu: Salem (Yercaud), 30.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC), 1 ♀ (FCC).
- Neocollyris (Leptocollyris) maindroni* (W. Horn, 1905)
Tamil Nadu: Palni Hills, 5 km E Perumalmalai, 19.VII.1996, K. WERNER & W. LORENZ, 2 ♂♂, 1 ♀ (KWC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 4.VI.1998, F. CASSOLA, 1 ♀ (FCC); Tamil Nadu: Periyar National Park, 5 km W Kumili, 7.VI.1998, F. CASSOLA, 1 ♂ (FCC); Kerala: 5 km W Thekkadi, 7.VI.1998, R. NAVIAUX, 2 ♂♂, 1 ♀ (RNC).
- Neocollyris (Leptocollyris) kollari* (W. Horn, 1901)
Karnataka: Nilgiri Hills, Bandipur National Park, 17.VII.1996, K. WERNER & W. LORENZ, 1 ♂ (KWC).
- Calochroa hamiltoniana* (Thomson, 1857)
Karnataka: Madikeri, Napoklu, 28.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: 55 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 750m, 4.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 750m, 4.VI.1998, R. NAVIAUX, 4 ♂♂, 5 ♀♀ (RNC); Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, R. NAVIAUX, 2 ♂♂, 1 ♀ (RNC).
- Calochroa whitillii* Hope, 1838
Karnataka: Chikmagalur dist., Kemmannugundi, 10.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC).
- Calochroa bicolor* (F.) ssp. *haemorrhoidalis* (Wiedemann, 1823)
Karnataka: 15 km N of Bangalore (G.K.V. Kendra University), 915m, 14.VI.1998, R. NAVIAUX, 1 ♀ (RNC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, 1 ♂ (KWC).
- Calochroa fabriciana* (W. Horn, 1915)
Karnataka: Puttur-Sullia, 15.VII.1996, K. WERNER & W. LORENZ, 2 ♂♂ (KWC); Karnataka: near Yellapur, 13.VII.1996, K. WERNER & W. LORENZ, 1 ♂

(KWC); Karnataka: near Dandeli, 13.VII.1996, K. WERNER & W. LORENZ, 1 ♂ (KWC).

Cicindela (Ancyliia) calligramma Schaum, 1861

Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, 1 ♂, 2 ♀♀ (KWC); Karnataka: Bangalore, 15 km N (G.K.V. Kendra University), 14.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: 25 km N Pudukottai, 20.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Nilakottai (Dindigul), 21.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Kumili, Periyar, 23.26.X.1997, K. WERNER, ♂♂, ♀♀ (KWC).

Cicindela (Pancallia) goryi Chaudoir, 1852

Karnataka: 15 km N Bangalore, 23./24.VII.1996, K. WERNER & W. LORENZ, 1 ♂ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, 900m, 2.VI.1998, R. NAVIAUX, 1 ♀ (RNC).

Calomera cardoni (Fleutiaux, 1890)

Karnataka: 50 km SW Bangalore, 1 km W Channapatna, 1.VI.1998, F. CASSOLA, 2 ♂♂, 1 ♀ (FCC); Karnataka: 50 km SW Bangalore, 1 km W Channapatna, 1.VI.1998, R. NAVIAUX, 1 ♂, 1 ♀ (RNC); Karnataka: near Chikmalagur, 23.V.2003, K. WERNER & R. LIZLER, 1 ♂ (KWC); Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, 3 ♂♂, 1 ♀ (KWC); Tamil Nadu: Dharmapura dist., Krihsnagiri, 28.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: Chengalpattu, Madras, 19.X.1997, K. WERNER, ♂♂, ♀♀ (KWC).

Calomera angulata (Fabricius, 1798)

Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 23.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: Chengalpattu, Madras, 19.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, R. NAVIAUX, 6 ♂♂, 4 ♀♀ (RNC); Tamil Nadu: 10 km S Chidambaram, Coleroon R., 1.-2.VI.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Kerala: 15 km S Panur, Barathapuzha R. nr Kuttipuram, 9.VI.1998, F. CASSOLA, 3 ♂♂, 5 ♀♀ (FCC); Kerala: 15 km S Panur, Barathapuzha R. nr Ponnani, 9.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC); Kerala: Calicut, Kappad Beach (behind the beach), 9.VI.1998, F. CASSOLA, 2 ♂♂, 2 ♀♀ (FCC); Kerala: Calicut, sea beach, 9.VI.1998, R. NAVIAUX, 3 ♂♂, 1 ♀ (RNC).

Calomera fowleri (Heynes-Wood & Dover, 1928)

Karnataka: near Chikmalagur, 23.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC).

Calomera p. plumigera (W. Horn, 1892)

Kerala: 15 km S Panur, Barathapuzha River near Kuttipuram, 9.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Kerala: 15 km S Panur, Barathapuzha R. nr Ponnani, 9.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC).

Cosmodela duponti (Dejean, 1826)

Karnataka: Puttur-Sullia, 15.VII.1996, K. WERNER & W. LORENZ, 2 ♂♂ (KWC); Karnataka: Madikeri, Napoklu, 28.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: near Agumba, Shimoga District, 25/26.V.2003, K.

WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: 25 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC).

Lophyra (Lophyra) c. cancellata (Dejean, 1825)

Karnataka: 50 km SW Bangalore, 1 km W Channapatna, 1.VI.1998, F. CASSOLA, 1 ♂ (FCC); Karnataka: 50 km SW Bangalore, 1 km W Channapatna, 1.VI.1998, R. NAVIAUX, 1 ♀ (RNC); Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, 4 ♂♂, 3 ♀♀ (KWC); Karnataka: Madikeri, Napoklu, 28.V.2003, K. WERNER & R. LIZLER, 1 ♂, 2 ♀♀ (KWC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 23.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 25.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: Rhamanathapuram dist., Rameswaran, 19.X.1992, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu: 10 km S Chidambaram, Coleeroon R., 1./2.VI.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: env. of Krishnagiri, 13.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC).

Lophyra (Lophyra) c. catena (Fabricius, 1775)

Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Karnataka: 10 km E Hoskote (Bangalore), 13.VI.1998, F. CASSOLA, ♂♂ (FCC); Karnataka: 10 km E Hoskote (Bangalore), 13.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC); Karnataka: 30 km W Hunsur, 29.V.2003, K. WERNER & R. LIZLER, 1 ♂ (KWC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 24.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 25.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: S Pudukkottai, 21.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: near Vellore, 30.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Chengalpattu (Madras), 19.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Nilakottai (Dindigul), 21.X.1997, K. WERNER, ♂♂, ♀♀ (KWC); Tamil Nadu: Batlagundu-Kodaikanal, 22.X.1997, K. WERNER, ♂♂, ♀♀ (KWC).

Lophyra (Spilodia) s. striolata (Illiger, 1800)

Karnataka: 25 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC); Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, 1 ♂ (KWC); Karnataka: 30 km W Hunsur, 29.V.2003, K. WERNER & R. LIZLER, 2 ♂♂, 1 ♀ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, rd to Gudalur, 10.VI.1998, R. NAVIAUX, 1 ♂ (RNC).

Jansenia westermanni (Schaum, 1861)

Karnataka: 10 km E Hoskote (Bangalore), 13.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC).

Jansenia dasiodes (Acciavatti & Pearson, 1989)

Karnataka: 15 km N Bangalore, 23-24.VII.1996, K. WERNER & W. LORENZ, 1 ♀ (KWC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, 2 ♂♂, 3 ♀♀ (KWC); Karnataka: Bangalore, 15 km N (G.K.V. Kendra University), 14.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Karnataka: 15 km N of Bangalore (G.K.V. Kendra University), 915m, 14.VI.1998, R. NAVIAUX, 6 ♂♂, 2 ♀♀ (RNC); Tamil Nadu: Shevaroy Hills, 20km N Salem, 700-1500m,

- 21.–22.VII.96, K. WERNER & W. LORENZ, 1 ♀ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 2.VI.1998, F. CASSOLA, 2 ♂♂ (FCC).
- Jansenia vestiplicata* (Acciavatti & Pearson, 1989)
Tamil Nadu: Kumili, Periyar, 23-26.X.1997, K. WERNER, 1 ♂ (KWC).
- Jansenia prothymoides* (W. Horn, 1908)
Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 4.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC);
Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 750m, 4.VI.1998, R. NAVIAUX, 2 ♂♂ (RNC);
Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, R. NAVIAUX, 1 ♂, 3 ♀♀ (RNC).
- Jansenia semisetigerosa* (Acciavatti & Pearson, 1989)
Karnataka: 30 km W Hunsur, 29.V.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC);
Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 2.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, 900m, 2.VI.1998, R. NAVIAUX, 5 ♂♂, 3 ♀♀ (RNC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 4.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, rd to Gudalur, 10.VI.1998, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 11.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, 11.VI.1998, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, R. NAVIAUX, 1 ♀ (RNC).
- Jansenia plagatima* (Acciavatti & Pearson, 1989)
Karnataka: 15 km N Bangalore, 23/24.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Tamil Nadu: 15 km N Salem, 31.V.2003, K. WERNER & R. LIZLER, 3 ♂♂, 2 ♀♀ (KWC).
- Jansenia bangalorensis* **n. sp.**
Karnataka: 15 km N Bangalore, 23-24.VII.96, K. WERNER & W. LORENZ, 5 ♂♂, 3 ♀♀ (KWC), 1 ♂ (FCC); Karnataka: 15 km SE Bangalore, 25.VII.96, K. WERNER & W. LORENZ, 1 ♂ (KWC), 1 ♀ (FCC).
- Jansenia cratera* (Acciavatti & Pearson, 1989)
Tamil Nadu: Periyar, Kumili, 23-26.X.97, K. WERNER, 5 ♂♂, 1 ♀ (KWC).
- Jansenia choriodista* (Acciavatti & Pearson, 1989)
Tamil Nadu: Nilakottai (Dindigul), 21.X.1997, K. WERNER, 2 ♂♂, 1 ♀ (KWC);
Tamil Nadu: 25 km N Pudukottai, 20.X.1997, K. WERNER, ♂♂, ♀♀ (KWC).
- Jansenia psarodea* (Acciavatti & Pearson, 1989)
Tamil Nadu: 15 km N Salem, 31.V.2003, K. WERNER & R. LIZLER, 2 ♂♂, 2 ♀♀ (KWC).
- Jansenia venus* (W. Horn, 1907)
Karnataka: 25 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, 3 ♂♂ (KWC); Karnataka: near Agumba, Shimoga District, 25/26.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: Madikeri, Napoklu, 28.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC).

Jansenia stuprata (W. Horn, 1909)

Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 4.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 750m, 4.VI.1998, R. NAVIAUX, 1 ♂ (RNC).

Jansenia rugosiceps (Chaudoir, 1865)

Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, F. CASSOLA, 3 ♂♂, 1 ♀ (FCC); Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, R. NAVIAUX, 3 ♂♂ (RNC).

Cylindera (Oligoma) paradoxa (W. Horn, 1892)

Karnataka: 10 km NE Siddapur, 14.VII.1996, K. WERNER & W. LORENZ, 4 ♂♂, 5 ♀♀ (KWC); Karnataka: near Agumbe, 25.–26.V.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC).

Cylindera (Ifasina) labioaenea (W. Horn, 1892)

Karnataka: near Yellapur, 13.VII.96, K. WERNER & W. LORENZ, 1 ♂, 1 ♀ (KWC).

Cylindera (Ifasina) collicia (Acciavatti & Pearson, 1989)

Karnataka: 15km N Bangalore, 2.–24.VII.96, K. WERNER & W. LORENZ, 1 ♀ (KWC); Karnataka: 25 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, 3 ♂♂, 1 ♀ (KWC); Tamil Nadu: Anamalai Hills, I. Gandhi Wildl. Sanctuary, Topslip, 750m, 4.VI.1998, R. NAVIAUX, 2 ♂♂, 1 ♀ (RNC); Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, F. CASSOLA, 1 ♂, 2 ♀♀ (FCC); Tamil Nadu/Kerala border: Anamalai Hills, I. Gandhi Wildl. Sanct., 5.VI.1998, R. NAVIAUX, 4 ♂♂ (RNC).

Cylindera (Ifasina) belli (W. Horn, 1894)

Karnataka: 30 km W Hunsur, 29.V.2003, K. WERNER & R. LIZLER, 4 ♂♂, 4 ♀♀ (KWC); Karnataka: near Yellapur, 13.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 2.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 10.VI.1998, F. CASSOLA, 1 ♂ (FCC); TAMIL NADU: Nilgiri Hills, Mudumalai NP, rd to Gudalur, 10.VI.1998, R. NAVIAUX, 1 ♂ (RNC).

Cylindera (Ifasina) umbropolita (W. Horn, 1905)

Karnataka: 25 km W Mudigere, 24.V.2003, K. WERNER & R. LIZLER, 1 ♂, 1 ♀ (KWC); Karnataka: Madikeri, Napoklu, 28.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Karnataka: 30 km W Hunsur, 29.V.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC); Tamil Nadu: Nilgiri Hills, Mudumalai Forest, 10.VI.1998, F. CASSOLA, 1 ♂ (FCC); Tamil Nadu: Nilgiri Hills, Mudumalai NP, rd to Gudalur, 10.VI.1998, R. NAVIAUX, 1 ♂ (RNC).

Cylindera (Eugrapha) minuta (Olivier, 1790)

Karnataka: 15 km NW Karkal, 25.V.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Tamil Nadu: 10 km S Chidambaram, Coleroon R., 1./2.VI.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 12.VI.1998, R. NAVIAUX, ♂♂, ♀♀ (RNC); Kerala: 15 km S Panur, Barathapuzha R. nr Kuttipu-

ram, 9.VI.1998, F. CASSOLA, ♂♂, ♀♀ (FCC); Kerala: 15 km S Panur, Barathapuzha R. nr Ponnani, 9.VI.1998, R. NAVIAUX, 3 ♂♂, 2 ♀♀ (RNC).

Cylindera (Eugrapha) agnata (Fleutiaux, 1890)

Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 24.X.1992, R. NAVIAUX, 1 ♂ (RNC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 25.X.1992, R. NAVIAUX, 1 ♂ (RNC); Tamil Nadu: 10 km S Chidambaram, Coleroon R., 1./2.VI.2003, K. WERNER & R. LIZLER, 3 ♂♂, 1 ♀ (KWC); Kerala: 15 km S Panur, Barathapuzha R. nr Kuttipuram, 9.VI.1998, F. CASSOLA, 1 ♀ (FCC); Kerala: 15 km S Panur, Barathapuzha R. nr Ponnani, 9.VI.1998, R. NAVIAUX, 1 ♀ (RNC).

Myriochila (Myriochila) undulata (Dejean, 1825)

Karnataka: Sakhleshpur, 22.V.2003, K. WERNER & R. LIZLER, 1 ♀ (KWC); Karnataka: 10 km E Hoskote (Bangalore), 13.VI.1998, F. CASSOLA, 2 ♂♂ (FCC); Karnataka: 10 km E Hoskote (Bangalore), 13.VI.1998, R. NAVIAUX, 3 ♂♂, 6 ♀♀ (RNC); Tamil Nadu: 25 km N Pudukottai, 20.X.1997, K. WERNER, 1 ♂ (KWC); Tamil Nadu: Nilakottai (Dindigul), 21.X.1997, K. WERNER, 1 ♀ (KWC); Tamil Nadu: 15 km N Salem, 31.V.2003, K. WERNER & R. LIZLER, 3 ♂♂ (KWC).

Myriochila (Myriochila) distinguenda (Dejean, 1825)

Tamil Nadu: Rhamanathapuram dist., Rameswaran, 19.X.1992, R. NAVIAUX, ♂♂, ♀♀ (RNC); Tamil Nadu: near Vellore, 30.X.1997, K. WERNER, 1 ♂ (KWC).

Myriochila (Monelica) fastidiosa (Dejean, 1825)

Karnataka: 15 km N Bangalore, 23-24.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Karnataka: 15 km SE Bangalore, 25.VII.1996, K. WERNER & W. LORENZ, ♂♂, ♀♀ (KWC); Karnataka: Bangalore, 15 km N (G.K.V. Kendra University), 14.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC); Karnataka: 15 km N of Bangalore (G.K.V. Kendra University), 915m, 14.VI.1998, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu: Hogenakkal (50 km W Dharmapuri), Cauvery R., 24.X.1992, R. NAVIAUX, 1 ♀ (RNC); Tamil Nadu: Perambalur (Trichy), 19.X.1997, K. WERNER, 1 ♂ (KWC); Tamil Nadu: 25 km N Pudukottai, 20.X.1997, K. WERNER, 2 ♂♂, 3 ♀♀ (KWC).

Hypaetha biramosa (Fabricius, 1781)

Kerala: 40 km N Cochin, Panur, 8.VI.1998, F. CASSOLA, 1 ♂, 1 ♀ (FCC).

Hypaetha quadrilineata (Fabricius, 1781)

Tamil Nadu: 10 km S Chidambaram, Coleroon R., 1.-2.VI.2003, K. WERNER & R. LIZLER, ♂♂, ♀♀ (KWC).

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Authors:

Dr. Fabio CASSOLA, Via Fulvio Tomassucci 12/20, I-00144 Roma, Italy (Studies of Tiger Beetles, CXLI). E-mail: fabiocassola@skynet.it

Karl WERNER, Dr. Kisselmann-Strasse 19, D-86971 Peiting, Germany. E-mail: coleoptera.peiting.germany @t-online.de

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