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New species and records of *Ischnosoma* Stephens (Coleoptera: Staphylinidae: Tachyporinae) from Nepal

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Abstract

More than 540 specimens of the genus *Ischnosoma* Stephens (Coleptera, Staphylinidae, Tachyporinae) from Nepal are revised. Four new species are described and illustrated: *Ischnosoma bhojpur* Kocian & Schülke, **sp. n.**, *I. hirthei* Kocian & Schülke, **sp. n.**, *I. jumla* Kocian & Schülke, **sp. n.** and *I. schmidti* Kocian & Schülke, **sp. n.** Additional records of previously described species are reported. The distributions of the Nepalese species are mapped. *Ischnosoma gratiosum* (Cameron, 1932) is recorded from Nepal for the first time. A revised key to the *Ischnosoma* species of Nepal is presented.

Key words: Coleoptera, Staphylinidae, Tachyporinae, Mycetoporini, *Ischnosoma*, Palaearctic, Nepal, new species, new records

Introduction

More than 100 valid species of the genus *Ischnosoma* Stephens are known from all zoogeographic regions except South America. Campbell (1991) revised the species of North- and Central America. Kocian (1997) revised the species of the West Palaearctic region and subsequently presented an overview of the worldwide fauna (Kocian, 2003). Additional species from the West Palaearctic region were described by Schülke (1998, 2001, 2003, 2007) and Assing & Schülke (2017), and from China by Zhu, Li & Zhao (2005) and Kocian & Schülke (2016).

Ten species of *Ischnosoma* were previously known from Nepal. The first species described and recorded from Nepal was *Mycetoporus nepalensis* Scheerpeltz, 1976. Coiffait (1981) recorded *Mycetoporus gratiosus* Cameron, 1932 from Nepal and subsequently (Coiffait 1982, 1983) described three additional species: *Mycetoporus nepalicus* Coiffait, 1982, *M. travei* Coiffait, 1982, and *M. jaljalensis* Coiffait, 1983. Herman (2001) transferred *Mycetoporus jaljaensis* and *M. nepalensis* to *Ischnosoma*. Kocian (2003) transferred *Mycetoporus fasciatocollis* Champion, 1922, *M. gratiosus*, *M. nepalicus*, *M. quadriguttatus* Champion, 1923, and *M. travei* to *Ischnosoma*, described three additional species from Nepal (*Ischnosoma ephraim* Kocian, 2003, *I. iob* Kocian, 2003 and *I. thamar* Kocian, 2003) and recorded *I. duplicatum* (Sharp, 1888), *I. fasciatocolle* and *I. quadriguttatum* from Nepal for the first time.

In this study more than 540 additional specimens from private and institutional collections were examined. The distributions of all Nepalese species of the genus are mapped combining all available data from recently studied material and from Kocian (2003).

Material and methods

Collections

cFel private collection of B. Feldmann, Münster, Germany

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cHir	private collection of G. Hirthe, Güstrow, Germany
cKle	private collection of A. Kleeberg, Berlin, Germany
cKoc	private collection of M. Kocian, Prague, Czech Republic
cSch	collection of M. Schülke, Berlin, Germany (Museum für Naturkunde, Berlin)
MHNG	Museum d'histoire naturelle, Genève, Switzerland (G. Cuccodoro, I. Löbl)
NHMB	Naturhistorisches Museum Basel, Switzerland (M. Geiser, E. Sprecher-Uebersax)
NHMW	Naturhistorisches Museum Wien, Austria (H. Schillhammer)
NME	Naturkundemuseum Erfurt, Germany (M. Hartmann)
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (W. Schawaller)
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany (O. Jäger)

The methods were described in detail in previous papers (e.g. Kocian 2003, Kocian & Schülke 2016). Permanent preparations of abdominal segments and aedeagi were made in Euparal (M. Kocian) or PHP (M. Schülke) on plastic cards attached to the pins or on the mounting cards next to the specimens. The morphological studies and measurements were conducted using STM 822 5410 and Olympus SZH10 stereo microscopes. Drawings of the abdominal segments and the aedeagi were created using a Meopta microscope and a Zeiss drawing tube. A digital camera (Canon EOS 450D with macro lens) was used for the habitus photographs. Micrografx Picture Publisher 6.0 was used for post processing the illustrations and for the plates. The maps were created using MapCreator 2.0 (primap) software. Georeferenced data for mapping not given on specimens labels were created with the help of online sources like Google Maps, the descriptions of travel routes of expeditions to Nepal (Janetschek 1990, Martens 1993, Smetana 1988), and the gazetteers by Ahrens (2004) and Burger, Creutzburg & Hartmann (2009).

In several species (*Ischnosoma bhojpur* **sp.n.**, *I. fasciatocolle* (Champion, 1922), *I. jaljalense* (Coiffait, 1983), *I. quadriguttatum* (Champion, 1923) and *I. thamar* Kocian, 2003 darkened or partly darkened specimens were observed. Similar cases of such post-mortem darkening in material from Nepal, probably a result of long exposure to some chemical, have already been reported by Assing (2012a, 2012b, 2014). Descriptions of the coloration in the species sections and in the key are exclusively based on normally coloured specimens.

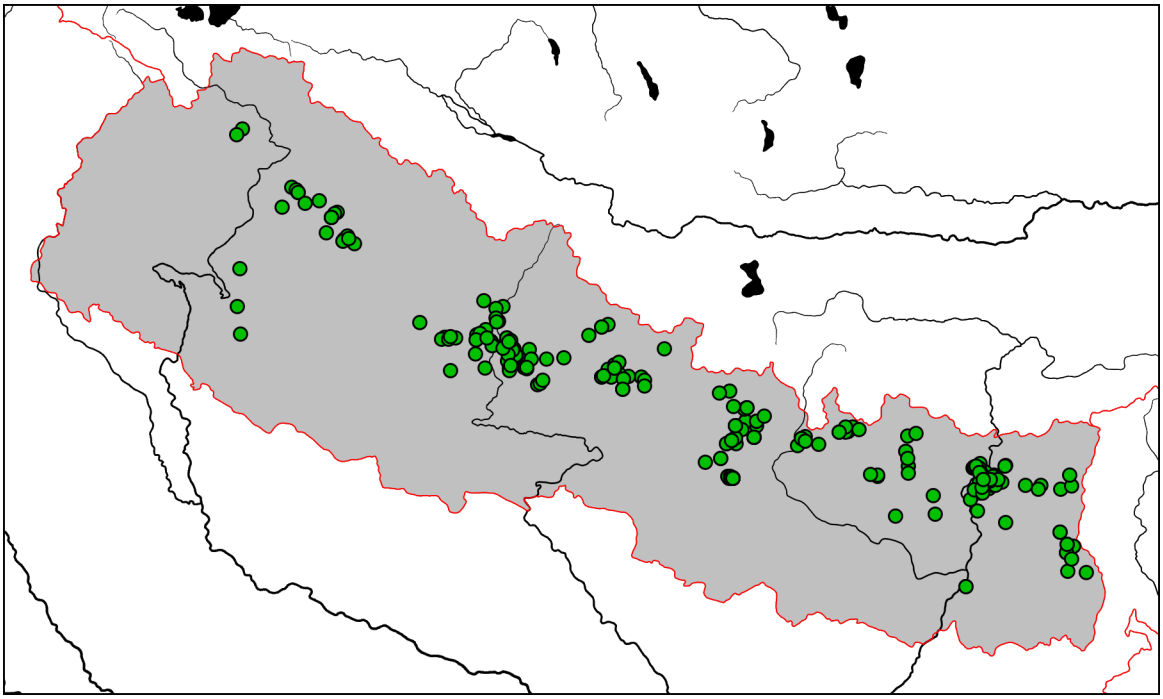


FIGURE 1. Pooled distribution of the genus *Ischnosoma* in Nepal (material examined and literature records).

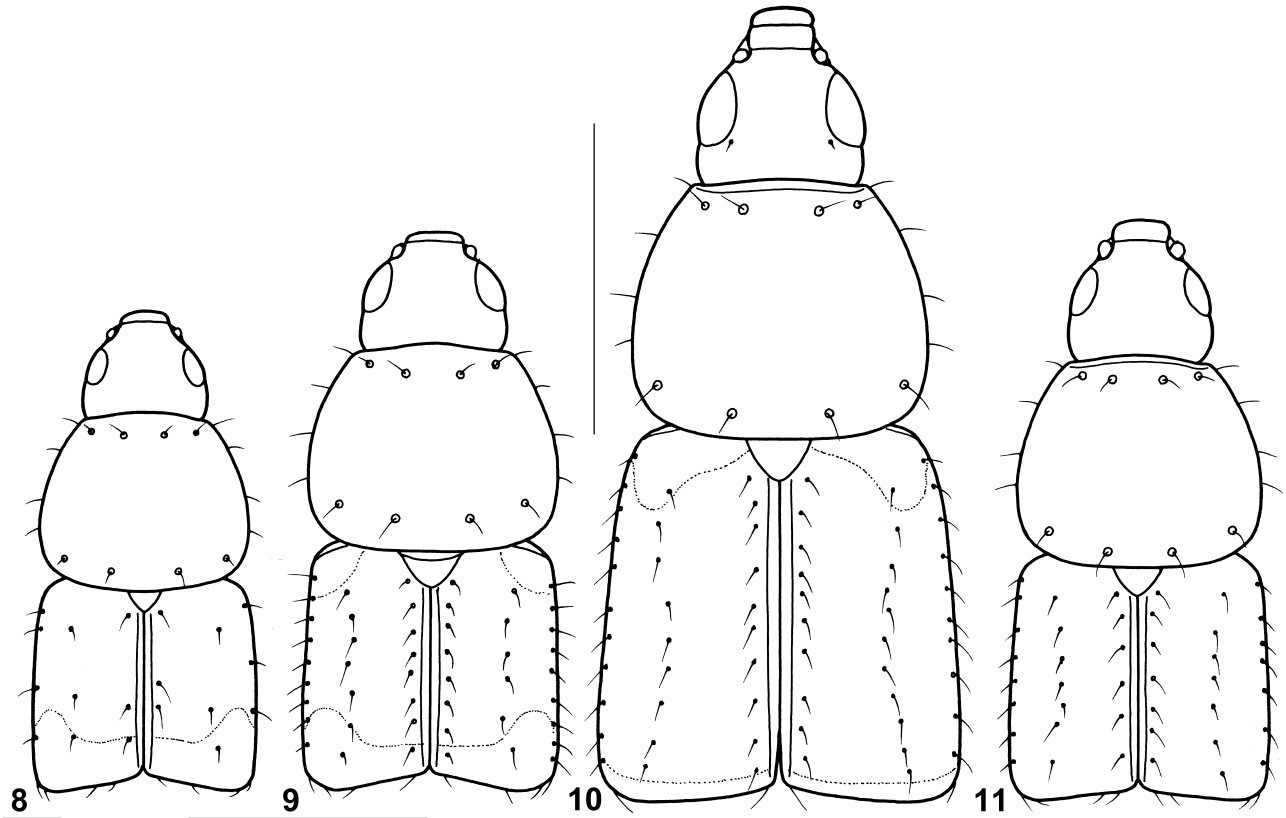
FIGURES 2–7. Habitus of *Ischnosoma bhojpur* sp. n., Holotype (2); Paratype, darkened specimen (3); *Ischnosoma jumla* sp. n., Paratype (4); *Ischnosoma hirtei* sp. n., Holotype (5); *Ischnosoma schmidti* sp. n., Paratype (6); *Ischnosoma fasciatocolle*, partially darkened specimen (7). Scale bars: 1 mm.

Descriptions of new species

Ischnosoma bhojpur Kocian & Schülke, sp. n.

Figs 2–3, 9, 12–14, 24.

Description. Head and abdomen of holotype brown, pronotum and posterior margins of tergites reddish-brown, elytra dark-brown with paler humeral portions, scutellum and posterior margins; legs and palpi yellowish, antenna brownish-yellow (Fig. 2). Paratypes have been subject to post-mortem darkening (Fig. 3).



FIGURES 8–11. Forebody. *Ischnosoma hirthei* **sp. n**. (8), *I. bhojpur* **sp. n.** (9), *I. schmidti* **sp. n.** (10), *I. jumla* **sp. n.** (11). Scale bar: 1 mm.

Habitus as in Figs 2–3, 9. Head 0.49–0.53 mm wide; 0.55–0.59 times as wide as pronotum, as wide as long. Eyes relatively small, slightly longer than temples. Ocular puncture very small, situated close to eye margin, with very short inconspicuous microscopic seta. Surface smooth without microsculpture, in some specimens with very fine irregular micropunctation. Antenna 1.11–1.26 mm long. Antennomeres IX–X slightly wider than long.

Pronotum 0.83–0.91 mm wide; 0.67–0.73 mm long; 1.23–1.28 times as wide as long, widest in posterior half. Surface without microsculpture, very finely and sparsely punctate. Inner anterior punctures separated from pronotal margin by three, outer anterior punctures by one, inner posterior punctures by three, and outer posterior punctures by three to four times the diameter of punctures.

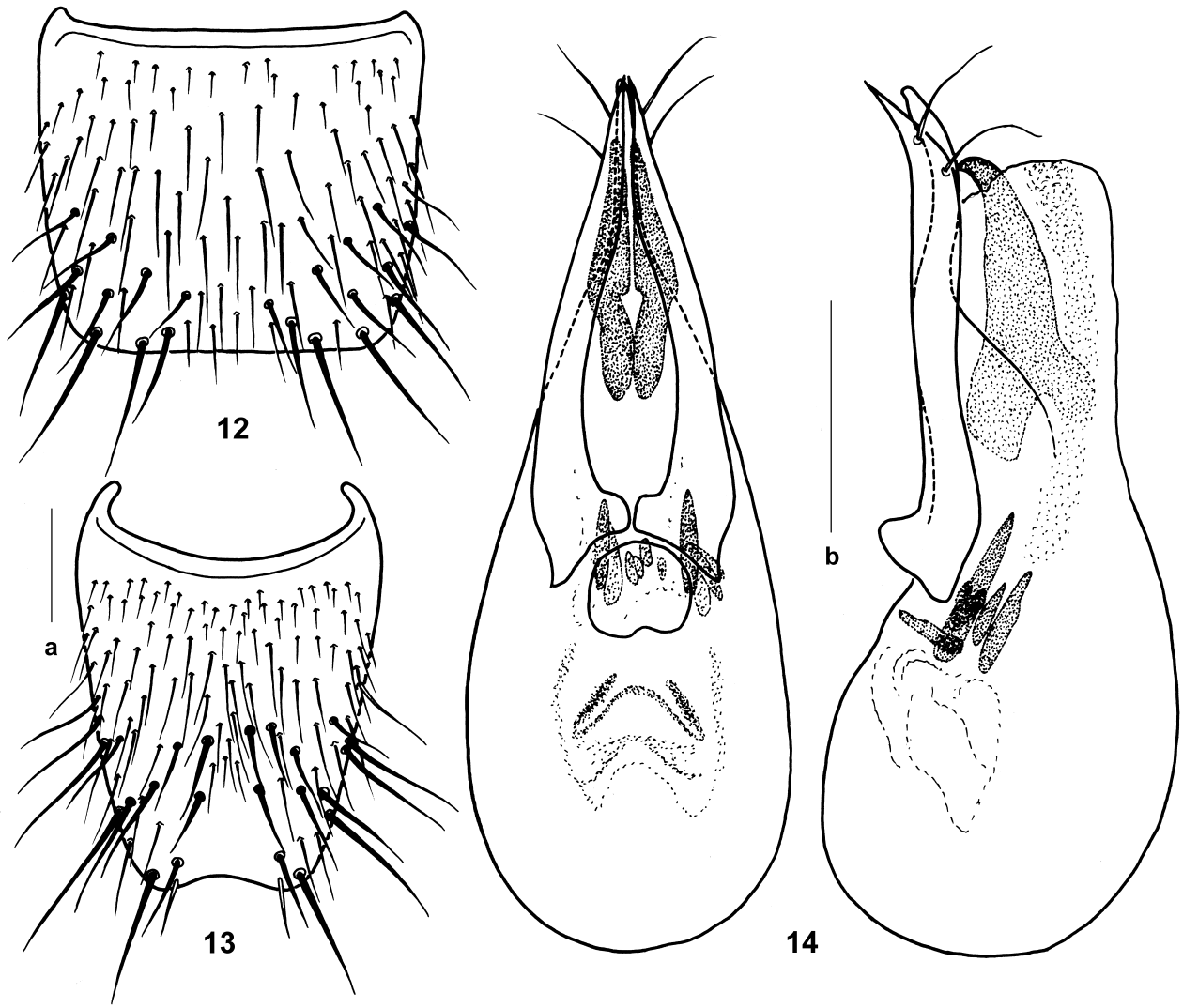
Elytra quadrate, parallel-sided with sharply marked humeral angles, along suture 0.60–0.65 mm long; 1.0–1.05 times as wide as pronotum; 0.82–0.92 times as long as pronotum. Surface with very inconspicuous transverse microsculpture, with some very fine irregular punctures, and with very inconspicuous microscopic setae. Sutural row with 7–10 punctures, discal row with 6–10 punctures, and lateral row with 8–10 punctures. Wings reduced.

Abdomen tapering towards apex from segment IV, sparsely punctate. Tergite VII without palisade fringe. Surface smooth, without distinct microsculpture.

Length of forebody 1.84–1.89 mm; total body length 3.99–4.42 mm.

Male. Sternite VII in the middle of posterior margin without emargination, chaetotaxy unmodified (Fig. 12). Sternite VIII in the middle of posterior margin broadly concave, apical portion without fine pubescence, but with

modified dark setae; median portion with some conspicuously long thin setae (Fig. 13). Internal sac of aedeagus in basal part with two groups of longer and shorter stiletto-like sclerites (Fig. 14). Paramere with two long subapical setae.



FIGURES 12–14. *Ischnosoma bhojpur* **sp. n.** Male sternite VII (12); male sternite VIII (13); aedeagus in ventral (left) and lateral view (14). Scale bars: 0.1 mm: a (Figs 12–13), b (Fig. 14).

Type material. Holotype, male: NEPAL: Bhojpur Distr., E Salpa Pass, 3000–2800 m, 24.V.1997, leg. W. Schawaller (SMNS).

Paratypes (4): NEPAL, Panchthar Distr., Oberlauf von Mai Majuwa Khola, Dhorpar Kharka, 2700 m, 27.–28.VIII.1983, 257a Berlese, J. Martens & B. Daams leg., 2♂♂ (cKoc, cSch); NEPAL, Panchthar Distr., Dhorpar Kharka, 2700 m, 13.–16.IV.1988, Martens & Schawaller, 324 mature Rhododendron-Lithocarpus forest, 1♂1♀ (SMNS).

Etymology. The specific name is a noun in apposition, derived from the name of the Nepalese district Bhojpur, where the holotype was collected.

Distribution. Eastern Nepal, districts Bhojpur and Panchthar (Fig. 24).

Remarks. *Ischnosoma bhojpur* **sp. n.** belongs to the *I. convexum* species group. This species is closely related to *I. thubal* Kocian (Thailand, Taiwan) and *I. manasses* Kocian, a species described from Thailand. These three species share a similar arrangement of dark thick setae on the male sternites VII and VIII (the latter with two pairs of dark setae in the middle). *Ischnosoma bhojpur* **sp. n.** differs from *I. thubal* by reduced wings and from both species, *I. thubal* and *I. manasses*, by a different arrangement of basal sclerites in the internal sac of aedeagus. Colouration and habitus are similar to both other species. Consequently a reliable identification is possible only

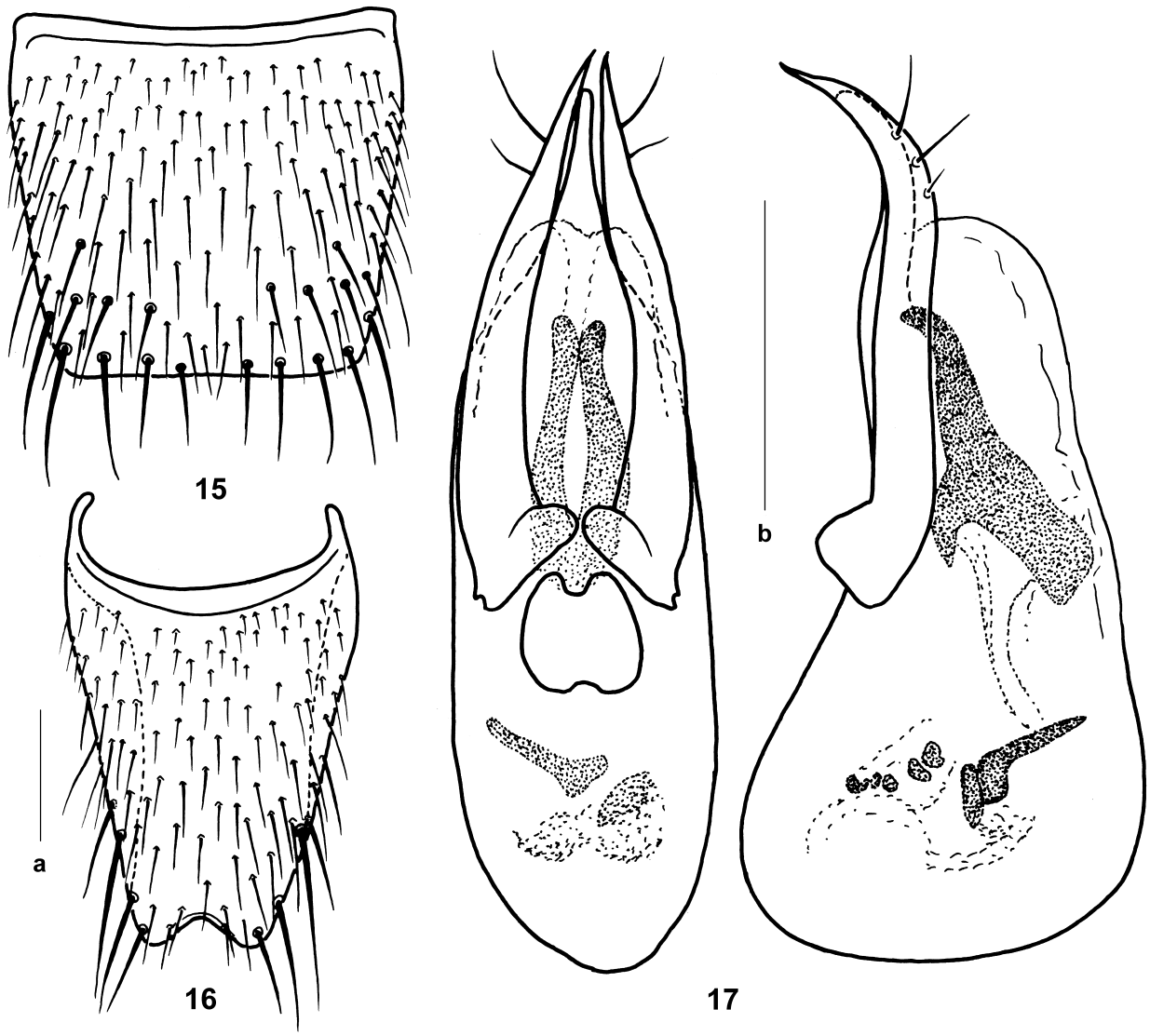
based on the male sternites VII and VIII and the shape of the sclerites in the internal sac of the aedeagus. Paratypes have been subject to post-mortem darkening, probably a result of exposure to a chemical of unknown identity.

Ischnosoma hirthei **Kocian & Schülke, sp. n.**
Figs 5, 8, 15–17, 24.

Description. Body yellowish-brown, head brown, elytra in anterior two thirds dark piceous, in posterior third and along suture reddish-brown. Antenna from antennomere 3 darker, brown (Fig. 5).

Habitus as in Figs 5, 8. Head 0.41 mm wide; 0.61 times as wide as pronotum, as wide as long. Eyes little longer than temples. Ocular puncture very small with rudimentary, inconspicuous microscopic seta. Surface smooth without microsculpture. Antenna 1.08 mm long. Antennomere IX distinctly longer than wide, antennomere X slightly longer than wide.

Pronotum 0.68 mm wide, 0.58 mm long, 1.17 times as wide as long, widest in posterior fifth. Surface very shiny without microsculpture. Inner anterior and posterior punctures separated from pronotal margin by 2–3 times, outer anterior and posterior punctures by 1,5 times the diameter of punctures.



FIGURES 15–17. *Ischnosoma hirthei* **sp. n.** Male sternite VII (15); male sternite VIII (16); aedeagus in ventral (left) and lateral view (17). Scale bars: 0.1 mm: a (Figs 15–16), b (Fig. 17).

Elytra rectangular, parallel-sided, along suture 0.5 mm long, longer than wide (width combined); as wide as pronotum and 0.86 times as long as pronotum. Surface without microsculpture. Sutural and discal row with 3 punctures, lateral row with 3–4 punctures. Wings reduced.

Abdomen slightly tapering towards apex, sparsely punctate, with long pubescence. Tergite VII without palisade fringe. Surface smooth, without microsculpture.

Length of forebody 1.51 mm; total body length 3 mm.

Male. Sternite VII in the middle of posterior margin straight, not distinctly concave, chaetotaxy unmodified (Fig. 15). Sternite VIII in the middle of posterior margin deeply concave, surface regularly pubescent, without distinctly modified setae (Fig. 16). Internal sac of aedeagus in basal portion with two long apical sclerites and several smaller sclerites in basal portion (Fig. 17).

Type material. Holotype, male: NEPAL: Pokhara, Südufer des Phewa Sees, Bachlauf, Gesiebe, 800–900 m, 8.V.2001, leg. G. Hirthe (cSch).

Etymology. The species is dedicated to Gunnar Hirthe (Güstrow), collector of the holotype.

Distribution. Central Nepal, Kaski district (Fig. 24).

Remarks. *I. hirthei* **sp. n.** belongs to the *I. convexum* species group. It is characterized by small body size, reduced rows of punctures on the elytra, and differs from all similar species by the following character combination: only four pairs of dark long setae along apical margin of male sternite VII, these setae conspicuously distant from posterior margin; male sternite VIII with dark long setae only laterally, without dark setae in discal area, regularly lightly pubescent everywhere; base of internal sac of aedeagus with characteristic arrangement of sclerites.

***Ischnosoma schmidti* Kocian & Schülke, sp. n.**
Figs 6, 10, 18–20, 24.

Description. Body dark-brown, pronotum, humeral portions and posterior margins of elytra, and posterior margins of tergites paler yellowish-brown. Legs, palpi and antennomere I brownish-yellow, antenna from antennomere II darker, brown. Pronotum, elytra, and abdomen with weak bluish hue (Fig. 6).

Habitus as in Figs 6, 10. Head 0.55–0.58 mm wide; 0.57–0.58 times as wide as pronotum, as wide as long. Eyes large, slightly protuberant, much longer than temples. Surface smooth, frons with very inconspicuous sparse microsculpture. Ocular puncture small with short seta. Antenna 1.51–1.61 mm long. Antennomeres IX–X distinctly longer than wide.

Pronotum 0.94–0.98 mm wide; 0.83–0.88 mm long; 1.1–1.15 times as wide as long, widest in posterior half. Surface with very fine transverse microsculpture, finely and sparsely punctate. Anterior and posterior punctures separated from pronotal margin by 1–2 times the diameter of punctures.

Elytra long, slightly widened posteriad, along suture 0.98–1.06 mm long; 1.17–1.24 times as wide as pronotum; 1.18–1.21 times as long as pronotum. Surface with fine transverse microsculpture. Sutural row with 9–10 punctures, discal row with 9–12 punctures, lateral row with 10–11 punctures. Wings fully developed.

Abdomen strongly tapering towards apex, in anterior portions of tergites densely, in posterior parts of tergites very sparsely punctate with yellowish pubescence. Posterior margins of tergites and paratergites with very long dark-brown and thick setae. Tergite VII with palisade fringe. Surface with transverse microsculpture.

Length of forebody 2.53–2.65 mm; total body length 4.68–5.18 mm.

Male. Sternite VII in the middle of apical margin straight, not distinctly concave, in postero-median portion without setae (Fig. 18). Sternite VIII in the middle of posterior margin weakly concave, with conspicuously modified chaetotaxy (Fig. 19). Apex of median lobe of aedeagus very slender, in ventral view distinctly pointed (Fig. 20).

Type material. Holotype, male: NEPAL: Prov. Gandaki, Manaslu Mts., Bara Pokhari Lekh, Chhandi Khola Valley, 11.–12.IV.2003, 2000–2300 m NN, leg. Schmidt (NME).

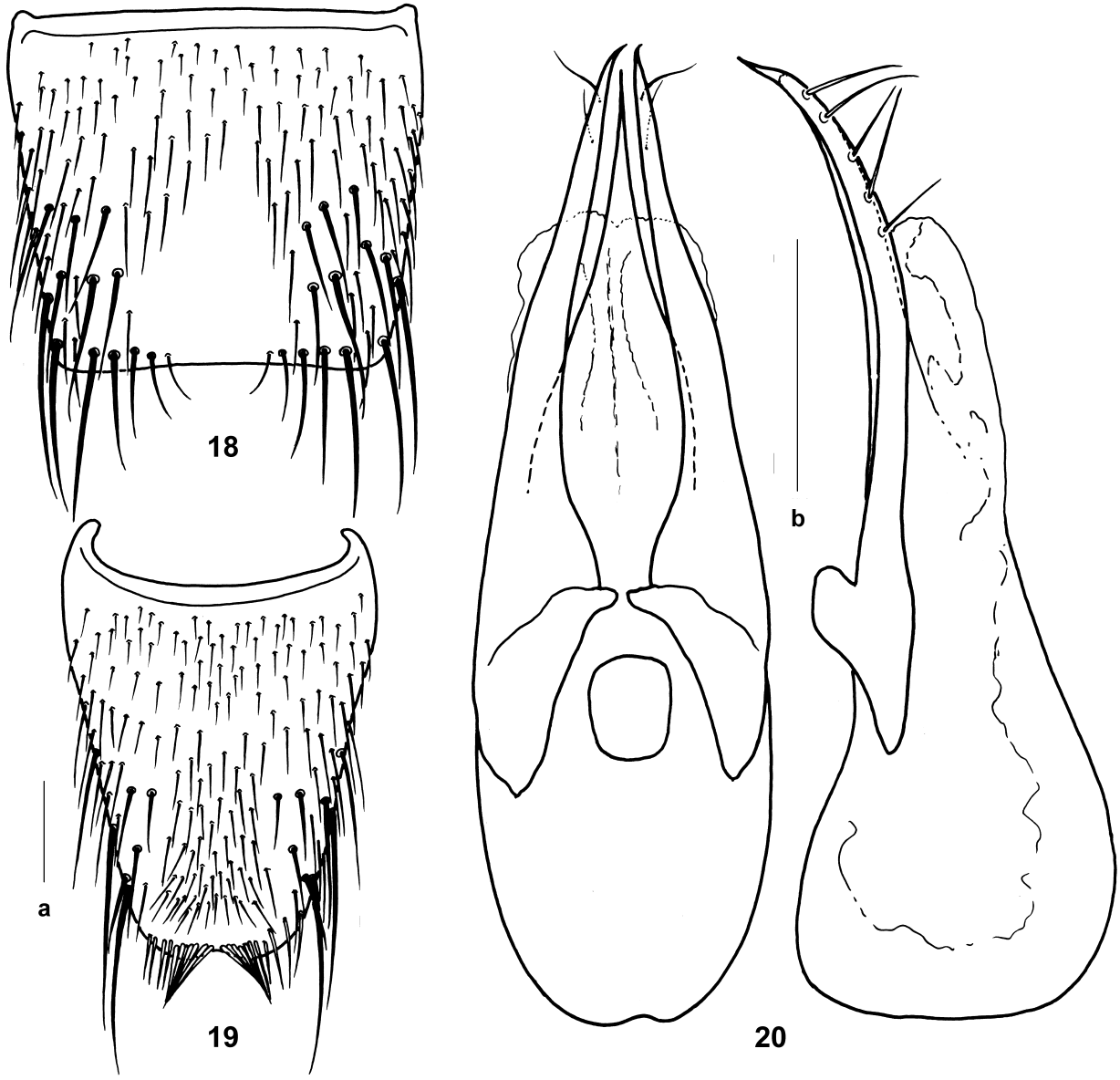
Paratypes (3): same data as HT, 3♀♀ (NME, cKoc, cSch).

Etymology. The species is dedicated to Joachim Schmidt (Rostock), collector of the type material.

Distribution. Central Nepal, Manaslu range (Fig. 24).

Remarks. *I. schmidti* **sp. n.** belongs to the *I. pictum* species group. Its habitus somewhat resembles that of *I.*

thamar Kocian. This species is readily distinguished from its congeners by the distinctive male primary and secondary sexual characters.



FIGURES 18–20. *Ischnosoma schmidti* **sp. n.** Male sternite VII (18); male sternite VIII (19); aedeagus in ventral (left) and lateral view (20). Scale bars: 0.1 mm: a (Figs 18–19), b (Fig. 20).

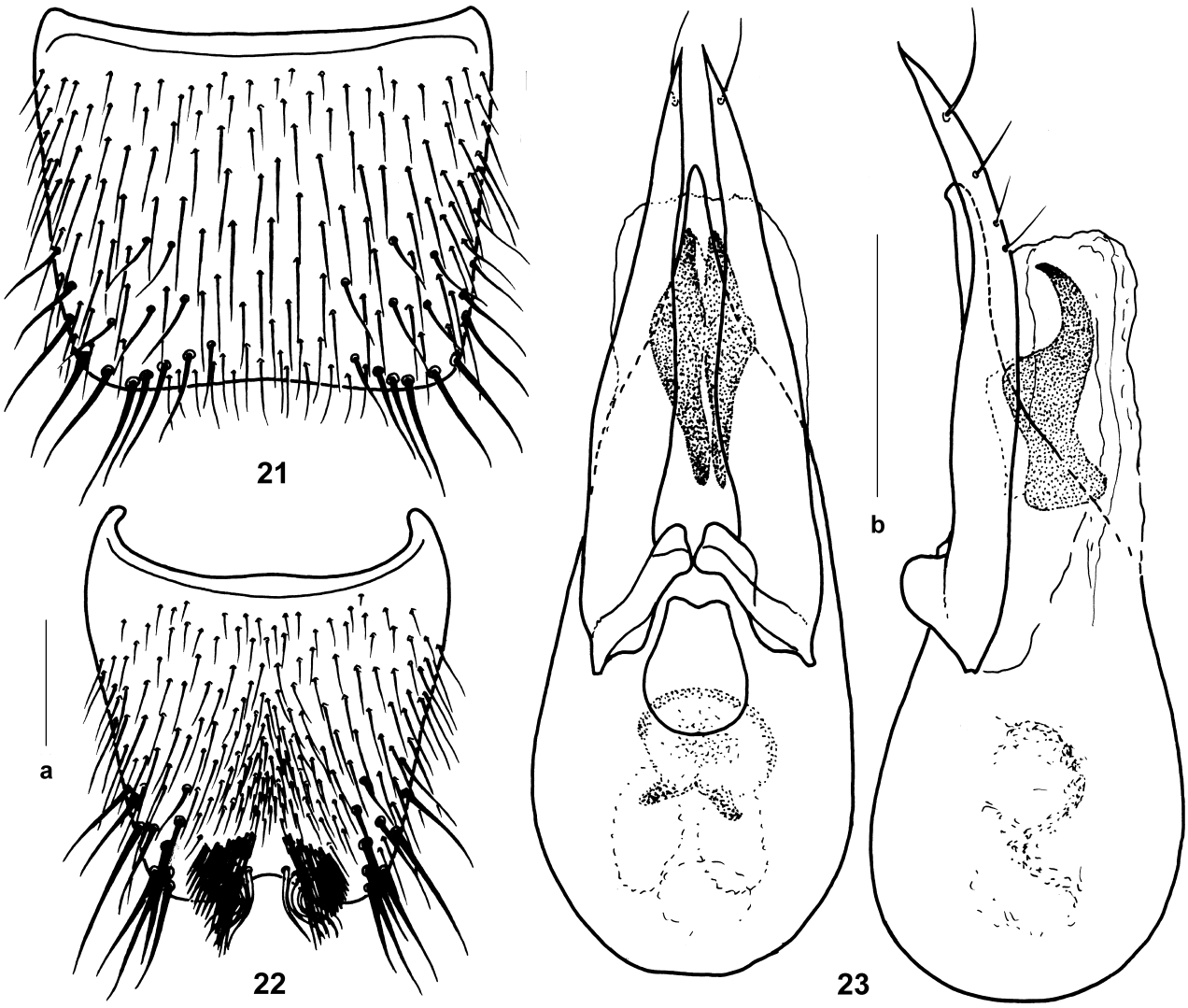
Ischnosoma jumla Kocian & Schülke, sp. n.

Figs 4, 11, 21–25, 33.

Description. Body uniformly rufotestaceous, anterior parts of tergites darker. Legs, palpi and antennomeres I–II yellowish, antenna from third antennomere darker, brownish (Fig. 4).

Habitus as in Figs 4, 11. Head 0.48–0.53 mm wide; 0.57–0.63 times as wide as pronotum, as wide as long. Eyes about 1.5 times as long as temples. Ocular puncture missing. Surface without microsculpture. Antenna 1.11–1.29 mm long. Antennomeres IX–X distinctly wider than long.

Pronotum 0.75–0.86 mm broad; 0.65–0.75 mm long; 1.14–1.24 times as wide as long, widest in posterior half. Surface with sparse transverse microsculpture. Anterior and posterior punctures separated from pronotal margin by 1–2 times the diameter of punctures.



FIGURES 21–23. *Ischnosoma jumla* **sp. n.** Male sternite VII (21); male sternite VIII (22); aedeagus in ventral (left) and lateral view (23). Scale bars: 0.1 mm: a (Figs 21–22), b (Fig. 23).

Elytra quadrangular, parallel-sided or slightly widened posteriad, along suture 0.58–0.73 mm long; 1.01–1.10 times as wide as pronotum; 0.84–0.96 times as long as pronotum. Surface with shallow transverse microsculpture similar to that of pronotum. Sutural and discal row with 6–9 punctures, lateral row with 6–10 punctures. Wings reduced.

Abdomen parallel-sided, slightly tapering towards apex, sparsely punctate. Tergite VII without palisade fringe. Surface smooth, with or without very indistinct transverse microsculpture.

Length of forebody 1.69–2.15 mm; total body length 3.41–4.8 mm.

Male. Apical margin of sternite VII slightly concave, with long thin setae in the middle (Fig. 21). Apical margin of sternite VIII with 4–5 rows of palisade setae and with relatively short beard-like setae. Sternite VIII in median portion with triangular cluster of denser, shorter, and pointed setae (Fig. 22, 33). Aedeagus as in Fig. 23.

Type material. Holotype, male: 579 NEPAL: Jumla Distr., Ghurchi–Lagna Pass, 3500 m, 14.VI.1998, leg. W. Schawaller (SMNS).

Paratypes (13): same data as holotype, 1♂ (cKoc); 576 Nepal, Mugu Distr., SW Rara Lake, 3200 m, 12.VI.1998, leg. W. Schawaller, 1♂, 2♀♀ (SMNS, cSch); Nepal, Prov. Seti, Distr. Bajura, 19 km WSW Simikot, Kuwadi Khola valley, 3500–3700 m NN, 05.VII.2001, 29°53'10"N, 81°38'40"E, leg. M. Hartmann, Laubgesiebe, fir-birch forest, 1♂ (NME); Nepal, Prov. Karnali, Distr. Humla, 20 km W Simikot, 3 km W Chala, 4000–4300 m, 29°50'46"N, 81°35'55"E, 24.06.2001, leg. A. Kopetz, snow fields HF, 1♂ (NME); Gebiet von Jumla, Westnepal, lg.

H. Franz, Umg. Alm Darghari, b. Maharigaon, 4000 m, 4♂♂ (NMW, cKoc, cSch); Gebiet von Jumla, Westnepal, lg. H. Franz, Dzunda–Khola Tal, b. Talphi, 3000–3500 m, 1♂ (NMW); Gebiet von Jumla, Westnepal, lg. H. Franz, Dampa Pass, gegen Chauta, 1♂ (NMW); Nepal, Manaslu Mts., Bara Pokhari Lekh, 3000 m, 4.4.1999, leg. Hirthe, Jäger, Schmidt, 1♂ (cHir).

Etymology. The specific name (noun in apposition) alludes to the Nepalese district Jumla, where the holotype was collected.

Distribution. North of Central and West Nepal, Bajura, Gorkha, Humla, Jumla, and Mugu districts (Fig. 24).

Remarks. *I. jumla* **sp. n.** belongs to the *I. pictum* species group. Its habitus resembles that of three related Nepalese species: *I. jaljalense* (Coiffait), *I. nepalense* (Scheerpeltz) and *I. nepalicum* (Coiffait). *Ischnosoma jumla* differs from these species by smaller body size and the following combination of male sexual characters: clusters of modified palisade and beard-like setae of sternite VIII relatively small, somewhat similar to those of *I. nepalicum*; shapes of the apices of the paired sclerites of the internal sac of the aedeagus characteristic (Fig. 25). See also remarks in the section on *I. nepalicum*.

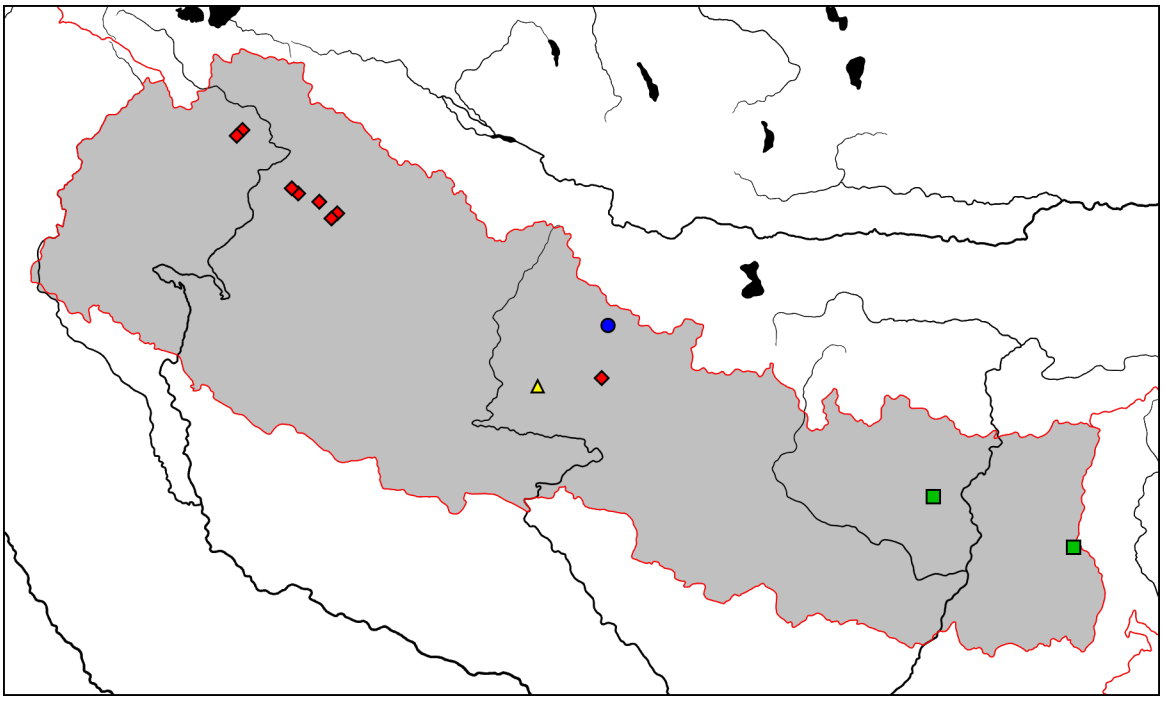


FIGURE 24. Distribution of *Ischnosoma jumla* sp. n. (red diamonds), *Ischnosoma bhojpur* sp. n. (green squares), *Ischnosoma schmidti* sp. n. (blue circle) and *Ischnosoma hirtei* sp. n. (yellow triangle).

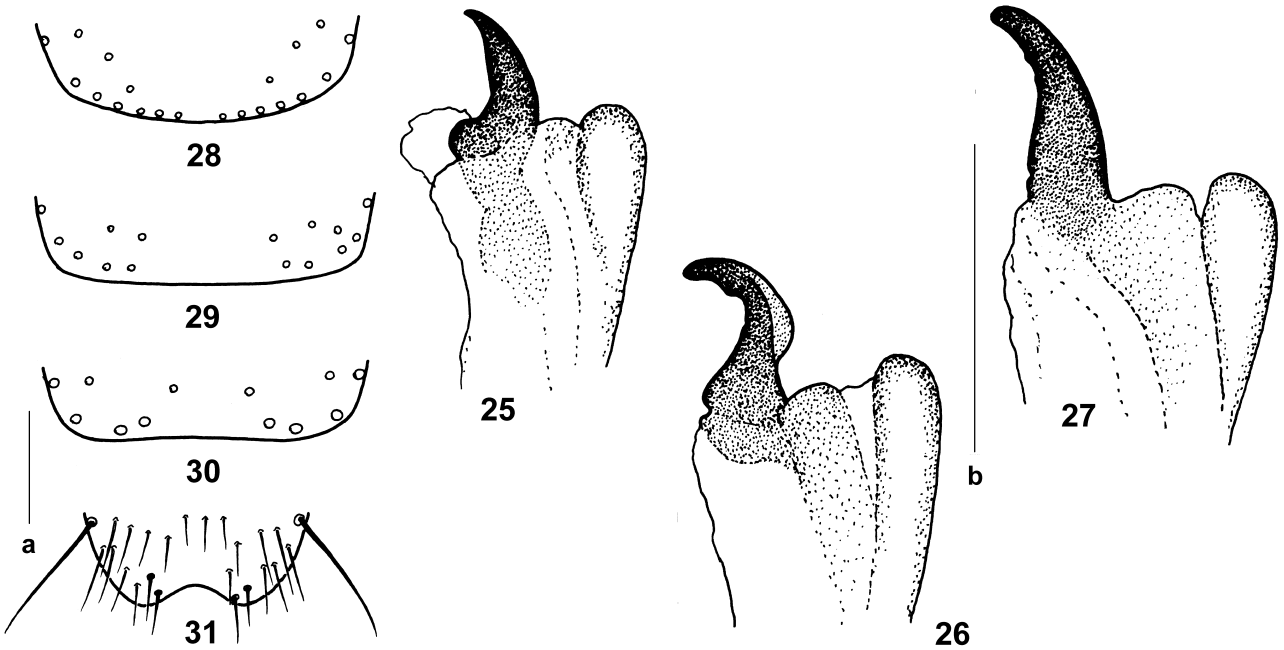
Additional records of previously described species

Ischnosoma duplicatum (Sharp, 1888)

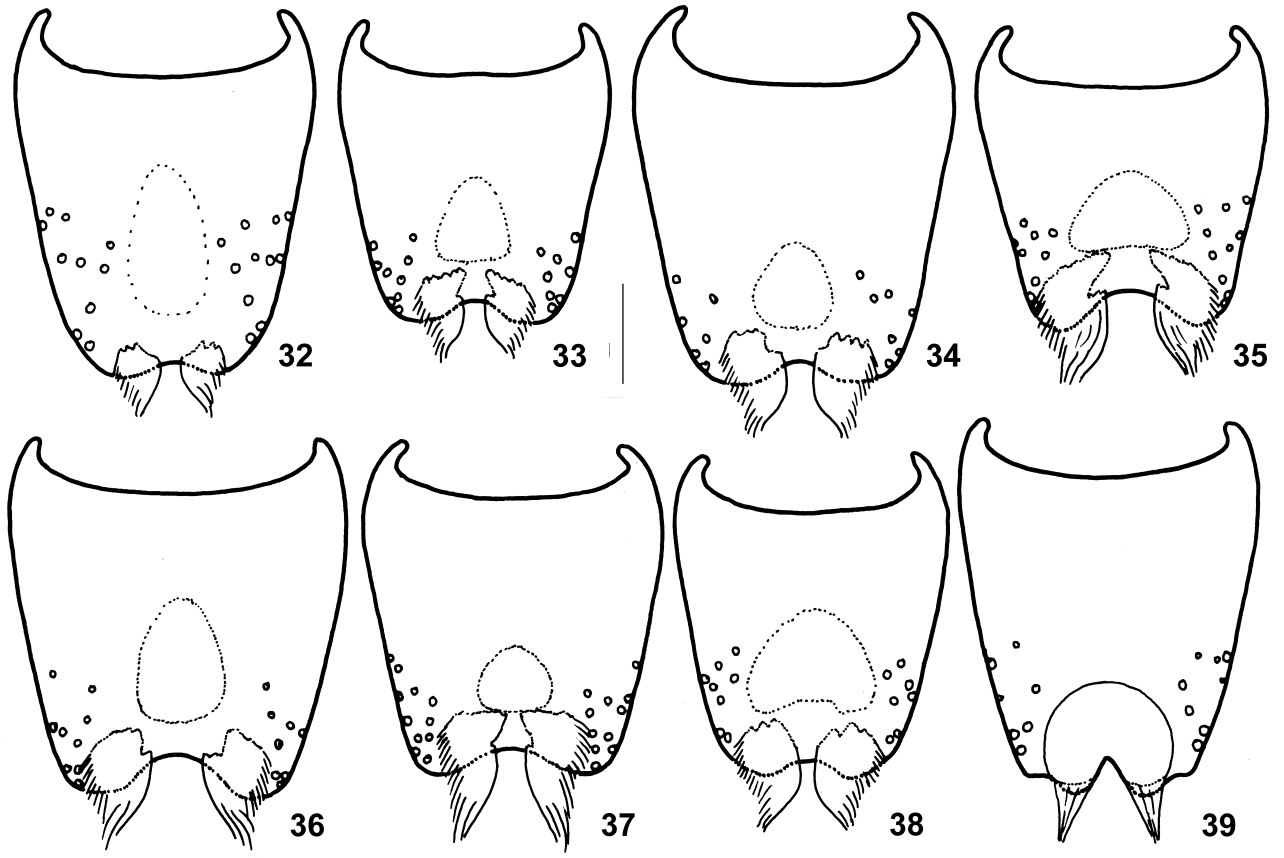
Fig. 40.

NEPAL: **Kathmandu**: Sheopuri Mt. 2100–2300 m, 25.VI.1988, *Quercus semicarpifolia* forest, leg. J. Martens & W. Schawaller, 3 exs. (SMNS, cSch); **Sankhuwasabha**: Arun valley, between Mure and Hurure, 2050–2150 m, 9.–17.VI.1988, mixed broadleaved forest, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); **Taplejung**: Hellock in Tamur valley, 2000 m, 17.V. 1988, forest remnant, bushes, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); upper Tamur valley from bamboo bridge to rest hut/side valley, 2450 m, 19.V.1988, broadleaved forest, bamboo near stream, leg. J. Martens & W. Schawaller, 1 ex. (SMNS).

Remarks. Macropterous species, widely distributed from the Himalaya region to Southeast Asia, China and Japan. Recorded from Central and East Nepal (Fig. 40).



FIGURES 25–31. Extruded internal sac of aedeagus from lateral view (25–27), apical portion of male sternite VII with position of dark long setae (28–30), apical portion of male sternite VIII (31). *Ischnosoma jumla* **sp. n.** (25), *I. nepalicum* (26), *I. nepalense* (27), *I. quadriguttatum quadriguttatum* (28), *I. travei* (29, 31), *I. gratiosum* (30). Scale bars: a (Figs 28–31), b (Figs 25–27).



FIGURES 32–39. Male sternite VIII with position of dark setae, beard-like palisade setae and median dense setae, schematic. *Ischnosoma iob* (32), *I. jumla* **sp. n.** (33), *I. jaljalense* (34), *I. fasciatocolle* (35), *I. nepalense* (36), *I. nepalicum* (37), *I. ephraim* (38), *I. thamar* (39). Scale bar: 0.1 mm.

***Ischnosoma ephraim* Kocian, 2003**
Figs 38, 40.

NEPAL: **Solukhumbu**: Hinku Drangka Khola bridge, 2000 m, 18.–19.V.1997, leg. W. Schawaller, 1 ex. (SMNS); **Syangja**: Manaslu Mts., Bara Pokhari Lekh, upp. Taksar vill., dry stream, sifted, 2100 m, 11.IV.1999, leg. J. Schmidt, 24 exs. (cSch), 5 exs. (cKoc).

Remarks. Macropterous species, probably widely distributed in Himalaya and North India. At present known from Northeastern India (Meghalaya) and Central and East Nepal (Fig. 40).

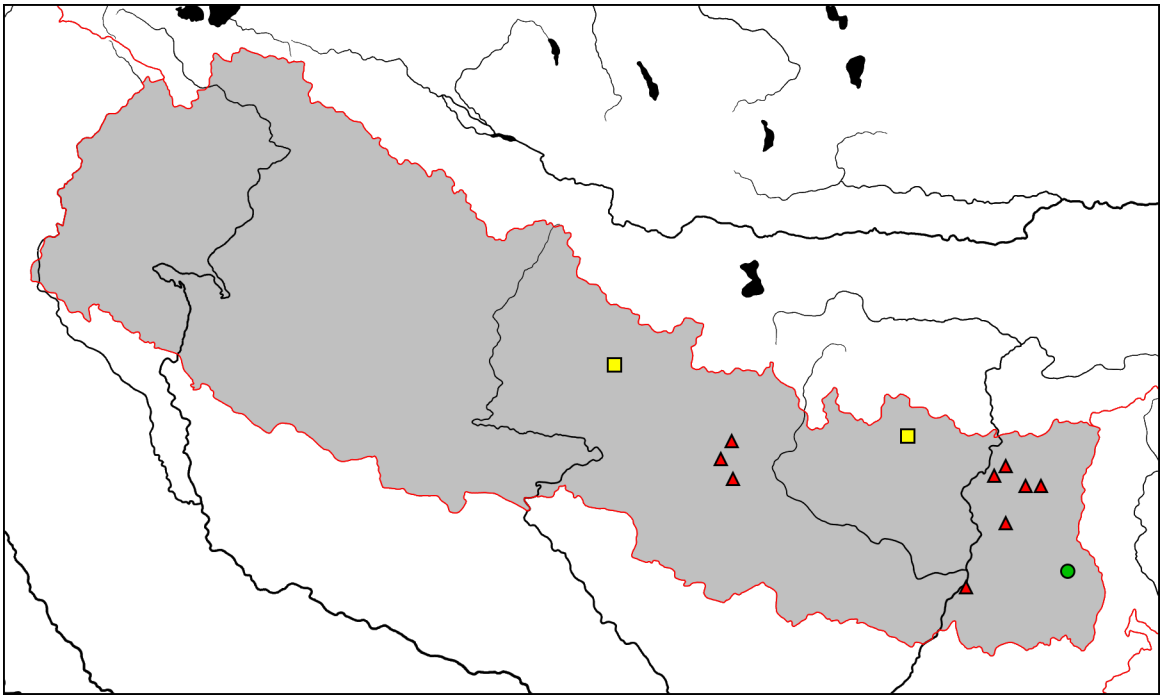


FIGURE 40. Distribution of *Ischnosoma duplicatum* (Sharp) (red triangles), *Ischnosoma epharaim* Kocian (yellow squares) and *Ischnosoma gratiosum* (Cameron) (green circle) in Nepal (material examined and literature records).

***Ischnosoma fasciatocolle* (Champion, 1922)**
Figs 35, 41.

NEPAL: **Kathmandu**: Prov. Bagmati, N Kathmandu, Shiva–puri, 27.–28.IV.2003, 2000–2500 m, leg. J. Schmidt, 1 ex. (NME); **Manang**: Manaslu Mts., Dudh Pokhari Lekh, upper Dordi Khola Valley, 15.–17.IV.2003, 2600–2300 m, leg. J. Schmidt, 1 ex. (NME); **Mustang**: W Dhaulagiri, Thankur, 3250 m, 19.IX.2012, 28°36'32"N, 83°01'26"E, leg. J. Schmidt, 1 ex. (NME); **Myagdi–Parbat**: Annapurna Mts., Ghorapani to Deurali, 2800–3000 m, 2.V.1999, leg. C. Krüger & G. Hirthe, 1 ex. (cHir); **Okhaldhunga**: Prov. Bagmati, Pokhare NE Barahbise, 2800 m, 2.V.1981, leg. I. Löbl & A. Smetana, 1 ex. (MHNG); **Panchthar**: Dhorpar Kharka, mature *Rhododendron-Lithocarpus* forest, 2700 m, 13.–16.IV.1988, leg. J. Martens & W. Schawaller , 1 ex. (SMNS).

Remarks. Still little known, but occurring in greater parts of Himalayan region in North India and Nepal (Fig. 41).

***Ischnosoma gratiosum* (Cameron, 1932)**
Figs 30, 40.

NEPAL: **Ilam**: Mai Pokhari, 2100–2200 m, 9.–10.IV.1988, *Castanopsis* forest remnant, leg. J. Martens & W. Schawaller [319], 2 exs. (SMNS).

Remarks. Originally described from Darjeeling district (North India). The above material represents the first record from Nepal. The currently known distribution is illustrated in Fig. 40.

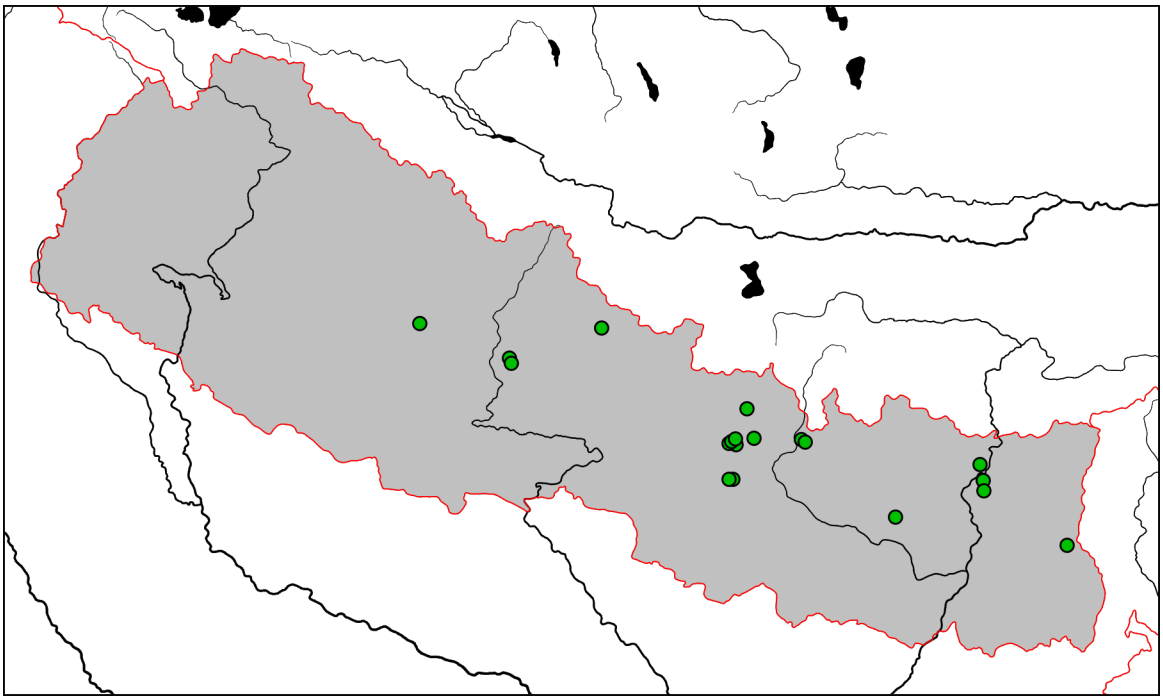


FIGURE 41. Distribution of *Ischnosoma fasciatocolle* (Champion) in Nepal (material examined and literature records).

***Ischnosoma jaljalense* (Coiffait, 1983)**
Figs 34, 42.

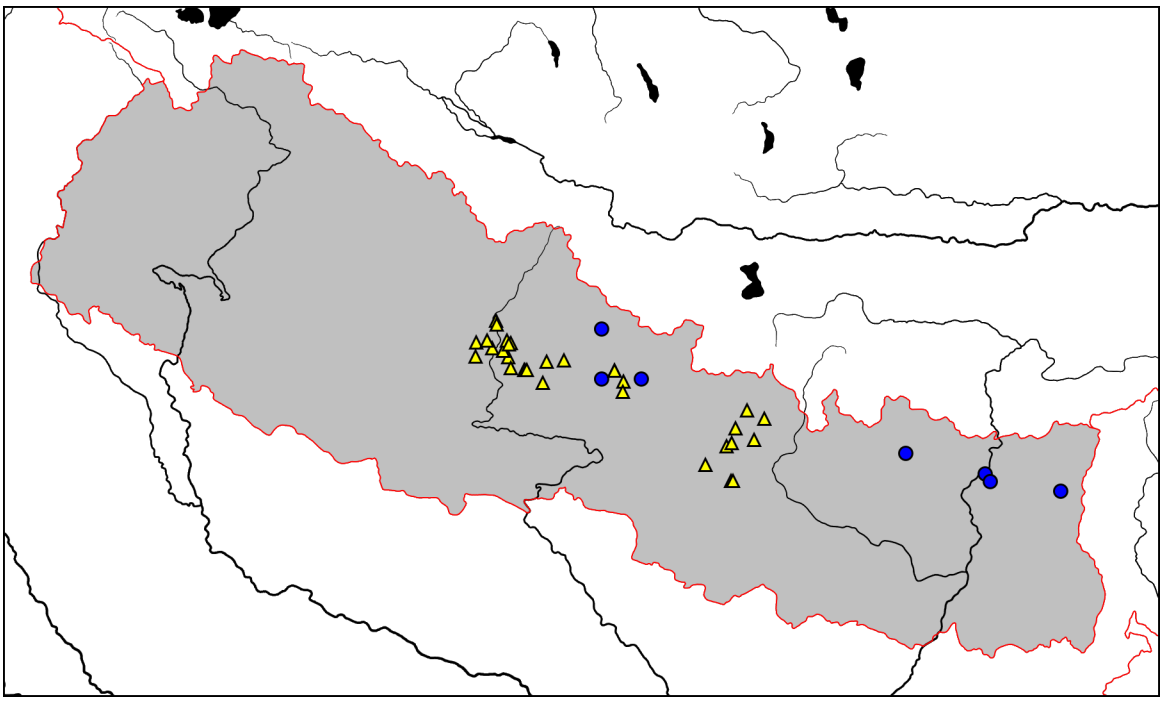


FIGURE 42. Distribution of *Ischnosoma jaljalense* (Coiffait) (circles) and *Ischnosoma travei* (Coiffait) (triangles) in Nepal (material examined and literature records).

NEPAL: **Gorkha**: Darondi Khola, oberhalb Barpak, 3300–3000 m, 11.VIII.1983, 243, rhododendron forest, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); **Manang**: Manaslu Mts., Dudh Pokhari Lekh, upper Phulinagiri Madi, 19.–21.IV.2003, 2500 m, leg. J. Schmidt, 1 ex. (NME); Manaslu Himal., Bara Pokhari Lekh, 3000 m, 3.IV.1999, leg. G. Hirthe & C. Krüger, 1 ex. (cHir); **Sankhuwasabha**: above Pahakhola, 2600–2800 m, 31.V.–3.VI.1988, *Quercus semecarpifolia*, *Rhododendron*, leg. J. Martens & W. Schawaller [404], 1 ex. (SMNS); **Solukhumbu**: above Pangum, 2900–3000 m, 16.V.1997, leg. W. Schawaller, 1 ex. (SMNS); **Taplejung**: Omje Kharka NW Yamputhin, 2300–2500 m, 1.–6.V.1988, mature mixed broadleaved forest, leg. J. Martens & W. Schawaller [356], 1 ex. (SMNS).

Remarks. Records of this species are scarce. The currently known distribution is confined to northern Central and East Nepal (Fig. 42). See also remarks in the section on *I. nepalicum*.

Ischnosoma nepalense **(Scheerpeltz, 1976)**
Figs 27, 36, 43.

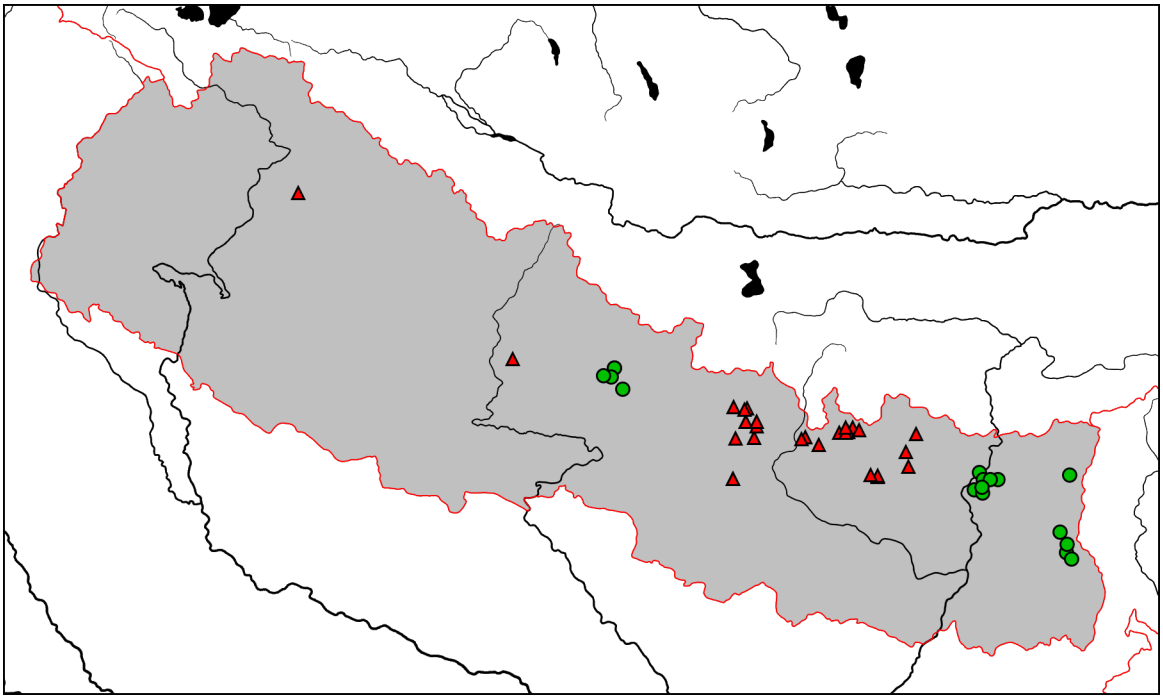


FIGURE 43. Distribution of *Ischnosoma nepalense* (Scheerpeltz) (triangles) and *Ischnosoma thamar* Kocian (circles) in Nepal (material examined and literature records).

NEPAL: **Dolakha**: SW Kalinchok Mt., 3100 m, 19.–23.IV.1995, leg. J. Martens & W. Schawaller, 5 exs. (SMNS); Ost–Nepal, Rolwaling Himal., Rolwaling Tal, Nyimare, 3550 m, 25.V.2000, leg. A. Kleeberg, 6 exs. (cKle), 2 exs. (cKoc); same data, but 19.V.2000, 3300 m, 19 exs. (cKle), 3 exs. (cKoc); same data, but 18.V.2000, 2000 m, 2 exs. (cKle); Ost–Nepal, Rolwaling Himal., westl. Daldung La Pass, 3300 m, 30.V.2000, leg. A. Kleeberg, 13 exs. (cKle), 1 ex (cKoc); same data, but 29.V.2000, 8 exs. (cKle); same data, but 28.V.2000, 4 exs. (cKle); Rolwaling Himal., above Simigaon village, 2700–2800 m, 28.V.2000, leg. J. Schmidt, 24 exs. (cKle), 3 exs. (cKoc); same data, but 1.VI.2000, 3 exs. (cKle); Rolwaling Himal., above Simigaon, 2700–2800 m, 31.V.2000, leg. A. Kleeberg, 2 exs. (cKle); Rolwaling valley, Dugong Kharka, 2700–2800 m, 17.V.2000, leg. J. Schmidt, 7 exs. (cKle); Rolwaling bank, between Simigaon and Nyimare, 2700 m, 17.V.2000, leg. A. Kleeberg, 1 ex. (cKle); Rolwaling valley, before Beding village, 3300 m, 19.V.2000, leg. J. Schmidt, 3 exs. (cKle); **Kaski**: Path between Pokhara and Goropani, leg. H. Franz, 4 exs. (NHMW); **Jumla**: Ghurchi–Lagna Pass, 3500 m, 14.VI.1998, leg. W. Schawaller, 1 ex. (SMNS); **Solukhumbu**: above Pangum, 2900–3000 m, 16.V.1997, leg. W. Schawaller, 1 ex. (cSch); below Pangum, 2500 m, 14.–15.V.1997, leg. W. Schawaller, 3 exs. (SMNS), 1 ex. (cSch); E Pangkongma La, 3000 m, 17.V.1997, leg. W. Schawaller, 1 ex. (SMNS); Lamiura Danda, 3500–3800 m, 27°34'N, 86°30'E, 28.–29.V.2013, leg. J. Hagge & J. Schmidt, 2 exs. (NME); Taktor to Lamiura Pass, 3350–3450 m, 28.V.2013, 27°34'37"N, 86°30'07"E, leg. J. Schmidt, 3 exs. (NME), 1 ex. (cKoc).

Remarks. Widespread in Nepal (Fig. 43), also recorded from Kashmir. See also remarks in the section on *I. nepalicum*.

***Ischnosoma nepalicum* (Coiffait, 1982)**
Figs 26, 37, 44.

NEPAL: **Baglung**: Daulaghiri mountains, Baglung Lekh, 25 km W Baglung, primary forest, 2800–3000 m, 15.V.2004, leg. J. Schmidt, 4 exs. (cKle, cSch); **Dolpa–Jumla**: Pass Bavarla Lagna, 3200–3800 m , 29°10'N, 82°28.5'E, 6.VI.1997, leg. M. Hartmann, 2 exs. (NME); Pass NW Chaurikot, 3800 m , 17.V.1995, leg. M. Hartmann, 1 ex. (NME); **Jumla**: Khali–Lagna Pass, 3500 m, 16.–17.VI.1998, leg. W. Schawaller, 2 exs. (SMNS); Ghurchi–Lagna Pass, 3500 m, 14.VI.1998, leg. W. Schawaller, 1 ex. (SMNS); Gothichaur valley, forest, 2900–3800 m , 29°12'N, 82°18.5'E, 11.VI.1997, leg. M. Hartmann, 1 ex. (NME); SE Churta, sifted, 3400 m , 6.V.1995, leg. J. Weipert, 1 ex. (NME); 6 km E Churta, deciduous forest, 3200 m , 18.V.1995, leg. M. Hartmann, 2 exs. (NME), 1 ex. (cSch); 10 km E Churta, 3500 m , 5.–6.V.1995, sifted, leg. M. Hartmann, 2 exs. (NME); 3 km E Churta, 29°10'53"N, 82°28'00"E, 6.VI.1987, 3400 m, GSB, leg. A. Weigel, 1 ex. (NME), 1 ex. (cSch); before Pass SE Churta, 3400 m , pitfall traps, 17.V.1995, leg. J. Weipert, 4 exs. (NME); N Maharigaon, 3250 m , 29°20'N, 82°22'E, 8.–9.VII.1999, leg. A Weigel, 1 ex. (NME); Talphi, NE Maharigaun, 20.VI.1997, 3300 m, GSB, leg. A. Weigel, 2 exs. (NME); 10 km SE Churta, Bavarla Langna Pass, 29°09'50"N, 82°28'53"E, 6.VI.1997, 3800 m, leg. A. Weigel, 1 ex. (NME); Sinja Khola between Chauta and Neurigad, leg. H. Franz, 1 ex. (cSch); Dampelek near Jumla, [Pa220/Pa245], leg. H. Franz, 2 exs. (NHMW); Dzunda Khola valley near Talphi, 3000–3500 m, [Pa190], leg. H. Franz, 1 ex. (NHMW); **Kaski**: Mardi Himal, W of Mardi Khola, 2950–3100 m, 28°26'02"N, 83°52'05"E, 13.V.2001, leg. G. Hirthe, 1 ex. (cHir); Annapurna mountains, Ghorepani–Deurali, 2800–3000 m, 2.V.1999, leg. C. Krüger & G. Hirthe, 1 ex. (cHir); Annapurna region, Mardi Himal, W Mardi Khola, 3400–3600 m, 28°26'02"N, 83°52'05"E, 13.–14.V.2001, leg. G. Hirthe, 1 ex. (cHir); same data, but 2950–3100 m, 13.V.2001, 7 exs. (cHir), 1 ex (cKoc); **Kathmandu**: Mount Sheopuri, 2100–2300 m, 25.VI.1988, *Quercus semecarpifolia* forest, leg. J. Martens & W. Schawaller [306], 1 ex. (SMNS), 1 ex. (cSch); Phulchoki near Kathmandu, leg. H. Franz, 1 ex. (NHMW); **Lamjung**: Manaslu massif, Barapokhari Lekh, 23 km NE Besishahar village, 28°21'N, 84°33'E, 14.IX.2000, 3800–4100 m, sieved from moss and rhododendron leaf litter, leg. A. Hetzel, 3 ex. (cFel); Manaslu massif, Barapokhari Lekh, 12 km NE Besishahar village, 28°18'N, 84°28'E, 3100 m, near Lake Barapokhari, sieved from moss, 10.IX.2000, leg. A. Hetzel, 2 exs. (cFel); **Mustang**: Dhaulagiri mountains, Hile Kharka, 3000–3100 m, 28°29'15"N, 83°34'28"E, 9.V.2009, leg. J. Schmidt, 1 ex. (NME); S slope Dhaulagiri Mts., NE slope Asnam Duri, 3100–3300 m, 28°31'50"N, 83°27'57"E, 14.V.2009, leg. J. Schmidt, 6 exs. (NME), 2 exs. (cKoc); Dhaulagiri SE slope, SW slope of Lete Pass, 13.V.2002, 2700–3000 m, leg. J. Schmidt, 1 ex. (cSch); SW Dhaulagiri, W Jaljala, 3300–3400 m, 28°30'44"N, 83°13'15"E, 20.V.2012, leg. J. Schmidt, 4 exs. (NME), 1 ex. (cKoc); same data but: 3150 m, 23.IX.12, 28°30'05"N, 83°11'48"E, 2 exs. (NME); SW Dhaulagiri Himal. near Jaljala La, 3300–3500 m, 12./13./21.V.2012, 28°30'N, 83°15'E, leg. J. Schmidt, 5 exs. (NME), 1 ex. (cKoc), 1 ex. (cSch); Kali Gandaki valley, upper Lete, 19.V.2002, 2800 m, leg. J. Schmidt, 5 exs. (NME, cSch); **Parbat**: between Deorali and Chitre, 2700 m, 1.–2.V.1995, leg. J. Martens & W. Schawaller, 5 exs. (SMNS), 1 ex (cKoc).

Remarks. *I. nepalicum* is closely related to three very similar apterous and endemic Nepalese species of the *I. pictum* species group: *I. nepalense*, *I. jaljalense*, and *I. jumla* **sp. n.** In a previous key (Kocian, 2003), the absence of an ocular puncture and seta was used for distinguishing *I. nepalicum* from similar species. In the material listed above we found specimens of *I. nepalicum* with similarly developed ocular puncture and seta as in *I. nepalense*. Therefore, a reliable identification is possible only based on the male sexual characters, above all the chaetotaxy of the male sternite VIII in combination with the shapes of the internal structures of the aedeagus. The shape of large paired sclerites in the internal sac of the aedeagus is characteristic in lateral view, but well visible only when extruded (Figs 25–27). However, since none of the previously studied specimens of *I. jaljalense* shows a well visible extruded internal sac of aedeagus, the validity of this species requires revision.

Widespread in Nepal (Fig. 44).

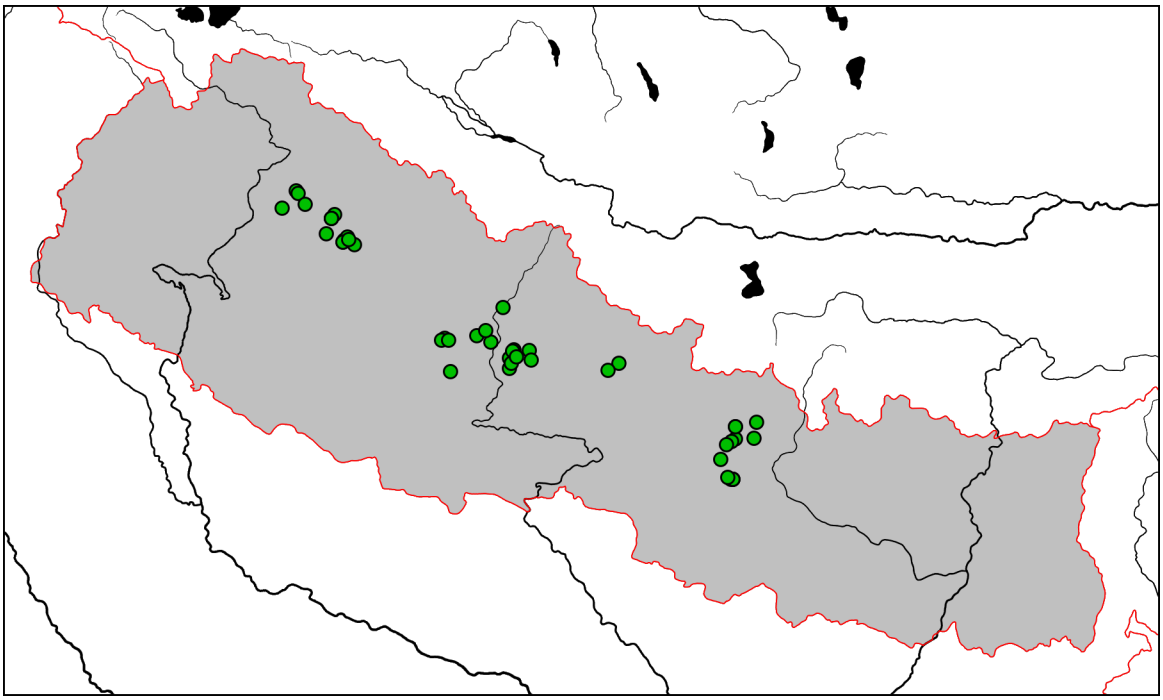


FIGURE 44. Distribution of *Ischnosoma nepalicum* (Coiffait) in Nepal (material examined and literature records).

***Ischnosoma quadriguttatum quadriguttatum* (Champion, 1923)**
Figs 28, 45.

NEPAL: **Baglung**: Dhaulagiri, Baglung Lekh, 10–15 km NW Baglung, 2350–2550 m, 28°18'36"N, 83°31'56"E, 10.–12.V.2004, leg. J. Schmidt, 10 exs. (cKle, cSch); **Bhojpur**: Valley NW Phedi, 1900 m, 25.V.1997, leg. W. Schawaller, 1 ex. (SMNS); **Dailekh**: Talpokhari S Dailekh, 1800 m, 29.V.1988, leg. W. Schawaller, 1 ex. (SMNS); **Dhawalagi**: Annapurna South Himal, SE of Narcheng, left riverside of Bele Khola, 2300 m, 28°30'40"N, 83°41'33"E, 25./26.V.2001, leg. G. Hirthe, 1 ex. (cHir); **Dolakha**: Rolwaling Himal, Lapchi Kang, range below Ting Sang La, 2300–2500 m, 1.IX.1999, leg. J. Schmidt, 1 ex. (NME); **Dolpa–Mustang–Myagdi**: right banks of Lethe Khola near Lethe, 2400 m, 5.–7.V.1995, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); S slope, Dhaulagiri mountains, N Banduk, 2400–2600 m, 28°28'35"N, 83°35'05"E, 8.V.2009, leg. J. Schmidt, 8 exs. (NME); Dhaulagiri mountains, upper Marang Khola valley., 28°29'50"N, 83°27'37"E, 2500–2700 m, 16.V.2009, leg. J. Schmidt, 1 ex. (NME), 1 ex. (cSch); Dhaulagari Himal, S-slope, N Banduk village, 1900–2300 m, 28°27'22"N, 83°35'13"E to 28°28'07"N, 83°35'10"E, 6.V.2009, leg. J. Schmidt, 4 exs. (NME), 1 ex. (cSch); SW Dhaulagiri Himal, Dhara Khola Vali, 28°30'36"N, 83°18'16"E, 1900 m, 21.–22.V.2012, leg. J. Schmidt, 6 exs. (NME); S slope, Dhaulagari mountains, above Pathlekharka, 2500–2700 m, 28°32'19"N, 83°29'25"E, 12.V.2009, leg. J. Schmidt, 2 exs. (NME); SW Dhaulagiri, Maraini, 2400–2800 m, 11.V.2012, 28°31'07"N, 83°15'49"E, leg. J. Schmidt, 2 exs. (NME); **Gorkha**: Darondi Khola, above Barpak, 3300–3000 m, 11.VIII.1983, rhododendron forest, leg. J. Martens & W. Schawaller [243], 1 ex. (SMNS); Darondi Khola, below Barpak to Doreni, 1100–900 m, 12.VIII.1983, forest remnants, leg. J. Martens & W. Schawaller [246], 1 ex. (SMNS); Buri Gandaki, Nyak to lower Chuling Khola valley, 2450–2870 m, 2.VIII.1983, *Pinus excelsa*, mountain pasture, leg. J. Martens & W. Schawaller [227], 1 ex. (SMNS); same data, but 2270–2450 m, 1 ex. (SMNS); **Ilam**: road Ilam to Birtamode, Karphok, 1700 m, bushes, agricultural area, 2.IV.1980, leg. J. Martens & A. Ausobsky, 1 ex. (SMNS); Mai Pokhari, 2100–2200 m, 9.–10.IV.1988, *Castanopsis* forest remnant, leg. J. Martens & W. Schawaller [319], 1 ex. (SMNS); **Kaski**: above Dhumpus, Berlese, 2100 m, 8.–10.V.1980, leg. J. Martens & A. Ausobsky, 1 ex. (SMNS); above Dhumpus, Laubwald, 2100 m, 8.–10.V.1980, leg. J. Martens & A. Ausobsky, 1 ex. (SMNS); above Pothana, 2000 m, 27.–29.IV.1995, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); Pokhara, souther bank of Phewa Lake, creek, sifted, 800–900 m, 8.V.2001, leg. G. Hirthe, 2 exs. (cHir, cSch); Annapurna region, Khare to Pothana, rhododendron forest, 1950–2000 m, 10. V. 2001, leg. G. Hirthe, 1 ex. (cHir); Annapurna mountains, Tadapani to Chuile, 2450–

2550 m, 4.V.1999, leg. C. Krüger & G. Hirthe, 1 ex. (cHir); **Lalitpur**: Mount Phulchoki, 1800–2000 m, 25.IV.1995, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); above Godawari, Kunako Khola, sifted, 1750 m, 6.V.2001, leg. G. Hirthe, 2 exs. (cHir, cSch); **Lamjung**: Nawronkot near Larjung, Thakhola area, 2900–3000 m, leg. H. Franz, 1 ex. (NHMW); **Manang**: Annapurna mountains, Bagarchhap–Temang, 2400–2700 m, 17.IV.1999, leg. C. Krüger & G. Hirthe, 1 ex. (cHir); **Panchthar**: Paniporua, 2300 m, 16.–20.IV.1988, mixed broadleaved forest, leg. J. Martens & W. Schawaller [328], 1 ex. (SMNS); **Parbat**: Annapurna mountains, Bhickok to Deurali, 2100 m, 7.V.1999, leg. C. Krüger & G. Hirthe, 3 exs. (cHir, cSch); Annapurna region, West Mardi Himal, above Deurali, 2100–2200 m, 28°18'57"N, 83°49'59"E, 10. V. 2001, leg. G. Hirthe, 4 exs. (cHir, cSch); **Rasuwa**: Bagmati province, Gul Ghanjyang, 2600 m, 6.IV.1981, leg. I. Löbl & A. Smetana, 1 ex. (MHNG); **Sankhuwasabha**: above Pahakhola, 2600–2800 m, 31.V.–3.VI.1988, *Quercus semecarpifolia*, *Rhododendron*, leg. J. Martens & W. Schawaller [404], 3 ex. (SMNS); Arun Valley, between Mure and Hurure, 2050–2150 m, 9.–17.VI.1988, mixed broadleaved forest, leg. J. Martens & W. Schawaller [412], 2 ex. (SMNS); N Furure, floodplain near creek, 27°30'44"N, 87°16'14"E, 2100 m , 7.XII.1998, sifted, leg. M. Hartmann, 1 ex. (NME); Arun Valley, W above Tashigaon, 2500–2700 m, 26.–27.V.2014, 27°36'33"N, 87°13'28"E, leg. J. Schmidt, 1 ex. (NME); Arun Valley, near Tashigaon, 2200–2400 m, 12.+28.–29.V.2014, 27°37'N, 87°14'E, leg. J. Schmidt, 2 ex. (NME); **Sindhupalchok**: Barahbise region, Ting–Sang–La, leg. H. Franz, 1 ex. (NHMW); **Solukhumbu**: below Pangum, 2500 m, 14.–15.V.1997, leg. W. Schawaller, 3 exs. (SMNS); Umg. Sutje near Lughla, Khumbu, leg. H. Franz, 2 exs. (NHMW); **Surkhet**: Bheri Khola bridge, 500 m, 24.–25.V.1998, leg. W. Schawaller, 1 ex. (SMNS); N Surkhet, 1600–2000 m, 28.V.1998, leg. W. Schawaller, 1 ex. (SMNS); **Syangja**: Manaslu mountains, Dudh Pokhari Lekh, upper Dardi Khola valley, 2600–2300 m, 15.–17.IV.2003, leg. J. Schmidt, 2 exs. (NME, cSch); Manaslu mountains, Dudh Pokhari Lekh, upper Phulinagiri Madi, 2500 m, 19.–21.IV.2003, leg. J. Schmidt, 10 exs. (NME, cSch); Manaslu mountains, Dudh Pokhari Lekh, below Helam Pokhari, 2000 m, 22.IV.2003, leg. J. Schmidt, 1 ex. (NME); Manaslu mountains, S of Bara Pokhari, 2300 m, 8.IV.2003, leg. J. Schmidt, 24 exs. (NME, cSch); Manaslu mountains, Bara Pokhari lekh, Chandi Khola valley, 11.–12.IV.2003, 2000–2300 m, leg. J. Schmidt, 1 ex, (NME); Manaslu mountains, S of Bara Pokhari, 2000 m, 7.IV.2003, leg. J. Schmidt, 1 ex. (NME); Bara Pokhari Lekh, 2500 m, 2.IV.1999, leg. G. Hirthe & C. Krüger, 2 exs. (cHir, cSch); **Taplejung**: confluence of Kabeli and Tada Khola, 1000 m, 23.–25.IV.1988, mixed broadleaved forest, leg. J. Martens & W. Schawaller [344], 5 exs. (SMNS); ascent to pasture Lassetham from Omje Khola, 2400–3150 m, 6.V.1988, mixed *Quercus-Tsuga-Rhodonendron* forest, leg. J. Martens & W. Schawaller [357], 1 ex. (SMNS).

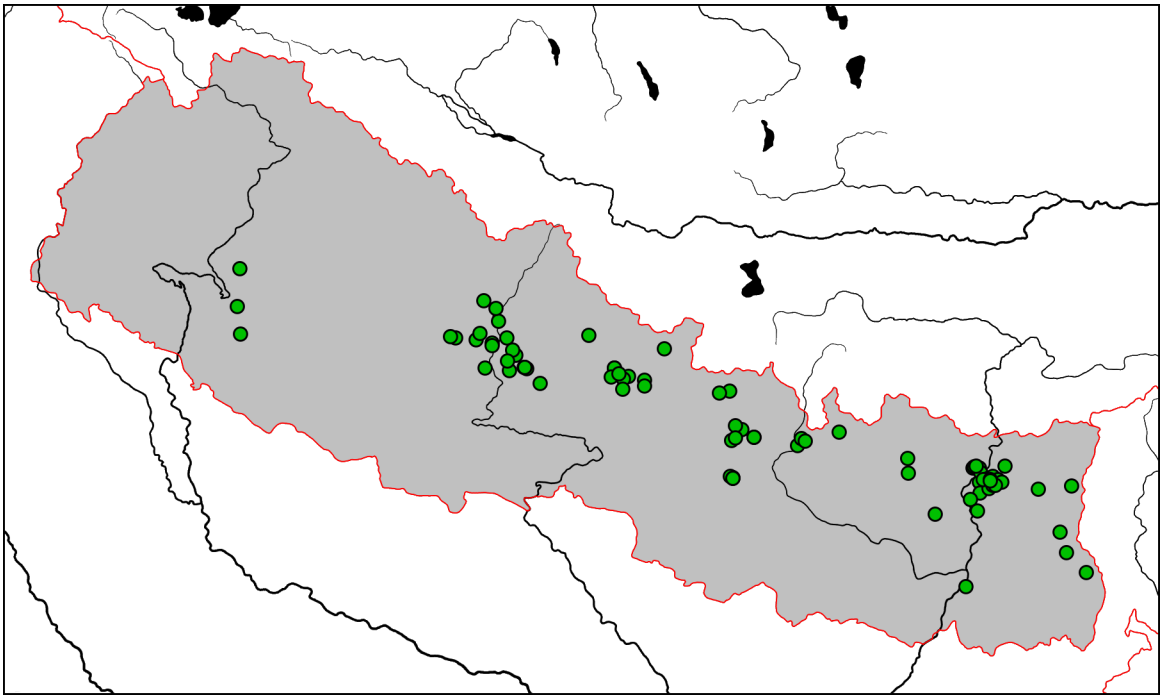


FIGURE 45. Distribution of *Ischnosoma quadriguttatum quadriguttatum* (Champion) in Nepal (material examined and literature records).

Remarks. *I. quadriguttatum quadriguttatum* is widespread in Southeast Asia. In Nepal, it is the most common species and present everywhere (Fig. 45). A second subspecies, *I. quadriguttatum japonicum* Kocian, 2003 was described from Japan.

***Ischnosoma thamar* Kocian, 2003**
Figs 39, 43.

NEPAL: **Ilam**: Mai Pokhari, 2100–2200 m, 9.–10.IV.1988, *Castanopsis* forest remnant, leg. J. Martens & W. Schawaller [319], 2 ex. (SMNS); Gitang Khola valley, 1750 m, 11.–13.IV.1988, *Alnus* forest along river, leg. J. Martens & W. Schawaller [321], 1 ex. (SMNS); **Panchthar**: Paniporua, 2300 m, 16.–20.IV.1988, mixed broadleaved forest, leg. J. Martens & W. Schawaller [328], 3 exs. (SMNS), 2 ex (cKoc); Dhorpar Kharka, mature *Rhododendron-Lithocarpus* forest, 2700 m, 13.–16.IV.1988, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); **Sankhuwasabha**: Arun Valley, Chichila, 1900–2000 m, 18.–20.VI.1988, *Quercus* forest, bushes near village, leg. J. Martens & W. Schawaller [414], 1 ex. (SMNS); **Syangja**: Manaslu mountains, Bara Pokhari Lekh, above Taksar village, creek bed, sifted, 2100 m, 11.IV.1999, leg. J. Schmidt, 33 exs. (cSch), 3 exs. (cKoc); Manaslu mountains, Bara Pokhari Lekh, Chhandi Khola valley, 11./12.IV.2003, 2000–2300 m, leg. J. Schmidt, 3 ex. (NME, cSch); Manaslu mountains, S of Bara Pokhari, 2300 m, 8.IV.2003, leg. J. Schmidt, 15 exs. (NME, cSch); Manaslu mountains, S of Bara Pokhari, 2000 m, 7.IV.2003, leg. J. Schmidt, 1 ex. (NME); Manaslu mountains, Puran Dubar to Bara Pokhari Lekh, 2050 m, 1.IV.1999, leg. G. Hirthe & C. Krüger, 2 exs. (cHir, cSch); W Manaslu Himal, Bhara Pokhari Lekh above Bhachok, 1800 m, 28°15'25"N, 84°25'47"E, 31.IV.2005, leg. O. Jäger, 3 ex. (SMTD, cSch); **Taplejung**: Omje Kharka NW Yamputhin, 2300–2500 m, 1.–6.V.1988, mature mixed broadleaved forest, leg. J. Martens & W. Schawaller [356], 3 exs. (SMNS).

Remarks. *Ischnosoma thamar* has been recorded from Central and East Nepal (Fig. 43). Since it is macropterous, it may be more widespread.

***Ischnosoma travei* (Coiffait, 1982)**
Figs 29, 31, 42.

NEPAL: **Baglung:** Dhaulagiri, Baglung Lekh, 10–15 km NW Baglung, 2350–2550 m, 10.–12.V.2004, leg. A. Kleeberg & J. Schmidt, 17 exs. (cKle, cSch); **Dolpa –Mustang–Myagdi**: Dhaulagiri mountains, upper Marang Khola valley, 28°29'50"N, 83°27'37"E, 2500–2700 m, 16.V.2009, leg. J. Schmidt, 1 ex. (NME); Dhaulagari Himal, S-slope, N Banduk village, 1900–2300 m, 28°27'22"N, 83°35'13"E to 28°28'07"N, 83°35'10"E, 6.V.2009, leg. J. Schmidt, 2 exs. (NME); S slope Dhaulagari mountains, Bagar Khola, 2250 m, 28°30'44"N, 83°32'36"E, 10.V.2009, leg. J. Schmidt, 1 ex. (NME); **Kathmandu**: Phulchoki, leg. H. Franz, 5 exs. (NHMW); **Kaski**: above Pothana, 2000 m, 27.–29.IV.1995, leg. J. Martens & W. Schawaller, 1 ex. (SMNS); Seti, E Khola valley, above Kabre, 2500 m, 9.IX.2013, 28°22'10"N, 83°59'47"E, leg. J Hagge & J. Schmidt, 2 exs. (NME); Bachhar Kharka, NE Sikies, 28°22'48"N, 84°07'45"E, 2200–2400 m, 15.IX.2013, leg. Hagge & J. Schmidt, 2 exs. (NME), 1 ex. (cSch); vicinity of Goropani, W Pokhara, 1 ex. (NHMW); **Makwanpur**: Maharabath Lekh, Indian road, 2500 m, leg. H. Franz, 4 exs. (NHMW), 1 ex. (cKoc); **Mustang**: right banks of Lethe Khola near Lethe, 2400 m, 5.–7.V.1995, leg. J. Martens & W. Schawaller, 2 exs. (SMNS), 1 ex. (cKoc); Annapurna mountains, Chitre, Ghorapani to Tatapani, 1900–2300 m , 10.–12.IX.2003, leg. J. Schmidt, 1 ex. (NME); Annapurna South Himal, SE of Narcheng, left riverside of Bele Khola, 2300 m, 28°30'40"N, 83°41'33"E, 25./26.V.2001, leg. G. Hirthe, 2 exs. (cHir, cSch); Annapurna South Himal, Chuile to Tadapani, 2400–2500 m, 17.V.2001, leg. G. Hirthe, 1 ex. (cHir); Annapurna region, Mardi Himal (W Mardi Khola), 2100–2200 m, 28°18'57"N, 83°49'59"E, 10.V.2001, leg. G. Hirthe, 3 exs. (cHir, cSch); Annapurna mountains, Bhickok to Deurali, 2100 m, 7.V.1999, leg. C. Krüger & G. Hirthe, 1 ex. (cHir); Annapurna South Himal, N of Khopra, left side of Bele Khola, 28°29'06"N, 83°42'35"E, 2900 m, 24.V.2001, leg. G. Hirthe, 1 ex. (cHir); Kali–Gandaki valley, between Ghasa and Lete, 1 ex. (NHMW); **Syangja**: Manaslu mountains, Bara Pokhari Lekh, above Taksar village, creek bed, sifted, 2100 m, 11.IV.1999, leg. J. Schmidt, 2 exs. (cSch); Manaslu mountains, Dudh Pokhari Lekh, upper Phulinagiri Madi, 2500 m, 19.–21.IV.2003, leg. J. Schmidt, 3 exs. (NME, cSch); Manaslu mountains, Dudh Pokhari Lekh, below Helam Pokhari, 2000 m,

22.IV.2003, leg. J. Schmidt, 3 exs. (NME, cSch); Manaslu mountains, Dudh Pokhari Lekh, upper Dardi Khola valley, 2600–2300 m, 15.–17.IV.2003, leg. J. Schmidt, 1 ex. (NME); Manaslu mountains, S of Bara Pokhari, 2300 m, 8.IV.2003, leg. J. Schmidt, 6 exs. (NME, cSch).

Remarks. Distributed in West and Central Nepal (Fig. 42).

Key to the *Ischnosoma* species of Nepal

1 Anterior margin of pronotum without carina; exceptionally such a carina may be present only in lateral portions of anterior margin; best seen with opposite light reflection. *Ischnosoma convexum* species-group. 2

- Anterior margin of pronotum with carina along all its length. Male sternite VIII with conspicuously modified palisade and beard-like setae. *Ischnosoma pictum* species group. 6

2 Pronotum distinctly bicoloured, anterior part with dark spot, posterior two-thirds rufotestaceous; head and elytra dark-brown to piceous, humeral spot and posterior margin of elytra rufotestaceous; abdomen rufotestaceous with darker transverse bands on tergites VI and VII. Abdomen from segment III strongly tapering towards apex. Dark setae on apical margin of male sternite VII more numerous (more than 4 on either side), close to the margin, inwards approaching the sternite margin and reaching the middle (Fig. 28). Internal sac of aedeagus basally with two groups of 3–4 oblong finger-like sclerites. . . . . *quadriguttatum quadriguttatum* (Champion)

- Pronotum uniformly rufotestaceous; elytra dark with paler apical margin. Abdomen parallel-sided or only slightly tapering towards apex from segment V. Dark setae on apical margin of male sternite VII less numerous (no more than four on either side), distinctly separated and distant from margin, not reaching the middle of apical margin of sternite (Figs 12, 15, 29, 30). Internal sac of aedeagus different. 3

3 Smaller species, body length 3 mm. Discal row of punctures on elytra only with three punctures. Internal sac of aedeagus basally with two long and several smaller sclerites (Fig. 17). . . . . *hirthei* **sp.n.**

- Larger species, body length 4–5 mm. Discal row of elytra with more than 5 punctures. Internal structures of aedeagus different. 4

4 Posterior part of male sternite VIII without dark, long, and thick setae, only with shorter setae (Fig. 31), median area without dark modified setae. . . . . *travei* (Coiffait)

- Posterior part of male sternite VIII with dark long and thick setae (Figs 13, 16), median area with several dark and thicker modified setae. 5

5 Median area of male sternite VIII with cluster of denser and shorter pale setae. . . . . *gratiosum* (Cameron)

- Median area of male sternite VIII without cluster of denser and shorter pale setae, only with sparse and long pubescence (Fig. 13) . . . . . *bhojpur* **sp. n.**

6 Abdomen from segment III strongly tapering towards apex. Elytra at suture distinctly longer than pronotum, wider than pronotum. Macropterous and more colourful species with darker head and dark spot on elytra. Tergite VII with palisade fringe . . . 7

- Abdomen parallel-sided or only slightly tapering towards apex from segment V. Elytra at suture as long as pronotum or shorter, as wide as pronotum. Brachypterous or apterous, uniformly rufotestaceous to rufobrunneous species. Tergite VII without palisade fringe. 12

7 Elytra with two irregular discal rows of punctures. Head of male with large protuberant eyes. . . . . *duplicatum* (Sharp)

- Elytra with one discal row of punctures. Shape of head without conspicuous sexual dimorphism, eyes similar in male and female 8

8 Body conspicuously bicoloured: head, anterior part of pronotum, a characteristic saddle-like spot on elytra, and anterior parts of tergites brunneous. Clusters of modified palisade and beard-like setae on male sternite VIII large and long, arranged in about eight rows of palisade setae (Fig. 35). . . . . *fasciatocolle* (Champion)

- Body either generally darker with dark pronotum and elytra, or less conspicuously bicoloured. Clusters of modified palisade and beard-like setae on male sternite VIII smaller, arranged in five rows of palisade setae at most. 9

9 Clusters of modified palisade and beard-like setae on male sternite VIII arranged in only one row of setae. 10

- Clusters of modified palisade and beard-like setae on male sternite VIII arranged in 3–5 rows of palisade setae. 11

10 Palisade setae on male sternite VIII arranged in one row along apical margin of sternite and forming two characteristic triangular patterns. Apical margin of male sternite VIII narrowly concave, median area of this sternite with sparse pubescence (Fig. 19). Median area of male sternite VII in posterior part with large area without pubescence (Fig. 18). . . . . *schmidti* **sp.n.**

- Palisade setae on male sternite VIII arranged in two isolated groups at the apical margin. Apical margin of male sternite VIII deeply concave, median area of this sternite in posterior part with field without pubescence delimited by bow-like suture (Fig. 39), with cluster of very short setae in median portion. Median area of male sternite VII very sparsely punctate. . . . . *thamar* Kocian

11 Clusters of modified palisade and beard-like setae on male sternite VIII small, arranged in only three rows of palisade setae (Fig. 32), pubescence in median area long and sparse. . . . . *iob* Kocian

- Clusters of modified palisade and beard-like setae on male sternite VIII larger, arranged in four rows of palisade setae, pubescence in median area forming a larger cluster of modified, shorter, thicker, and dense setae (Fig. 38). . . . . *ephraim* Kocian

12 Apical margin of male sternite VIII very broadly concave. Clusters of modified palisade and beard-like setae conspicuously separated from each other (Fig. 36). Shape of large sclerites of internal sac of aedeagus in lateral view as in Fig. 27. . . . . *nepalense* (Scheerpeltz)

- Apical margin of male sternite VIII more shallowly and narrowly concave. Clusters of modified palisade and beard-like setae close to each other (Figs 33, 34, 37). 13

13 Clusters of modified palisade and beard-like setae on male sternite VIII larger, nearly as long as half of median length of sternite (Fig. 37). Shapes of large internal sclerites of aedeagus in lateral view as in Fig. 26. . . . . *nepalicum* (Coiffait)

- Clusters of modified palisade and beard-like setae on male sternite VIII smaller, much shorter than half of the length of sternite in the middle. 14

14 Smaller species, 3.41–4.8 mm, paramere only 0.24 mm long. Male sternite VIII in posterior part of median area with cluster of short, pointed, thickened, and dense setae (Figs 22, 33). Shapes of large internal sclerites of aedeagus in lateral view as in Figs 23, 25. . . . . *jumla* **sp. n.**

- Larger species, 5 mm, paramere 0.29–0.30 mm long. Male sternite VIII in posterior part of median area with cluster of longer, thinner, and sparser setae as in Fig. 34. . . . . *jaljalense* (Coiffait)

TABLE 1. Catalogue of the *Ischnosoma* species of Nepal**.**

Species	Distribution in Nepal	Altitudes	Distribution outside Nepal
bhojpur **sp. n.**	Bhojpur, Panchthar	2700–3000 m	–
duplicatum (Sharp, 1888)	Kathmandu, Sankhuwasabha, Taplejung, Koshi Zone	2000–2500 m	China, India, Japan, Taiwan, Thailand
ephraim Kocian, 2003	Sankhuwasabha, Solukhumbu, Syangja	2000–2400 m	India (Meghalaya)
fasciatocolle (Champion, 1922)	Kathmandu, Lalitpur, Manang, Mustang, Okhaldhunga, Panchthar, Bagmati Zone, Koshi Zone	1680–3300 m	India (Uttarakhand)
gratiosum (Cameron, 1932)	Ilam	2100–2200 m	India (Darjeeling)
hirthei **sp. n.**	Kaski	800–900 m	–
iob Kocian, 2003	Sankhuwasabha	2200 m	–
jaljalense (Coiffait, 1983)	Gorkha, Manang, Sankhuwasabha, Solukhumbu, Taplejung	2300–3300 m	–
jumla **sp. n.**	Bajura, Gorkha, Humla, Jumla, Mugu	3000–4300 m	–
nepalense (Scheerpeltz, 1976)	Dolakha, Kaski, Jumla, Solukhumbu	2000–4800 m	India (Kashmir)
nepalicum (Coiffait, 1982)	Baglung, Dolpa, Jumla, Kaski, Kathmandu, Lamjung, Mustang, Parbat	2100–4100 m	–
quadriguttatum quadriguttatum (Champion, 1923)	Baglung, Bhojpur, Dailekh, Dolakha, Dolpa, Gorkha, Ilam, Kaski, Lalitpur, Lamjung, Manang, Panchthar, Parbat, Rasuwa, Sankhuwasabha, Sindhupalchok, Solukhumbu, Surkhet, Syangja, Taplejung	365–3350 m	Burma, China, Hong–Kong, India, Indonesia (Borneo, Java, Sumatra), Pakistan, Taiwan, Thailand
schmidti **sp. n.**	Gandaki Zone	2000–2300 m	–
thamar Kocian, 2003	Ilam, Panchthar, Sankhuwasabha, Syangja, Taplejung	1750–2700 m	–
travei (Coiffait, 1982)	Baglung, Dolpa, Kaski, Kathmandu, Makwanpur, Mustang, Myagdi, Syangja	1500–3500 m	–

General zoogeographical conclusions on *Ischnosoma* species of Nepal

The *Ischnosoma* fauna of Nepal is still only superficially known. Collecting *Ischnosoma* material in Nepal has had a short history. When Champion (1922, 1923) and Cameron (1926, 1932) described the first species now assigned to *Ischnosoma* from the Himalaya, no material from Nepal was accessible. The first specimens known to be collected in Nepal are few specimens collected in the 50s and 60s of the twentieth century (Kocian 2003). Field work in Nepal has increased from the middle of the 70th. Including the material published in previous papers (Coiffait 1981, 1982, 1983, Scheerpeltz 1976, Kocian 2003), more than 1300 specimens are currently known from

Nepal. The distribution of localities (see Fig. 1) extends across the whole country, but the majority of specimens was collected in the Kathmandu region and along the most frequently used hiking trails. Hardly any material was collected in the Siwaliks mountains and the Mahabharata range in the southern parts of the country.
Fifteen species of *Ischnosoma* are known to occur in Nepal, nine of them are known exclusively from this country. Most of the species are distributed across all the major regions of Nepal, only four of them have more limited distributions (*Ischnosoma hirtei* sp. n, *I. jumla* sp. n., and *I. schmidti* sp. n. in West, *I. job* Kocian in East Nepal).

Revisions of other staphylinid genera from the Himalayan region have shown a strong relation of the Nepalese fauna with the fauna of the East Palaearctic, especially with the fauna of southern China (Assing 2012, 2014). There is no doubt that this is also true for *Ischnosoma* and that the Himalaya was colonized from the east. The diversity of species is fading out towards the west, only five species are known from the Himalaya west of Nepal. No affiliations to the West Palaearctic or Central Asia are known. In some other tachyporine genera, by constrast, Holo-Mediterranean species of a very expansive type (e.g., *Tachyporus nitidulus* (Fabricius) and *T. hypnorum* (Fabricius)) reach West Nepal. Within Nepal, a decrease of the diversity of *Ischnosoma* species towards the west was not observed. Eleven species have been recorded from West Nepal, six from Central Nepal, and ten from East Nepal.

Additional information regarding the circumstances of collecting is available only for a small fraction of the examined material. According to the information given on the labels and second author's experiences in collecting *Ischnosoma* in mountainous areas in southern China, most of the species occur in forested or at least formerly forested habitats. Some species are distributed across a wide range of altitudes; in four of them the vertical range exceeds 2000 m (Table 1). In some species the upper end of the range extends to subalpine or alpine habitats at more than 4000 m. *Ischnosoma nepalense* was even recorded at an elevation of 4800 m.

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