Abstract: A preliminary checklist of the species of the Harpalini subtribe Stenolophina occurring in Pakistan is presented. It comprises notes on the general occurrence and the distribution within Pakistan for most of the 20 taxa included in the checklist. First or additional distribution data are provided for: Acupalpus (Stenolophidius) maculipennis JAEGER, 2013 (additional records for Sindh province); Anthracus anichtchenkoi JAEGER, 2015 and A. vanharteni JAEGER & FELIX, 2009 (first records for Pakistan); Idiomelas (Egadroma) fulvipes himalayensis DELLA BEFFA, 1931 (first records for Sindh province); Loxoncus schmidtii KATAEV, 2003 (additional records for Sindh province); Stenolophus (Egadroma) bajaurae ANDREWES, 1924 (first records for Sindh province); Stenolophus (Egadroma) quinquepustulatus (WIEDEMANN, 1823) (first detailed records for Pakistan). For A. vanharteni JAEGER & FELIX, 2009 new data on character variation are provided.

Keywords: Carabidae, Harpalini, Stenolophina, checklist, new records, Asia, Middle East, Pakistan.

Introduction

Zoogeographically Pakistan is one of the most interesting Asian countries. On the one hand, it has a large variety of different ecosystems scattered between the coast of the Arabian Sea in the south and the high mountains ranges of Hindukush, Karakorum and western Himalaya in the north, and comprising marshes, plains and flood plains, deserts and semi-deserts, different types of forests, sub-alpine scrubs, alpine meadows, as well as permanent snowfields. On the other hand, the country represents a transitional zone between the Palaearctic and the Oriental biogeographical region. While Palaearctic faunal elements dominate in the uplands the Himalayan, Karakorum and Hindukush mountains ranges in the north and in the Suleiman range in the western part of the country, Oriental faunal elements occur mainly in the eastern part of Pakistan, along or east of the Indus valley. Additionally, a few Afrotropical faunal elements occur in the southwestern and southern parts of Pakistan. Although Pakistan has this interesting faunal composition, the fauna of many groups of invertebrates including Coleoptera remain poorly understood until recently past.

Early records of species of the subtribe Stenolophina date back to the first half of the twentieth century, when ANDREWES (1924, 1930) described and recorded Stenolophus bajaurae from Kashmir, and DELLA BEFFA (1931) described Idiomelas himalayensis from Hispar. Later, JEDLICKA (1963) reported Stenolophus quinquepustulatus WIEDEMANN...
from Pakistan. A more comprehensive list of Stenolophina species was only provided in 1992, when Hashmi & Tashfeen published the "Coleoptera of Pakistan" which represented an inventory of species, which were mostly identified by the "British Museum" and deposited in various Pakistani institutions. Hashmi & Tashfeen (1992) listed in this contribution seven species of the subtribe for Pakistan, including three species of the genus Anoplogenius (junior synonym of Loxoncus), three species of the genus Egadroma (now considered a subgenus of Stenolophus), and one of the genus Egaploa (now considered a subgenus of Idiomelas). In the first edition of the Catalogue of Palaearctic Coleoptera, which comprises all species described before January 1, 2000, Jaeger & Kataev (2003), who did not consider the contribution of Hashmi & Tashfeen (1992), listed one species of the genus Hemiaulax (now placed in genus Idiomelas) and three species of the genus Stenolophus for Pakistan, comprising three taxa, which were already recorded by former authors (e.g. Andrewes 1930; De/la Be/ff 1931; Jedlička 1963; Hashmi & Tashfeen 1992) and additionally St. abdominis ssp. persicus Mannerheim, 1844. As a consequence of these contributions, eight species of the subtribe were known from Pakistan until the end of 1999.

However, due to their occurrence in the neighbouring countries of Afghanistan, Iran, China and India it was expected that other species and genera of the subtribe should also occur in Pakistan. Therefore, it is not surprising that several other species became known from Pakistan in the intervening years. Since 2000 three species of genus Acupalpus (Jaeger 2011, 2013), one of the genus Idiomelas (Wrase 2009), one of the genus Psychristus (Jaeger 2009), three of the genus Stenolophus (Ito 2000; Kataev & Wrase 2013; Jaeger et al. 2016), one of the genus Loxoncus (Jaeger et al. 2016), and one of the genus Dicheirotrichus (Jaeger et al. 2016) were described or have subsequently been recorded from Pakistan.

Recent collections from the Sindh province by one of us comprises two additional species, so that the number of species reported from Pakistan increased from eight recorded until the end of 1999 to twenty known at present.

The following contribution provides a preliminary checklist of the species of the subtribe Stenolophina, including notes on their general distribution, occurrence within Pakistan, and first and additional records.

**Material and Methods**

The examined material is deposited in the following public institutions and private collections:
cANI.............................. Coll. A. Anichtchenko, Daugavpils, Latvia
cJAE.............................. Coll. B. Jaeger, Berlin, Germany.
cZAP.............................. Coll. Z. Ahmed, Karachi, Pakistan

**Results**

*Acupalpus (Acupalpus) maculatus* (Schum, 1860)

_Distribution_: From the Canary Islands in the west, across the Mediterranean
Region, West, Central and East Europe, Transcaucasia, to Middle Asia and north-western India in the east.

**Distribution in Pakistan:** The species has been recorded from several localities in the Kaghan and Swat valleys in the Khyber Pakhtunkhwa province (JAEGER 2011: 769).

*Acupalpus (Acupalpus) parvulus* (STURM, 1825)

**Distribution:** From East and West Siberia in the east, across Middle Asia, Middle East, Transcaucasia, East, North, Central and northern South Europe to the northern portion of the Iberian Peninsula in the west.

**Distribution in Pakistan:** The species has been recorded from Skardu in the Gilgit-Baltistan province in NE Pakistan (JAEGER 2011: 772).

*Acupalpus (Stenolophidius) maculipennis* JAEGER, 2013


**Distribution:** Described from southern India (Tamil Nadu) and southern Pakistan (JAEGER 2013), and recently recorded from north-western India (Rajasthan) (JAEGER et al. 2016).

**Distribution in Pakistan:** JAEGER (2013: 310) already reported the species from the Sindh province (Sukkur). Here further records for this province are provided:

*Anthracus anichtchenkoi* JAEGER, 2015

**Examined material:** Sindh: Noshehroferoze area, at light, 13.V.2014, Z. Ahmed (1♂, 1♀♀ - cZAP, cJAE).

**Distribution:** Recently described from northern India (West Bengal and Uttarakhand) (JAEGER 2015), but occurs also in southern India (Tamil Nadu state) (JAEGER 2017) and Pakistan.

**Distribution in Pakistan:** The species is here recorded from Pakistan (Sindh) for the first time.

*Anthracus vanharteni* JAEGER & FELIX, 2009


**Distribution:** United Arab Emirates (JAEGER & FELIX 2009), SW Iran (JAEGER 2016) and Pakistan.

**Distribution in Pakistan:** *A. vanharteni* is here reported from Pakistan (Sindh) for the first time.

Notes on variation: Until now only one male and one female of the species were known. The examination of 11 additional specimens (four of them severely damaged and represented only by broken body parts) allows to provide some additions to the variation range of some characters given in the original description supplemented by JAEGER.
(2016: 221). Measurements and ratios (based on 4 males and 6 females) show the following variation: Body length: 3.8-4.2, body width: 1.4-1.5 mm. Width of head/width of pronotum: 0.87-0.89, width of head/width of head between eyes: 1.81-1.97, width of pronotal base/maximum width of pronotum: 0.76-0.81, width of pronotum/length of pronotum: 1.17-1.23, width of elytra/width of pronotum: 1.33-1.47, length of elytra/length of pronotum: 2.72-2.93, length of elytra/width of elytra: 1.65-1.73.

**Dicheirotrichus (Trichocellus) glasunowi (TschiTSCHÉRINE, 1899)**

**Distribution:** Tadzhikistan, Kyrgyzstan, India (Jammu & Kashmir), Afghanistan (JAEGGER & KATAEV 2003) and Pakistan (JAEGGER et al. 2016).

**Distribution in Pakistan:** Shigar and Nangmah valley in the Gilgit-Baltistan province (JAEGGER et al. 2016: 1281).

**Idiomelas (Egadlopia) fulvipes himalayensis DELLA BEFFA, 1931**


**Distribution:** According to KATAEV (1997, 2013) and JAEGGER et al. (2016) *Idiomelas fulvipes* (ERICHSON, 1843) is widely distributed in the Afrotropical region and in southern Asia, and comprises three subspecies. The nominotypical subspecies is widely distributed in the Afrotropical region (including Cabo Verde Islands, Madagascar and the Seychelles), the Arabian Peninsula (Yemen, Saudi Arabia, the United Arab Emirates, Oman) and in Iraq; the subspecies *I. fulvipes himalayensis* DELLA BEFFA, 1931 occurs east of this area in Pakistan and NW India (New Delhi and Rajasthan); and finally, the ssp. *I. fulvipes indus* KATAEV, 1997 occurs further east in southern and eastern India, Nepal and Myanmar.

**Distribution in Pakistan:** The subspecies *I. fulvipes himalayensis* was originally described from "Hispar" in the Gilgit-Baltistan region and was subsequently recorded by KATAEV (2013: 761) from the Islamabad territory (Islamabad, National Forest Park) and from the Azad Jammu and Kashmir region (env. Naran NW of Junkar). This subspecies is here also recorded from the Sindh province.

**Idiomelas (Idiomelas) morio (MÉNÉTRIÉS, 1832)**

**Distribution:** Azerbaijan, Turkey, Iraq, Iran, Turkmenistan and Tajikistan (JAEGGER & KATAEV 2003), United Arab Emirates (FELIX 2009) and Pakistan (WRASE 2009).

**Distribution in Pakistan:** Quetta in Balochistan (WRASE 2009: 920).

**Loxoncus (Loxoncus) discophorus (CHAUDORR, 1852)**

**Distribution:** Widely distributed in the Oriental region from the Philippines and Taiwan in the east, across Vietnam, Myanmar, Thailand, India and Sri Lanka, to Pakistan in the west (KATAEV 2002b, HASHMI & TASHFEEN 1992).

**Distribution in Pakistan:** HASHMI & TASHFEEN (1992: 136) recorded the species for Pakistan without detailed locality data.
Loxoncus (Loxoncus) rutilans (BATES, 1889)

**Distribution:** Myanmar, Cambodia, Vietnam and NE India (Sikkim) (KATAEV 2002b).

**Distribution in Pakistan:** HASHMI & TASHFEEN (1992: 136) recorded the species for Pakistan, but this record is obviously based on a misidentification.

Loxoncus (Loxoncus) schmidti KATAEV, 2003


**Distribution:** Nepal (KATAEV 2002b; JAEGER et al. 2016), India (Delhi) and Pakistan (JAEGER et al. 2016).

**Distribution in Pakistan:** The species was recorded from Sukkur in the Sindh province (JAEGER et al. 2016: 1284). Here one additional record from this province is provided.

Loxoncus (Xoloncus) microgonus (BATES, 1886)

**Distribution:** Widely distributed in the Oriental region from China, Indonesia and the Philippines in the east, across Vietnam, Malaysia, Thailand, Laos, Myanmar, Nepal, India and Sri Lanka, to Pakistan in the west (KATAEV 2002b, HASHMI & TASHFEEN 1992).

**Distribution in Pakistan:** HASHMI & TASHFEEN (1992: 136) recorded the species for Pakistan without detailed locality data.

Psychristus (Psychristus) brunneus JAEGER, 2009

**Distribution:** Indonesia, Laos, Thailand, India and Pakistan (JAEGER 2009).

**Distribution in Pakistan:** The species was so far known only from the Islamabad region (JAEGER 2009: 1639).

Stenolophus (Egadroma) bajaurae ANDREWES, 1924


**Distribution:** Southern Middle Asia (S Tajikistan, S Uzbekistan and S Turkmenistan), Afghanistan, NW India, Pakistan and Nepal (ANDREWES 1924, 1930; JEDLIČKA 1967; KATAEV 2002a, 2015; WRASE 2005).

**Distribution in Pakistan:** ANDREWES (1924: 95, 1930: 316) described and recorded the species from "Kashmir" without further details, and KATAEV (2002a: 724) more recently from Islamabad. The species is here also reported for the Sindh province.

Stenolophus (Egadroma) nitens (MOTSCHULSKY, 1864)

**Distribution:** Widespread from Indonesia (Java) to Myanmar, S China (Yunnan), N India (Uttarakhand) and Pakistan (KATAEV 2002a; JAEGER & KATAEV 2003; JAEGER et al. 2016).
Distribution in Pakistan: Jäger et al. (2016: 1287) recorded the species from Islamabad.

**Stenolophus (Egadroma) ovchinnikovi Kataev & Wrase, 2013**

**Distribution:** Recently described from India (Uttarakhand, Punjab, Madhya, Pradesh and Goa) and Pakistan.

**Distribution in Pakistan:** Islamabad, and Zhob valley in the Suleiman mts. (Kataev & Wrase 2013: 264)

**Stenolophus (Egadroma) quinquepustulatus (Wiedemann, 1823)**


**Distribution in Pakistan:** Widely distributed in the Oriental region, the south-eastern portion of the Palearctic region and northern parts of the Australian region.

**Distribution in Pakistan:** The species has been already recorded from Pakistan by Jedlička (1963: 9), Hashmi & Tashfeen (1992: 136), and Jäger & Kataev (2003:405) without more detailed data. The species is here reported from southern Pakistan.

**Stenolophus (Egadroma) smaragdulus (Fabricius, 1798)**

**Distribution:** Widely distributed in the Oriental region, the south-eastern portion of the Palearctic region and northern parts of the Australian region.

**Distribution in Pakistan:** Hashmi & Tashfeen (1992: 136) recorded the species for Pakistan without detailed locality data.

**Stenolophus (Stenolophus) abdominalis ssp. persicus Mannerheim, 1844**

**Distribution:** Eastern Mediterranean region, southern East Europe, Transcaucasia, Middle East and Middle Asia.

**Distribution in Pakistan:** It has been recorded for Pakistan (country record) in the first edition of the Palaearctic catalogue (Jäger & Kataev 2003: 405), and recently Jäger et al. (2016: 1285) provided first detailed records from the Islamabad and Gilgit-Baltistan regions.

**Stenolophus (Stenolophus) quadratus N. Ito, 2000**

**Distribution:** The species is so far only known from the type locality (Tathabaya, Kaghan Valley, 20 km NE Balakot) in the Khyber Pakhtunkhwa Province in north-western Pakistan (Ito 2000: 128-129).

**Discussion**

To date 20 species of the Harpalini subtribe Stenolophina have been recorded in Pakistan, including one doubtful record, obviously based on a misidentification. All
these taxa represent widely distributed species or subspecies, a well-known phenomenon for members of the genera *Stenolophus*, *Acupalpus*, *Anthracus*, *Loxoncus*, *Idiomelas* and for species of the *Psychristus* subgenus *Psychristus*. The only species so far only known from Pakistan is *Stenolophus quadratus* ITO. However, this species has fully developed wings and therefore is likely to have a wider distribution in adjacent areas of Pakistan.

The Stenolophina fauna of Pakistan, which comprises Palaearctic and Oriental elements, and additionally few Afrotropical/Arabian elements confirmed the role of Pakistan as a transitional zone between the Palaearctic and Oriental regions. Five species, *Acupalpus maculatus* and *A. parvulus*, *Idiomelas morio*, *Stenolophus abdominalis* and probably also *St. bajaurae* represent Palaearctic faunal elements which occur mainly in the northern or western portion (west of the Indus valley) of Pakistan, whereas *Acupalpus maculipennis* and *A. anichtchenkoi*, *Loxoncus discophorus*, *L. microgonus* and *L. schmidti*, *Psychristus brunneus*, *Stenolophus oechutronkovi*, *St. quinquepustulatus* and *St. smaragdulus* can be regarded members of the Oriental fauna, which occur in the lower or upper Indus valley. *I. fulvipes* and *A. vanharteni* represent probably Afrotropical or Arabian elements reaching Pakistan across the Arabian Peninsula and southern Iran and Iraq.

Though our knowledge on Pakistani Stenolophina has markedly increased in recent years it is far from being complete, and this checklist can be the initial step to our understanding of the Pakistani fauna. It can be expected that other, widely distributed Palaearctic or Oriental species, particularly of the genera *Stenolophus*, *Acupalpus* or *Anthracus* also occur in Pakistan. The distribution of known species within Pakistan is still poorly understood and many species are still known only from one or two localities. Further research, particularly intensive new collections from different parts of the country are necessary and will increase our knowledge in future.

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**Zusammenfassung**

Eine vorläufige Checkliste der Arten der Harpalini subtribus Stenolophina wird für Pakistan vorgelegt. Sie enthält Angaben zur allgemeinen Verbreitung und zur Verbreitung in Pakistan (soweit genaue Daten verfügbar) für die 20 in der Checkliste aufgeführten Arten. Erstnachweise oder weitere Funddaten werden für folgende Arten vorgestellt: *Acupalpus* (Stenolophidae) *maculipennis* JAEGER, 2013 (weitere Nachweise für die Provinz Sindh); *Anthracus anichtchenkoi* JAEGER, 2015 und A. vanharteni JAEGER & FELIX, 2009 (Erstnachweise für Pakistan); *Idiomelas* (Egadroma) *fulvipes* himalavensis DELLA BEFFA, 1931 (erste Nachweise für die Provinz Sindh); *Loxoncus schmidtii* KATAEV, 2003 (weitere Nachweise für die Provinz Sindh); *Stenolophus* (Egadroma) *bajaurae* ANDREWES, 1924 (erste Nachweise für die Provinz Sindh); *Stenolophus* (Egadroma) *quinquepustulatus* (WIEDEMANN, 1823) (erste detaillierte Nachweise für Pakistan). Für A. vanharteni JAEGER & FELIX, 2009 werden neue Daten zur Variationsbreite vorgelegt.
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