

An Annotated Checklist and Select Bibliography of the Hover-flies (Diptera—Syrphidae) of Pakistan, Indian subcontinent

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Abstract. This paper includes an updated checklist of the hover-flies recorded so far in publications from the limits of Pakistan, numbering 84+ species in 42 genera, including four *nomina nuda* of Arif (2001). A further 16 genera and 69+ species have been recorded from adjoining Afghanistan and the Indian administered state of Jammu & Kashmir, making a total of 153+ species of 58 genera listed in this paper. Annotations on taxonomy of the included species, by the first author, are incorporated. A presumably complete bibliography of literature pertaining to Pakistani Syrphidae is also provided.

Introduction

Almost exactly 150 years have gone by since Enrico Brunetti (1862-1927) was born. He wrote the FAUNA OF BRITISH INDIA volume on the Syrphidae in 1923 (which was also inclusive of Pipunculidae, Conopidae and Oestridae) and which is still the prime reference on the hover-flies known from the Indian subcontinent, which then numbered 245 species in 51 genera. Knutson *et al.* (1975) updated the nomenclature and compiled a Catalog of Oriental Syrphidae, which increased Indian subregion species to 312 species, in 71 genera. Thompson & Ghorpadé (1992) reviewed the Oriental Paragini and Ghorpadé (1994) gave diagnostic keys to all genera of Indian subcontinent Syrphini, naming and describing 40 more new species and also erecting 2 new genera. An updated Conspectus of Oriental–Papuan Syrphidae is currently in preparation by Ghorpadé, Mengual & Thompson (in prep.).

Pakistan is little known for the syrphid diversity that inhabits its territory, which is dominantly Palaearctic and Afrotropical, rather than strictly tropical Oriental, as is the rest of the Indian subcontinent, except for the higher reaches of the Himalayan mountains that are strongly Palaearctic cold temperate. Brunetti (1923) did include material from current Pakistan then, formed later by partition of British India (in August 1947) which empire ('Raj') he had inhabited then for almost two decades (1904-1921; *cf* Prashad, 1927; Senior-White, 1927). But, compared to other parts of the 'Empire' little is recorded of Pakistan hover-fly fauna after bifurcation from present India. In the following list, we include 42 genera and 84+ species of Syrphidae that have so far been collected and reported from the confines of Pakistan, giving States (and localities), synonymy, and other citations on each taxon published from Pakistan, besides also those known from Indian administered north-western states of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Delhi, Rajasthan and Gujarat, and also from Afghanistan (with relevant references). These make up a total of 154+ species of 58 genera listed in this paper. Four "new species" in the thesis of Arif (2001): *Callicera sarhadi*, *C. peshawarensis*, *Platycheirus maculatus* and *Xylota swatensis* are treated here as *nomina nuda* and so are unavailable names since they were not formally described and published. We also indicate misidentifications where obvious, these needing to be confirmed by specialist determinations, based on voucher specimens, if and where available. A forthcoming publication on Syrphidae of the North-West Frontier (Ghorpadé, in prep.) could be consulted for further references and more detailed information on these and several other species that could also be flying in Pakistan. This country needs to be surveyed and sampled more rigorously for confirmation, or otherwise, of recorded species, and for other little investigated new or first record species of Syrphidae here. The identities of each species also need to be

confirmed (or otherwise) based on study of voucher specimens available of old published records. We give a bibliography here which probably cites most papers and notes published so far on Pakistani Syrphidae. For good information on Pakistan and its biogeography and habitats, Meinertzhagen (1928), Mani (1974), Rau (1974), Stewart (1982) and Roberts (1991) may be consulted.

The States of Pakistan mentioned in the geographical ranges for species listed below are : 1) Sindh (including Khairpur), 2) Baluchistan, 3) Punjab (including Bahawalpur), and 4) Khyber Pakhtunkhwa (erstwhile Northwest Frontier Province, NWFP) and Gilgit-Baltistan (in erstwhile Kashmir Princely State in the then British India, now under the administration of Pakistan, or termed 'Azad Kashmir'). These northern 'Federally Administered Tribal Areas' include Parachinar, Ghizer, Gilgit, Diamer, Skardu and Ghangche. The species recorded from the Indian administered Jammu & Kashmir State could also occur in Pakistan administered Kashmir *viz.* in Gilgit and Baltistan ('Little Tibet,' Chilas, Wazarat) and on most of the Karakoram Range west of the Ladakh Range, and on the Zaskar Mountains which latter lie in Indian administered Kashmir. A thorough survey of Pakistani Kashmir and sampling (also trapping) of hover-flies there could result in many more species being found, both named ones and those currently unknown to Science.

One of us (KG) recognizes the following biogeographical sub-areas within the territory of Pakistan — 1) The Indus (or Sindh) Plain, littoral lowlands on either side of the River Indus in most of Sindh and all of Khairpur, 2) Thar Desert, arid land in the south-eastern one-third of Bahawalpur, 3) Baloch Highlands, high mountains of 1500-3578m, in most of Balochistan (Baluchistan) and the southern one-half of Khyber Pakhtunkhwa (NWFP), 4) Makran (or Mekran) Coast, a small littoral area washed by the Arabian Sea, from sea level to 150 or 500m, located below the Talar Range, in southernmost Balochistan, 5) Punjab Doab, essentially a floodplain drained by five major rivers bounded on the west by the Indus and on the east by the Sutlej with the Jhelum, Chenab and Ravi in between them, and the Salt Range between the Indus and Jhelum with a 1242m peak, situated in less than one-half of the northern Punjab, 6) Western Himalaya, the almost extreme western edge of these high mountains with a peak of 3278m overlooking the Swat River, in the northern portion of Khyber Pakhtunkhwa (NWFP), extending from the hill station of Murree on the Punjab border west to the Afghan border and the southern part of Pakistan administered Kashmir, and 7) the Hindu Kush—Karakoram, high mountains of 6000-7000m altitude with a 7690m high peak in northernmost Khyber Pakhtunkhwa (NWFP), Gilgit, Baltistan, Astor and 'Federally Administered Tribal Areas.' Mt K2 or Godwin-Austen (8611m) here is second only to Mt Everest (8848m), followed by Mt Kanchenjunga (8585m) in Indian Sikkim. See also Roberts (1991: 17-22) for more details on Pakistan and its natural history.

Brunetti (1923) had summarized the research done up to the early 20th Century on the Syrphidae of India and adjacent countries which were then in the British Empire, including what species were known from current Pakistan. This paper attempts to update what further studies have been done on Pakistani Syrphidae in the last 90 years, and the literature we reviewed and found are included in the bibliography given below. Jalal Arif (2001) probably collated and published the only revised checklist of Pakistani Syrphidae (26 gen., 35 spp.) in his thesis submitted as his doctoral dissertation, but that is incomplete, and voucher specimens need to be studied for confirmation of his IDs, or otherwise, as we are now investigating. One of us (AS) has done a review of work done and is also arranging further sampling of Syrphidae from Pakistan; new records and species resulting will be published in future papers. Hence, minimal new data is presented in this checklist and bibliography which focuses on a comprehensive *review* of work published so far on Pakistani hover-flies, presenting current nomenclature and synonymy, after what little was compiled by Knutson *et al.* (1975) in their catalogue of Oriental Syrphidae, following up on Brunetti's (1923) FAUNA volume.

Checklist of the Syrphidae recorded from Pakistan

Subfamily MICRODONTINAE Tribe Microdontini

Metadon annandalei (Brunetti, 1907)

Pakistan; India: HP, UK (Brunetti, 1908, 1915, 1923; Knutson *et al.*, 1975; Kapoor *et al.*, 1979, Reemer & Stähls, 2013).

[NOTE: Reemer & Ståhls (2013) transferred this species to the new genus *Metadon* Reemer. This species name was validated by this name and a figure of dorsal habitus in Brunetti (1907: 380, Pl. XIII, Fig. 10). Brunetti (1908: 91) in the later published text referred to this figure and gave a description of the holotype male from Nepal (Soondrijal) deposited in the ZSI (Calcutta). He wrote "I have much pleasure in naming this handsome species after the Superintendent of the Indian Museum [Nelson Annandale - KG], at whose hands I have received so much assistance and consideration in my study of Oriental Diptera." Then Brunetti (1915: 255) mentioned a female he examined taken at Bhowali in Kumaon (now in Uttarakhand) in July 1912 by A.D. Imms. In the FAUNA volume, Brunetti (1923: 316-317, Pl. VI, Fig. 7, lateral view of head) listed more specimens seen taken at Pusa (Bihar), 18.ix.1908, at Chapra (Bengal), in Simla (Himachal) taken by Nurse in 1898, and on the Khasi Hills (now in Meghalaya), all of these in India. In the Oriental Catalog, Knutson *et al.* (1975: 369) listed *annandalei* also from E. Pakistan (now Bangladesh), which is probably an error (?), besides from the other localities cited above. Kapoor *et al.* (1979: 67) listed this species in their Nepal Syrphidae Checklist and gave "E. Nepal: Sundarikal [sic!]; India; Pakistan; Bangladesh," and maybe cited the latter country only on authority of Knutson *et al.* (1975, *op cit.*) whom they cited and who also gave "E & W Pakistan" for this species' distribution, probably based on actual specimens examined from current Pakistan and Bangladesh. However, no specific locality in Pakistan was mentioned. Aslamkhan *et al.* (1997) erroneously omitted this species in their paper on Pakistani Syrphidae.

One of us (KG) had examined the holotype male in ZSI, Calcutta on his visit there in 1980. He also saw 2♀ from Shillong in the NPC in IARI, New Delhi in 1981, but on his recent visit there in October 2012 only a single female of *Microdon annandalei* Brunetti was found, labeled "Assam, Shillong, 5,000ft, 2 June 1924, Fletcher, D 9063, H. Bhatia det. 1931." The NPC collection data spreadsheet (softcopy) lists another specimen of *M. annandalei* from Shillong, 5,000ft in Assam, collected by Bose on 17 May 1924 and identified by R. N. Mathur (this not found by KG in 2012). In 1974 KG had briefly noted 4 specimens in the FRI, Dehra Dun collection, and in 2012 examined 2♀ there that were labeled "Berenag, 6,000ft, Almora Dt, U.P., 30.vi.1923, R.N. Parker, G.D. Bhasin det." Two other females in the FRI Collection were labeled "Bhowali, 5,700ft, Kumaon, 2.vii.1912, in forest, A.D. Imms, G.D. Bhasin det." KG confirmed this species identification and noted that the Shillong females in IARI, New Delhi had a black mesonotum and scutellum but their abdomens were brown. Note however that Brunetti (1923) had written that the abdomen was 'uniformly brick-red'—K.G.].

***Microdon fulvopubescens* Brunetti, 1923**

Pakistan: Balochistan (Ziarat) (Arif, 2001, Arif *et al.*, 2002 - as "*fulvopubescence*," Reemer & Ståhls, 2013).

[NOTE: Reemer & Ståhls (2013) retained this species in *Microdon* Meigen *s. str.* Brunetti (1923: 313) named and described this as a new species based on a single female specimen taken in Sri Lanka and deposited in the NHM, London. This 13mm long, non-metallic *Microdon* was separated in Brunetti's key (p. 309) using the following diagnostic characters: abdomen much broader than mesonotum, black, short and rounded, with tergum 2 never contracted; scutellum also black with aeneous tinge and each posterior corner with an obvious blunt tooth. Noticeably however, Knutson *et al.* (1975: 370) had listed *fulvopubescens* only from 'Ceylon' (Sri Lanka today). Jalal Arif (2001: 124) curiously included it in his 'Checklist of Syrphidae of Pakistan.' But we have not been able to examine and study Arif's material, and KG believes it must be a misidentification. Arif *et al.* (2002) listed "a single female . . . collected from an ornamental plant" from Ziarat, 18.ix.1998. There is no other publication about this microdontine, and even Keiser (1958) did not mention this species or find it in his survey of Sri Lankan Syrphidae, though he described four other, new *Microdon* species from that island, where *fulvopubescens* is probably endemic.—K.G.]

Subfamily ERISTALINAE Tribe Callicerini

***Callicera peshawarensis* Arif, 2001, nom. nud.**

Pakistan: Khyber Pakhtunkhwa (Peshawar) (Arif, 2001).

[NOTE: Arif (2001) described this as new from Peshawar. This is probably misidentified and needs to be examined for correct identity.—K.G.]

***Callicera sarhadi* Arif, 2001, nom. nud.**

Pakistan: Khyber Pakhtunkhwa (Kalam) (Arif, 2001).

[NOTE: Arif (2001) described this also as new from Kalam. This is also probably misidentified and needs to be examined for correct identity of genus and species.—K.G.]

Tribe Cerioidini

***Ceriana brevis* (Brunetti, 1923)**

Pakistan: Kashmir, 1524m; India: JK (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997).

[NOTE: Aslamkhan *et al.* (1997: 23) listed a record of this species from “Kashmir, at 1524m, iv.1901, coll. Nurse.” Brunetti (1923: 329) mentioned having “seen one ♀ from Kashmir, 5000 ft., iv.1901 (Nurse).”—K.G.]

***Ceriana brunettii* (Shannon, 1927)**

Pakistan: Balochistan (Quetta) (Shannon, 1927; Peck, 1988).

***Ceriana dimidiatipennis* (Brunetti, 1923)**

Pakistan: Khyber Pakhtunkhwa (Abbottabad, Hangu, Swat), Kashmir 1524-1829m, Balochistan (Quetta); India: JK (Brunetti, 1923; Alam *et al.*, 1969; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997; Shehzad, unpubl.).

[NOTE: Alam *et al.* (1969) reared this from stems of *Morus* sp. infested with beetle grubs in “Kashmir.” Aslamkhan *et al.* (1997: 23) lists this species from “Abbottabad, 1256m, vi.1916, coll. Fletcher,” “Hangu, 10.v.1916, coll. Fletcher,” and “Kashmir, 1524-1829m, v.1901, coll. Nurse.” Brunetti (1923: 330) also saw specimens “from Quetta, v & vi.1902, and Kashmir, 5000-6000 ft., v.1901 (both Nurse).”—K.G.]

***Monoceromyia eumenioides* (Saunders, 1842)**

= *Ceria apicata* Brunetti, 1908 of Bigot, *nom. nud.*

Pakistan: Khyber Pakhtunkhwa (Abbottabad, Kohat), Balochistan (Quetta) (Brunetti, 1923; Bhatia 1931; Aslamkhan *et al.*, 1997).

[NOTE: Aslamkhan *et al.* (1997: 23) listed this species from “Quetta, v., vi.1902, coll. Nurse,” “Abbottabad, 1256m, 21.v.1916, coll. Fletcher,” and “Kohat, 7.v.1916, coll. Fletcher.”—K.G.]

***Monoceromyia polistoides* (Brunetti, 1923)**

Pakistan: Khyber Pakhtunkhwa (Dir); India: HP (Brunetti, 1923; Alam *et al.*, 1969; Knutson *et al.*, 1975).

[NOTE: Brunetti (1923: 335) described this based on a single ♀ from Simla (v.1897, Nurse). Alam *et al.* (1969) took it on wing at Dir. Arif's (2001) identification is probably a misidentification and needs to be examined for correct identity.—K.G.]

Tribe Eristalini

***Eoseristalis albibasis* (Bigot, 1880)**

Pakistan (Shehzad, unpubl.); India: HP (Nayar, 1968b).

[NOTE: Brunetti (1923: 169-170) wrote that “This is undoubtedly a valid species, though it bears a considerable resemblance to *himalayensis*, from which it is easily separated by the clear wings, greater depth of epistome below the eyes, and minor characters.” Nayar (1968b: 29) identified as this species a female collected on Jindari Ghat, Dalhousie 6,700ft, 23.ix.1962, Miss N. Sethi” which specimen is probably in ZSI, Calcutta as are all Nayar's types of his other new species, and needs to be examined for correct identity.—K.G.]

***Eoseristalis arbustorum* (Linnaeus, 1758)**

Afghanistan; Pakistan: Kashmir, Balochistan (Quetta, Ziarat); India: JK (Brunetti, 1923; van Doesburg, 1955; Bańkowska, 1968, 1969; Lambeck & van Brink, 1973a; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Peck, 1988; Aslamkhan *et al.*, 1997; Arif, 2001).

[NOTE: Aslamkhan *et al.* (1997: 23) listed this as “*Eristalis arbustorum*” from a specimen taken in “Kashmir, 1915, coll. Pease [*sic!*].”—K.G.]

***Eoseristalis cerealis* (Fabricius, 1805)**

= *Eristalis barbata* Bigot, *Eristalis solitus* Walker

Pakistan: Khyber Pakhtunkhwa (Mansehra); India: HP, JK, UK (Brunetti, 1908, 1915, 1917, 1923; Coe, 1964; Nayar, 1968b; Lambeck & van Brink, 1973a; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Arif, 2001; Shehzad, unpubl.)

***Eoseristalis himalayensis* (Brunetti, 1908)**

= *Eristalis ursinus* Bigot, 1880

Pakistan: Khyber Pakhtunkhwa (Abbottabad, Mansehra); India: HP, JK, UK (Brunetti, 1908, 1917, 1923; Coe, 1964; Nayar, 1968b; Knutson *et al.*, 1975; Arif, 2001).

***Eoseristalis horticola* (De Geer, 1776)**

= *Eristalis basifemoratus* Brunetti, 1923

Pakistan; India ? (Brunetti, 1923; Knutson *et al.*, 1975; Shehzad, unpubl.)

***Eristalinus sepulchralis* (Linnaeus, 1758)**

Afghanistan; Pakistan: Kashmir, Balochistan (Panjgur, Quetta), Khyber Pakhtunkhwa (Peshawar); India: JK (Brunetti, 1923; Bańkowska, 1968; Lambeck & van Brink, 1973a; Aslamkhan *et al.*, 1997; Arif, 2001; Saleem *et al.*, 2001; Arif *et al.*, 2002; Shehzad, unpubl.)

[Note : Only this species is *Eristalinus* Rondani, 1845 (dichoptic males); all other species (also spotted-eyed, but with holoptic males) are better placed in *Lathyrophthalmus* Mik, 1897, *q.v.* Aslamkhan *et al.* (1997: 23) listed this as "*Eristalis sepulchralis*" from "Kashmir." Arif *et al.* (2002) listed specimens from Quetta, 8.iii.1998, and Panjgur, 19.iii.1998, only males being taken from wheat crop fields.—K.G.]

***Eristalis tenax* (Linnaeus, 1758)**

= *Eristalis sinensis* Wiedemann, 1824, *Eristalis ventralis* Thomson, 1869.

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Peshawar, Hazara), Punjab (Faisalabad, Ghora gali, Lahore, Mungawal, Murree, Multan), Balochistan (Sibi, Ziarat); India: HP, JK, PB, UK (Brunetti, 1908, 1915, 1917, 1923; Rahman 1940, 1942; Bańkowska, 1968, 1969; Atwal *et al.*, 1971; Lambeck & van Brink, 1973a; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Peck, 1988; Abrol, 1993; Aslamkhan *et al.*, 1997; Arif, 2001; Saleem *et al.*, 2001; Sajjad & Saeed, 2010; Sajjad *et al.*, 2010; Shehzad, 2011, unpubl.).

[NOTE: Rahman (1942) noted this visiting toria and sarson (*Brassica* spp.) flowers in Lyallpur (now Faisalabad), but as a "spasmodic worker" on them "because 'hovering' over a flower and sitting and cleaning itself are as important to it as feeding." Aslamkhan *et al.* (1997: 25) listed specimen(s) of this species taken in "Gulberg, 17.iv.1995, coll. Aslamkhan," in Lahore. Sajjad & Saeed (2010) gave 8 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of a single plant species in the BZU Campus, Multan.—K.G.]

'*Eristalis*' (*s. lat.*) 3 spp. [undet.]

Pakistan: Punjab (Lahore) (Aslamkhan *et al.*, 1997).

[NOTE: Aslamkhan *et al.* (1997: 25) listed a record of these three species as "*Eristalis* sp. E. in det., sp. F. in det., and sp. G. in det." from "Gulberg, 10.v.1995, 14 & 17.v.1995, coll. Aslamkhan, and from Jallo Park, 1.iv.1996, coll. Safdar," all in Lahore.—K.G.]

***Eristalodes taeniops* (Wiedemann, 1818)**

= *Eristalis torridus* Walker, 1849

Afghanistan; Pakistan: Punjab (Jhang, Khanewal, Multan, Muzafargarh), Balochistan (Pishin, Quetta) (Brunetti, 1923; Rahman, 1940, 1942; Bańkowska, 1968; Knutson *et al.*, 1975; Kapoor *et al.*, 1979; Peck, 1988; Aslamkhan *et al.*, 1997; Arif, 2001; Sajjad & Saeed, 2009, 2010; Sajjad *et al.*, 2010; Shehzad, 2011).

[NOTE: Rahman (1942) noted these flies as less abundant than *E. tenax* on toria and sarson (*Brassica* spp.) at Lyallpur (now Faisalabad) but "equally efficient as pollinating agents." Aslamkhan *et al.* (1997: 23) listed this as "*Eristalis taeniops*" from specimens taken in "Pishin, iv. 1903, coll. Nurse," and from "Quetta, 1903, coll. Nurse." Sajjad & Saeed (2009) listed 4 ex. from Multan, 20.iii.2008. Sajjad & Saeed (2010) gave 9 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting 2 plant species flowers in the BZU Campus, Multan.—K.G.]

***Lathyrophthalmus aeneus* (Scopoli, 1763)**

= *Eristalis taphicus* Wiedemann, 1830, *Eristalis aenescens* Macquart, 1842, *Lathyrophthalmus aeneus* var. *nigrolineatus* Hervé-Bazin, 1923.

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Peshawar), Punjab (Faisalabad, Khanewal, Lahore, Multan, Muzafargarh, Rawalpindi), Balochistan (Panjgur, Quetta, Ziarat), Sindh (Karachi); India: DL, GJ, PB, UK (Hervé-Bazin, 1915, 1923; Brunetti, 1923; Rahman, 1940, 1942; Nayar 1968b; Bańkowska, 1969; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Anand, 1986; Peck, 1988; Aslamkhan *et al.*, 1997; Saleem *et al.*, 2001; Arif, 2001; Arif *et al.*, 2002; Saeed *et al.*, 2008; Sajjad *et al.*, 2008, 2010; Sajjad & Saeed, 2010; Ali *et al.*, 2011).

[NOTE: Rahman (1942) noted it as less abundant than *E. tenax* on toria and sarson (*Brassica* spp.) at Lyallpur (now Faisalabad) but "equally efficient as pollinating agents." Aslamkhan *et al.* (1997: 23-25) listed this as "*Eristalis taphicus*" from specimens taken in "Baluchistan, coll. Cleghorn" and from "Karachi, coll. Cumming." Also specimen(s) of "*Eristalinus taphicus*" from Jallo Park, 30.iv.1996, coll. Safdar," and of "*Eristalis aeneus*" from Nasir Bagh, 4.v.1996, coll. Safdar," in Lahore. Arif *et al.* (2001) listed specimens from Ziarat, 11.iii.1998, and Panjgur, 19.ix.1998, taken from grass under plantations. Saeed *et al.* (2008) and Sajjad *et al.* (2008) noted it pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2009) listed 4 ex. from Multan, 12.iii.2008. Sajjad & Saeed (2010) gave 37 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 40 plant species in the BZU Campus, Multan. Saeed *et al.* (2012) found it pollinating bittergourd (*Momordica charantia*) near Multan.—K.G.]

***Lathyrrophthalmus obscuritarsis* (de Meijere, 1908)**

= *Syrphus quinquelineatus* Fabricius, 1781 ? , *Syrphus megacephalus* Rossi, 1794 ? , *Eristalis laetus* Wiedemann, 1830 ? , *Lathyrrophthalmus ishigakiensis* Shiraki, 1968.

Afghanistan; Pakistan: Punjab (Ghoragali, Khanewal, Lahore, Multan, Mungawal, Murree, Muzafargarh); India: DL, GJ, PB, JK (Brunetti, 1923; Hervé-Bazin, 1923; Rahman, 1940, 1942; Anand *et al.*, 1967; Bańkowska, 1968, 1969; Atwal *et al.*, 1971; Lambeck & van Brink, 1973a; Awtar Singh *et al.*, 1985; Peck, 1988; Aslamkhan *et al.*, 1997; Saeed *et al.*, 2008; Sajjad & Saeed, 2009, 2010; Sajjad *et al.*, 2010; Ali *et al.*, 2011; Saeed *et al.*, 2012; Shehzad, unpubl.).

[NOTE: Rahman (1942) noted it (as *E. quinquelineatus*) less abundant than *E. tenax* on toria and sarson (*Brassica* spp.) at Lyallpur (now Faisalabad) but “equally efficient as pollinating agents.” Aslamkhan *et al.* (1997: 23, 25) listed a record of this species from “Peshawar, 18.iii.1913, coll. Howlett,” and specimen(s) from “Gol Bagh, Lahore Cantt., 1.v.1996.” Saeed *et al.* (2008) noted it (as “*laetus*”) pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2009) listed 5 ex. from Multan, 20.iii.2008 as a new record for Pakistan. Sajjad & Saeed (2010) gave 21 plant species’ flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this (as “*laetus*”) visiting flowers of 28 plant species in the BZU Campus, Multan. Saeed *et al.* (2012) found it pollinating bittergourd (*Momordica charantia*) near Multan.

Dr Chris Thompson (*in litt.*, unpubl. data) considers *obscuritarsis* de Meijere and *laetus* Wiedemann as synonyms of *megacephalus* Rossi, a southern European and northern African eristaline, also recorded recently from Iran. However, Peck (1988: 183) treats the latter two as distinct Palaearctic species. The former is an Oriental species and kept distinct by Brunetti who wrote (1923:188) “*Syrphus megacephalus*, Rossi, is evidently synonymous with *E.[ristalis] quinquestratus* and was described in the same year. I have accepted the latter name, as Dr. de Meijere has adopted it.” In fact, Hervé-Bazin (1926: 85) treats *obscuritarsis* as a synonym of *quinquelineatus* Fabricius, 1781 which is not even mentioned by Thompson (unpubl., *op. cit.*)! Earlier, Hervé-Bazin (1923) had revised the Oriental *Lathyrrophthalmus* species (13 spp.), and illustrated each, where he expanded on the synonymy of *quinquelineatus*, including *megacephalus* Rossi, 1794 (This is an *Eristalodes*, *vide* Curran, 1939: 7, *q.v.*!), *fasciatus* Meigen, 1835, *quinquevittatus* Macquart, 1849, var. *tabanoides* Jaennicke, 1869, and two names I have not been able to find – *quinquefasciatus* Schiner and *ridens* Walker. Knutson *et al.* (1975: 349) then synonymised *Lathyrrophthalmus* Mik, 1897 under *Eristalinus* Rondani, 1845 and included *quinquelineatus* (Fabricius) in the Oriental Catalogue but noted it was “Not Oriental,” meaning only Afrotropical? Bezzi (1915: 84) stated *quinquelineatus* being “common and widely spread” in Africa and *tabanoides* “Perhaps only a variety of” *quinquelineatus*.

I believe more taxonomy needs to be done to solve this confusion and arrive at a correct interpretation of all these names. But I have retained *obscuritarsis* as the valid name here as adopted by Brunetti (1923: 190-192, see detailed discussion on p.191) until a revision of Oriental *Lathyrrophthalmus* is done.—K.G.]

***Lathyrrophthalmus arvorum* (Fabricius, 1787)**

= *Syrphus quadrilineatus* Fabricius, 1787, *Musca tranquebarica* Gmelin, 1790, *Eristalis fulvipes* Macquart, 1846, *Eristalis anticetus* Walker, 1849, *Eristalis antidotus* Walker, 1849, *Eristalomyia fo* Bigot, 1880, *Eristalomyia eunotata* Bigot, 1891, *Lathyrrophthalmus okinawaensis* Matsumura, 1916.

Pakistan: Punjab (Ghora gali, Khanewal, Lahore, Mungawal, Multan, Muzafargarh), Sindh (Karachi); India: PB (Brunetti, 1917; Hervé-Bazin, 1923; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Aslamkhan *et al.*, 1997; Saeed *et al.*, 2008; Sajjad & Saeed, 2010; Sajjad *et al.*, 2010; Ali *et al.*, 2011; Shehzad, unpubl.).

[NOTE: Aslamkhan *et al.* (1997: 24) listed specimens of “*Eristalinus arvorum*” from “Gulberg, 12-16.iv.1995, coll. Aslamkhan, from Govt. College, 18 & 20.iv.1996, coll. Safdar, and from Bagh-e-Jinnah, 25.iv.1996, coll. Safdar,; all in Lahore. Saeed *et al.* (2008) noted it pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2009) listed 3 ex. from Multan, 12.iii.2008 as a new record for Pakistan. Sajjad & Saeed (2010) gave flowers of 11 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 7 plant species in the BZU Campus, Multan.—K.G.]

***Lathyrrophthalmus quadristriatus* (Macquart, 1846)**

Pakistan: Punjab (Khanewal, Multan, Muzafargarh) (Saeed *et al.*, 2008; Sajjad & Saeed, 2010).

[NOTE: Saeed *et al.* (2008) noted it pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2010) gave 8 plant species’ flowers visited by this syrphid in the southern Punjab. This species was described from “Inde” by Macquart (in Bigot’s Collection), with no specific locality mentioned. Brunetti (1925: 76-77) reproduced Macquart’s original description and commented: “It must be rather closely allied to *arvorum* but differences in the frons, abdominal markings and the colour of the femora may make it distinct.” Sajjad & Saeed’s record from Multan in the Pakistan Punjab could be a misidentification.—K.G.]

***Lathyrrophthalmus tabanoides* (Jaennicke, 1867)**

Pakistan: Balochistan (Quetta); India: DL (Brunetti, 1923; Anand *et al.*, 1967; Anand, 1986; Aslamkhan *et al.*, 1997).

[NOTE: This species was described from Quetta (Balochistan, 2 ♀♀) and from various localities in Africa. Bezzi (1915) felt it could be *quinquestratus* Fabricius and which latter species Brunetti (1923: 188) wrote “*Syrphus megacephalus*, Rossi, is evidently synonymous with *E. quinquestratus*.” Aslamkhan *et al.*

(1997: 23) listed this as "*Eristalis tabanoides*" from two specimens taken in "Quetta, vi. 1902, coll. Nurse."—K.G.]

Mallota rufipes Brunetti, 1913

Pakistan: Khyber Pakhtunkhwa (Dera Ismail Khan) (Arif, 2001).

Mesembrius bengalensis (Wiedemann, 1819)

= *Eumerosyrphus indianus* Bigot, 1882, *Eumerosyrphus indicus* Bigot, 1883, *Helophilus pilipes* Doleschall.

Pakistan: Punjab (Khanewal, Multan, Muzafargarh); India: GJ, PB (Brunetti 1923; Awtar Singh *et al.* 1985; Saeed *et al.*, 2008; Sajjad & Saeed, 2010; Sajjad *et al.*, 2008, 2010).

[NOTE: Saeed *et al.* (2008) and Sajjad *et al.* (2008) noted it (as "*Helophilus* sp.") pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2010) gave 5 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 3 plant species in the BZU Campus, Multan.—K.G.]

Pararctophila oberthueri Hervé-Bazin, 1914

= *Arctophila simplicipes* Brunetti, 1915

Pakistan: Khyber Pakhtunkhwa (Madian); India: JK, UK (Brunetti, 1915, 1923; Knutson *et al.*, 1975; Arif, 2001; Ghorpadé, unpubl.).

[NOTE: Arif (2001) listed this from Madian. I collected one specimen coming to a trickle of water to drink (!) in Indian Kashmir.—K.G.]

Pseudovolucella eristoloides (Brunetti, 1913)

Pakistan: Khyber Pakhtunkhwa (Peshawar) (Arif, 2001).

[NOTE : Brunetti (1913, 1923) described this as a *Sericomyia* from Arunachal Pradesh in NE. India. Therefore, this far west record from NW. Pakistan is suspicious and Arif's determination requires study and confirmation or otherwise. Reemer & Hippa (2008: 92) transferred *eristoloides* to *Pseudovolucella* but treated it as a "species of uncertain status," suggesting also that *mimica* Shiraki (1930), described from Taiwan but known also from Burma, could be a synonym. Also, *Pseudovolucella* "is restricted to mountainous areas in South- and Southeast Asia and the Far Eastern Palaearctic" (Reemer & Hippa, 2008: 78, Fig. 22) so this Pakistan record is questionable.]

Tribe Merodontini

Eumerus aurifrons (Wiedemann, 1824)

= *Eumerus aurifrons* var. *similis* Keiser, 1958

Pakistan: Khyber Pakhtunkhwa (Peshawar); India: JK, PB (Alam *et al.*, 1969; Knutson *et al.*, 1975; Awtar Singh *et al.*, 1985).

[NOTE: Alam *et al.* (1969) found larvae under bark of *Albizia lebbeck* (Fabaceae) at Peshawar. They also listed another "*Eumerus* sp." whose larvae were found on *Phoenix dactylifera* (Arecaceae) infested with hard scales (Coccoidea) at Multan. This latter needs to be examined for correct identity.—K.G.]

Eumerus pulverulentus Brunetti, 1923

Pakistan: Khyber Pakhtunkhwa (Peshawar); India: JK, RJ (Brunetti, 1923; Knutson *et al.*, 1975).

Merodon pruni (Rossi, 1790)

= *Merodon pallidus* Macquart, 1842.

Pakistan: Balochistan (Quetta) (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997; Shehzad, unpubl. data).

[NOTE: Aslamkhan *et al.* (1997: 23) listed this as "*Merodon pallidus*" from specimens taken in "Quetta, vii. 1902 & vi. 1903, coll. Nurse."—K.G.]

Tribe Milesiini

Cheiroxylota dimidiata (Brunetti, 1923)

Pakistan: Khyber Pakhtunkhwa (Hazara, Dunga Galli, 8000 ft) (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997).

[NOTE: This species is placed in the subgenus *Chalcosyrphus* Curran, 1925. The type-locality is spelt "Dungagli" erroneously in Knutson *et al.* (1975: 359). Fletcher, who collected the type female in May 1915 spelt it Dungagali. Aslamkhan *et al.* (1997: 23) gave Dunga Gali, 2377m.—K.G.]

***Criorhina imitator* Brunetti, 1915**

Pakistan; Kashmir; India: JK, UK (Brunetti, 1915, 1923; Mani & Santokh Singh, 1962; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997).

[NOTE: This species is a high altitude, nival fly taken from 8,000-11,000 ft in the high Himalaya of Indian Kashmir and in Garhwal (Uttarakhand). Aslamkhan *et al.* (1997: 23) gave "Kashmir, 2438-2743m" collected by Nurse in June 1901 which is unspecific as to locality – in Pakistan administered Kashmir or in Indian Jammu & Kashmir? Brunetti (1923: 284) also just gave "several of both sexes taken by Col. Nurse in Kashmir, 8000-9000 ft., vi.1901." But Mani & Santokh Singh (1962: 363) who surveyed the nival zones of the North-West Himalaya in independent India, gave "Kashmir, 3050 m." Knutson *et al.* (1975: 363) gave "India [Kashmir, Uttar Pradesh]" as well as mentioned the type-locality as "W Himalaya, Garhwal District, India." So, the Pakistani occurrence needs to be confirmed by actual specimens from a locality in that country.

This species, and others of the genus *Criorhina* (mispelt by Brunetti and some others as '*Criorrhina*') have some interesting records of mimicry. Brunetti (1915: 237) wrote "In connection with this species may be noted an interesting case of mimicry. *C. imitator* itself . . . distinctly resembles the bee *Bombus trifasciatus*, Smith; but the protective resemblance accorded to a large *Echinomyia*-like Tachinid fly (though not belonging to that genus), 20 mm. long, by the similarity of its appearance to that of the bee, is even more striking." Then, in his FAUNA volume (Brunetti, 1923: 284) he goes on "A very handsome species and the largest known in the East. . . A very interesting case of double mimicry appears in connection with this species. *C. imitator* itself resembles several humble-bees [*sic!*] of more or less common occurrence in the Himalayas . . . There is also a close resemblance between *C. imitator* and the Syrphid fly *Lycastris austeni*, sp. nov."—K.G.]

***Criorhina interrupta* Brunetti, 1923**

Pakistan: Khyber Pakhtunkhwa (Bahrain, Hazara, Dunga Galli, 8000 ft) (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997).

[NOTE: See under *Cheiroxylota dimidiata* above. Fletcher, who collected the type male in May 1915, spelt the type-locality Dunga Gali. Aslamkhan *et al.* (1997: 23) gave Dunga Gali, 2377m. Brunetti (1923: 288) wrote "This species bears some resemblance to *C. asilica*, Fall., of Europe." This latter is a widespread Eurasian species (= *Xylota rufipila* Wiedemann).—K.G.]

***Criorhina vivida* Brunetti, 1923**

Pakistan: Kashmir; India: JK (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997)

[NOTE: The type female was taken in Kashmir by Nurse in June 1901, like *imitator* was (*q.v.*). Knutson *et al.* (1975: 360) listed this as in "Kashmir, India" but *imitator*, with the same collection data was interpreted as taken in current Pakistani Kashmir by Aslamkhan *et al.* (1997: 23). This needs to be checked.—K.G.]

***Milesia balteata* Kertész, 1901**

= *Milesia himalayensis* Brunetti, 1908

Pakistan: Balochistan (Makran, Zohb) (Arif, 2001).

[NOTE: This and the following two species are most certainly misidentified and need specimen study for confirmation of correct names.]

***Milesia macularis* Wiedeman, 1824**

= *Milesia simillima* Hull, 1950

Pakistan: Balochistan (Kulachi) (Arif, 2001).

[NOTE: See above note.]

***Milesia semifulva* de Meijere, 1904**

= *Milesia decora* Brunetti, 1923, *Milesia brunnea* Hervé-Bazin, 1923

Pakistan: Balochistan (Lasbella) (Arif, 2001).

[NOTE: See above note.]

***Milesia sexmaculata* Brunetti, 1915**

Pakistan: Khyber Pakhtunkhwa (Peshawar); India: JK (Brunetti, 1915, 1923; Knutson *et al.*, 1975; Arif, 2001; Saleem *et al.*, 2001).

[NOTE: The type male is labeled "Trivandrum, Travancore State" (now in Kerala state in southernmost India) and it was received by the Indian Museum, Calcutta (now Zoological Survey of India) from the Trivandrum Museum (Knutson *et al.*, 1975: 363). Trivandrum must be in error, wrongly assumed from the museum which housed the specimen. This species is a forest fly unlikely to occur in a large urban location like Trivandrum (now Thiruvananthapuram) city. Brunetti (1925: 77) mentioned a female received from T.B. Fletcher apparently taken in "Coimbatore, South India" (in Tamil Nadu now) which, similarly, is apparently also an incorrect locality. I myself have taken several specimens in sholah forest on

the Palni Hills at 2000+m, in Tamil Nadu (unpubl. data). Saleem *et al.*'s (2001: 534) specimen(s) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity.—K.G.]

***Milesia verticalis* Brunetti, 1923**

= *Milesia vesparia* Shiraki, 1930; *Milesia turgidiverticis* Yang & Cheng, 1993.

Pakistan: Khyber Pakhtunkhwa (Peshawar), Balochistan (Lasbella); India: JK (Brunetti, 1915, 1923; Knutson *et al.*, 1975; Arif, 2001; Saleem *et al.*, 2001).

[NOTE: Arif's (2001) and Saleem *et al.*'s (2001: 534) specimen(s) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity.—K.G.]

***Syrirta latitarsata* Macquart, 1842**

Pakistan: Sindh (32km E. Karachi) (Lyneborg & Barkemeyer, 2005).

***Syrirta orientalis* Macquart, 1842**

= ?*Senogaster lutescens* Doleschall, 1856, ?*Syrirta amboinensis* Doleschall, 1858, *Syrirta illucida* Walker, 1859, *Syrirta laticincta* Bigot *vide* Brunetti, 1915 *nom. nud.*

Pakistan: Punjab (Lahore); India: DL, PB, UK (Brunetti 1908, 1915; Anand *et al.*, 1967; Alam *et al.*, 1969; Anand, 1986; Sodhi & Awtar Singh, 1991; Aslamkhan *et al.* 1997; Shehzad, unpubl.).

[NOTE: Aslamkhan *et al.* (1997: 25) listed specimen(s) of this species taken in "Bagh-e-Jinnah, 2.v.1996, coll. Safdar," in Lahore.—K.G.]

***Syrirta pipiens* (Linnaeus, 1758)**

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Hangu), Punjab (Khanewal, Multan, Murree, Muzafargarh); India: HP, JK, PB, UK (Brunetti, 1908, 1923; Bańkowska, 1968, 1969; Alam *et al.*, 1969; Lambeck & van Brink, 1973; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Peck, 1988; Lyneborg & Barkemeyer, 2005 (as "Maugu" = Hangu); Sajjad & Saeed, 2010; Sajjad *et al.*, 2010; Shehzad, unpubl.; Ghorpadé, unpubl.).

[NOTE: Alam *et al.* (1969) found larvae in rotten bulbs of onion, *Allium cepa* at Murree. Sajjad & Saeed (2010) gave 4 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of two plant species in the BZU Campus, Multan. This was a 'lumped' species earlier (all old records are suspect), separated into several distinct species by Lyneborg & Barkemeyer (2005).—K.G.]

***Syrirta vittata* Portschinsky, 1875**

Pakistan: Balochistan (Sariab, 15km S. Quetta) (Lyneborg & Barkemeyer, 2005).

***Temnostoma nigrimanus* Brunetti, 1915**

Pakistan: Balochistan (Panjgur); India: UK (Brunetti, 1915, 1923; Knutson *et al.*, 1975; Arif, 2001).

***Xylota dimidiata* Brunetti, 1923**

Pakistan: Khyber Pakhtunkhwa (Hazara, Dunga Galli, 2377m or 8000 ft) (Brunetti, 1923; Knutson *et al.*, 1975; Aslamkhan *et al.*, 1997).

[NOTE: Aslamkhan *et al.* (1997: 23) listed a record of this species from "Dunga Gali, 2377m, 21-24.v.1915, coll. Fletcher."—K.G.]

***Xylota nursei* Brunetti, 1923**

Pakistan: Khyber Pakhtunkhwa (Peshawar); India: HP (Brunetti, 1923; Knutson *et al.*, 1975; Hippa, 1978; Arif, 2001; Saleem *et al.*, 2001; Saeed *et al.*, 2010).

Xylota swatensis* Arif, 2001, *nom. nud.

Pakistan: Khyber Pakhtunkhwa (Swat, Kabbal) (Arif, 2001).

Subfamily SYRPHINAE

Tribe Bacchini

***Melanostoma orientale* (Wiedemann), 1824**

= *Melanostoma orientale* 'form' *melanoides* Lambeck & Kiauta, 1973

Pakistan: Khyber Pakhtunkhwa (Peshawar), Punjab (Khanewal, Lahore, Multan, Muzafargarh); India: HP, JK, PB, UK (Brunetti 1913, 1915, 1917, 1923; Lambeck & van Brink

1973a; Mathur 1983; Datta & Chakraborti 1984; Awtar Singh *et al.*, 1985; Aslamkhan *et al.*, 1997; Shehzad, unpubl.).

[NOTE: Aslamkhan *et al.* (1997: 23) listed a record of this species from “Peshawar, v.1916, coll. Fletcher,” and mentioned specimens taken from “Gulberg, 7-17.iv.1995, coll. Aslamkhan, and Govt. College, 9 & 30.iv.1996, coll. Safdar,” both from Lahore. Sajjad & Saeed (2010) gave 12 plant species visited by this syrphid (as “*Melanostoma* sp.”) in the southern Punjab. Sajjad *et al.* (2010) noted this unidentified species visiting flowers of 9 plant species in the BZU Campus, Multan.—K.G.]

***Platycheirus albimanus* (Fabricius, 1781)**

= *Melanostoma 'dubium'*: Brunetti, 1915

Pakistan: Khyber Pakhtunkhwa (Peshawar); India: HP, JK (Brunetti 1908, 1915, 1917, 1923; Lambeck & van Brink 1973a; Knutson *et al.*, 1975; Saleem *et al.*, 2001: as “*Platycheirus albimonus* Fabricius”; misidentified?).

[NOTE: Brunetti (1915: 207) wrote: “the specimen referred by me to *dubium* proves on a closer examination to be only a melanoid *Platycheirus* [*sic*!] *albimanus*, F. There is the less excuse for this error, seeing that I knew this species to occur in the Himalayas.” And Saleem *et al.*'s (2001: 533) specimen(s) (as “*albimonus*”) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity.—K.G.]

***Platycheirus maculatus* Arif, 2001, nom. nud.**

Pakistan: Khyber Pakhtunkhwa (Hangu, Kohat, Matta) (Arif 2001).

***Xanthandrus comtus* (Harris, 1780)**

Pakistan: Khyber Pakhtunkhwa (Peshawar) (Saleem *et al.*, 2001).

[NOTE: Saleem *et al.*'s (2001: 534) specimen(s) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity.—K.G.]

Tribe Paragini

***Pandasyopthalmus politus* (Wiedemann, 1830)**

= ?*Pipizella indica* Brunetti, ?*Paragus rufiventris* Brunetti

Pakistan: Khyber Pakhtunkhwa (Balakot, Timurgarh, Swat, Kohat), Punjab (Murree), Balochistan (Quetta); India: HP, JK, PB, UK (Brunetti, 1908, 1913, 1915, 1917, 1923; Alam *et al.*, 1969; Knutson *et al.*, 1975; Mathur, 1983; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985, 1986a; Thompson & Ghorpadé, 1992; Aslamkhan *et al.*, 1997; Arif, 2001; Vujic *et al.*, 2008).

[NOTE: Alam *et al.* (1969) found it at Balakot, Murree, Swat and Timurgaraha, adult flies on flowers of (?) *Carthamus oxyacantha* and *Echinops echinatus*, pupae on *Carduus nutans*, and larvae on stems of *Cnicus wallichii* (all Asteraceae). Aslamkhan *et al.* (1997: 23) listed a record of this species from “Quetta, v.1892, coll. Nurse.” Alam *et al.* (1969) listed a “*Paragus tibialis*” from Timurgarh which probably is this species. Vujic *et al.* (2008: 535) places this species in the *tibialis*-group of the ‘subgenus’ *Pandasyopthalmus* Stuckenberg, 1954.—K.G.]

***Paragus bicolor* (Fabricius, 1794)**

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Abbottabad, Dera Ismail Khan, Peshawar), Balochistan (Quetta); India: JK (Brunetti, 1923; Bańkowska, 1968, 1969; Alam *et al.*, 1969; Kapoor *et al.*, 1979; Ghorpade, 1981; Peck, 1988; Thompson & Ghorpadé, 1992; Aslamkhan *et al.* 1997; Arif, 2001; Mitra *et al.* 2003a,b; Vujic *et al.*, 2008).

[NOTE: Alam *et al.* (1969) found pupae on *Carduus nutans* (Asteraceae) at Abbottabad. Mitra *et al.* (2003a) mistakenly assumed theirs to be the “first record” of this species from India (see Thompson & Ghorpadé, 1992: 11-12). Ghorpade (1981: 64) had earlier documented *Aphis craccivora* Koch as prey of this species from Pakistan. Aslamkhan *et al.* (1997: 23) listed a record of this species from “Quetta, v. vii.1902, coll. Nurse.” Vujic *et al.* (2008: 535) places this species in the ‘subgenus’ *Paragus* Latreille, 1804, s. str.—K.G.]

***Paragus compeditus* Wiedemann, 1830**

= *Paragus luteus* Brunetti, 1908

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Peshawar) (Peck, 1988; Saleem *et al.*, 2001).

[NOTE: Peck (1988: 81) treated Brunetti's (1908) *luteus* as a junior synonym of *compeditus* Wiedemann (1830). Saleem *et al.*'s (2001: 534) specimen(s) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity. Vujic *et al.* (2008: 535) places this species in the ‘subgenus’ *Paragus* Latreille, 1804, s. str.—K.G.]

Paragus serratus (Fabricius, 1805)

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Swat, Butkhela, Dir, Malakand), Federally Administered Tribal Areas (Parachinar), Punjab (Khanewal, Multan, Muzafargarh), Sindh (Karachi); India: DL, GJ, JK, PB, UK (Brunetti, 1923; Stuckenberg, 1954; Bańkowska, 1968; Alam *et al.*, 1969; Patel & Patel, 1969; Anonymous, 1972; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985, 1986a; Peck, 1988; Thompson & Ghorpadé, 1992; Aslamkhan *et al.*, 1997; Sajjad & Saeed, 2010; Sajjad *et al.*, 2010; Vujic *et al.*, 2008; Shehzad, unpubl.).

[NOTE: This was placed in a new 'subgenus' *Serratoparagus* Vujic & Radenkovic by Vujic *et al.* (2008). Stuckenberg (1954) revised *Paragus* and had 'unlumped' *serratus* (Fabricius). All records under this binomen need to be checked for confirmation as actually *serratus* *s. str.* or another closely related species. Alam *et al.* (1969) recorded larvae feeding on aphids infesting *Carthamus lanatus*, *Centaurea iberica*, *Cucumis melo* and *Salvia moorcroftiana* at Butkhela and Dir. Aslamkhan *et al.* (1997: 23) listed a record of this species from "Karachi, 5.x.1805 [sic !], coll. Howlett." Sajjad & Saeed (2010) gave 8 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 10 plant species in the BZU Campus, Multan. All of these need re-examination of specimens to confirm correct identities. Vujic *et al.* (2008: 536) places this species in their new 'subgenus' *Serratoparagus* Vujic & Radenković, 2008.—K.G.]

Paragus sp.

Pakistan: Punjab (Lahore) (Alam *et al.* 1969; Aslamkhan *et al.*, 1997).

[NOTE: Alam *et al.* (1969) listed "*Paragus ? tibialis*" larvae feeding on aphids infesting *Mentha longifolia* at Timurgaraha. This was listed as "*Paragus* sp. A in det." by Aslamkhan *et al.* (1997: 24) and collected from "Gulberg, 31.ii.1995 & 7-21.iv.1995, coll. Aslamkhan," and "Jallo Park, 1.iv.1996, coll. Safdar, Bagh-e-Jinnah, 2.v.1996, coll. Safdar, and Gol Bagh, Lahore Cantt., 30.iv.1996, coll. Safdar," all in Lahore. These specimens need to be checked for confirmation of actual species identity.—K.G.]

Tribe Syrphini

Allobaccha nigricosta (Brunetti, 1907)

= *Baccha apicalis* Loew, 1858 ?

Pakistan; India: DL, UK (Brunetti 1908, 1923; Anand *et al.*, 1967; Knutson *et al.* 1975; Anand 1986).

[NOTE: This was listed from "W. Pakistan" by Knutson *et al.* (1975: 322) and is the only record from Pakistan (location ?). Studies by one of us (KG) indicate it could be a junior synonym (?) of *Allobaccha apicalis* (Loew), 1858 which is the same as *pulchrifrons* Austen, 1893 and probably also synonymous with *apicenotata* Brunetti, 1915 ?—K.G.]

Allobaccha sapphirina (Wiedemann, 1830)

= *Baccha umbrosa* Brunetti, 1923 ?

Pakistan: Punjab (Murree); India: DL, GJ, RJ (Brunetti 1923; Alam *et al.*, 1969; Knutson *et al.* 1975; Ghorpadé 1994; Arif 2001)

[NOTE: This was listed from "W. Pakistan" by Knutson *et al.* (1975: 322) and is the only record from Pakistan (location ?). Arif (2001) listed it from Murree. Studies by one of us (KG) indicate it could be a junior synonym (?) of *Allobaccha apicalis* (Loew), 1858 which is the same as *pulchrifrons* Austen, 1893 and probably synonymous with *apicenotata* Brunetti, 1915 ?—K.G.]

Betasyrphus isaaci (Bhatia, 1933)

= *Syrphus 'serarius'* of Brunetti, 1923, in part

Pakistan: Punjab (Murree); India: HP, JK, PB, UK (Brunetti, 1923; Bhatia & Shaffi, 1933; Knutson *et al.*, 1975; Awtar Singh *et al.*, 1985; Ghorpadé, 1994, 2009, unpubl.; Aslamkhan *et al.*, 1997; Shehzad, unpubl.).

[NOTE: This was listed from "Murree, 7500 ft., 18.vi. (Dutt)" by Brunetti (1923: 74). Aslamkhan *et al.* (1997: 23) listed a record of "*Syrphus serarius* Wiedemann" from "Murree, 2286m, 18.vi., coll. Dutt." A photograph of a specimen from Pakistan sent by Shehzad was of *B. isaaci* as determined by KG and this species is noted here as a first record for Pakistan.—K.G.]

Chrysotoxum baphyrum Walker, 1849

= *Chrysotoxum indicum* Walker, 1852, *Chrysotoxum sexfasciatum* Brunetti, 1907, *Chrysotoxum citronellum* Brunetti, 1908, *Chrysotoxum mundulum* Hervé-Bazin, 1923, *Chrysotoxum testaceum* Sack, 1913, *Chrysotoxum fasciatus* Kohli, Kapoor & Gupta, 1988.

Pakistan: Khyber Pakhtunkhwa (Peshawar), Punjab (Murree); India: HP, PB, UK (Brunetti 1908, 1915, 1917, 1923; Alam *et al.*, 1969; Knutson *et al.* 1975; Datta & Chakraborti,

1984; Awtar Singh *et al.*, 1985; Kohli, Kapoor & Gupta 1988; Ghorpadé, 1994, 2012; Shehzad, unpubl.).

[NOTE: This is a peregrine, widely distributed species in the subcontinent. The species name was corrected by Ghorpadé (2012) in keeping with the gender of the genus name (neuter). Alam *et al.* (1969) took it at Peshawar, reared from a pupa found on sugarcane (*Saccharum officinarum*). Patil *et al.* (2013) wrote on aphid prey of this species and of others of this genus, including a new record from southern India, on a sugarcane root aphid, *Tetraneura javensis* (van der Goot).—K.G.]

***Chrysotoxum intermedium* Meigen, 1822**

= *Chrysotoxum fuscomarginatum* Brunetti, 1923, *Chrysotoxum ladakense* Shannon, 1926

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Chitral); India: HP, JK (Brunetti, 1923; Bañkowska, 1969; Alam *et al.*, 1969; Violovitsh, 1974; Knutson *et al.*, 1975; Peck, 1988; Ghorpadé, 1994, 2012; Aslamkhan *et al.*, 1997).

[NOTE: The female holotype of *fuscomarginatum* was taken by R. Hill from Chitral (Brunetti, 1923: 300; Knutson *et al.*, 1975: 327) and so listed by Aslamkhan *et al.* (1997: 23). Ghorpadé(2012: 2) placed *fuscomarginatum* Brunetti, 1923 and *ladakense* Shannon, 1926 as junior synonyms of this species, and wrote that : “it is widespread in Europe, northern Africa, through to Iran, Afghanistan (Peck, 1988: 60) and now to Pakistan and NW. India through these synonyms.” Alam *et al.* (1969) found a pupa on the composite *Centaurea iberica* (Asteraceae) at Balakot.—K.G.]

***Citrogramma citrinum* Brunetti, 1923**

Pakistan: Khyber Pakhtunkhwa (Peshawar), Balochistan (Lasbella, Makran, Panjgur, Quetta, Ziarat) (Brunetti, 1923; Knutson *et al.*, 1975; Arif, 2001; Saleem *et al.*, 2001; Mengual, 2012).

[NOTE: This was recorded from Peshawar by Saleem *et al.* (2001). Mengual (2012: 135), in a detailed revision of this genus, omitted the Pakistan record (as unconfirmed ?) and gave the range of *citrinum* as “China, Thailand, India, Malay Peninsula (Pahang, Perak).” Hence, Saleem *et al.*'s (2001: 534) specimen(s) from the Peshawar Division is/are probably misidentified and need(s) to be examined for correct identity.—K.G.]

***Dasysyrphus lunulatus* (Meigen, 1822)**

Pakistan: Punjab (Jhelum, Mianwali) (Arif, 2001).

[NOTE: Identity needs confirmation through study of Arif's specimens, A Holarctic species.]

***Dasysyrphus tricinctus* (Fallén, 1817)**

= *Conosyrphus okunii* Matsumura, 1918

Pakistan: Punjab (Bahawalnagar, Khanewal, Mianwali) (Arif, 2001).

[NOTE: Identity needs confirmation through study of Arif's specimens, A Holarctic species.]

***Didea vockerothi* Ghorpadé, 1994**

Pakistan: Balochistan (Lasbella); India: JK (Nayar 1968a; Ghorpadé, 1994; Arif, 2001).

[NOTE: Misidentified as “*Didea fasciata* Macquart” by Nayar (1968a).—K.G.]

***Episyrphus balteatus* (De Geer, 1776)**

= *Musca nectarea* Fabricius, 1787, *Syrphus pleuralis* Thomson, 1869, *Syrphus fallaciosus* Matsumura, 1917.

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Abbottabad, Batrasi, Charsadda, Dargai, Dir, Ghari Habibullah, Hangu, Kaghan, Kohat, Mardan, Naran, Nowshera, Paras, Peshawar, Singota, Swat, Timurgarh), Federally Administered Tribal Areas (Parachinar), Punjab (Bhurban, Faisalabad, Ghora gali, Jhelum, Khanewal, Lahore, Multan, Mungawal, Murree, Muzafargarh, Rawalpindi, Sialkot, Tall, Wah), Balochistan (Kharan, Makran), Sindh (Tando jam); India: HP, JK, PB, UK (Brunetti, 1908, 1917; Rahman, 1940, 1942; Chaudhry *et al.*, 1966; Bañkowska, 1968, 1969; Nayar, 1968a; Alam *et al.*, 1969; Khan & Yunus, 1970; Lambeck & van Brink, 1973a; Mathur, 1983; Hamid, 1984; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Peck, 1988; Abrol, 1993; Ghorpadé, 1994, unpubl.; Talpur *et al.*, 1995; Aslamkhan *et al.*, 1997; Arif, 2001; Saleem *et al.*, 2001; Saleem *et al.*, 2001; Mitra *et al.*, 2003b; Chandel *et al.*, 2004; Irshad, 2008; Saeed *et al.*, 2008; Sajjad *et al.*, 2008, 2010; Sajjad & Saeed, 2010; Ali *et al.*, 2011; Shehzad, 2011, unpubl.).

[NOTE: Rahman (1942) noted it as of little significance as pollinating agents on toria and sarson (*Brassica* spp.) at Lyallpur (now Faisalabad). Alam *et al.* (1969) found larvae feeding on aphids infesting *Albizia lebeck*, *Berberis ceratophylla*, *Brassica campestris*, *Prunus bokhariensis*, *P. persica*, *Rumex dentatus*, *Tamarix articulata*, and *Sonchus aspera* at Garhi Habib Ullah, Parachinar, Peshawar, and Swat. Hamid(1984) found it at Kaghan (1800m) and Naran (2100m) in the Kaghan valley as maize aphid (*Myzus obtusirostris* David) predator, also at Bhurban (2000m) on the Murree hills, and at Singota (1800m) in the Swat valley. Aslamkhan *et al.* (1997: 23) listed a record of this species from “Peshawar,

19.iii.1913, coll. Howlett," and of specimens collected from "Gulberg, 12-21.iv.1995, coll. Aslamkhan, Jallo Park, 2 & 5.iv.1996, coll. Safdar, Govt. College, 2-16.iv.1996, coll. Safdar, and Shalimar Garden, 5.v.1996, coll. Safdar, all in Lahore." Saeed *et al.* (2008) and Sajjad *et al.* (2008) noted it pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2010) gave 35 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 30 plant species in the BZU Campus, Multan. These specimens need to be checked for confirmation of actual species identity, whether they were *balteatus* or *viridaureus* (*q.v.*).—K.G.]

***Episyrphus viridaureus* (Wiedemann, 1824)**

= *Syrphus nectarinus* Wiedemann, 1830, *Syrphus alternans* Macquart, 1842, *Syrphus triligatus* Walker, 1857, *Syrphus heterogaster* Thomson, 1869, *Syrphus balteatus* 'var' *formosae* Sack, 1913, *Syrphus graptus* Hull, 1944, and *Syrphus* 'balteatus' auctt [as misidentifications].

Pakistan: Khyber Pakhtunkhwa (Peshawar, Swat), Punjab (Lahore); India: DL, GJ, HP, HR, PB, UK (Alam *et al.* 1969; Patel & Patel, 1969; Mathur, 1983; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Anand, 1986; Ghorpadé, 1994, 2009, unpubl.; Aslamkhan *et al.*, 1997).

[NOTE: These specimens also need to be checked for confirmation of actual species identity, whether they were *balteatus* (*q.v.*) or *viridaureus*. See Ghorpade (1981, 2009: 10) for details. Alam *et al.* (1969) listed unidentified *Episyrphus* larvae feeding on aphids infesting *Euphorbia helioscopia*, *Lactuca scariola* and *Rosa* sp. at Peshawar and Swat. Aslamkhan *et al.* (1997: 24) listed *E. "alternans"* from Gulberg, 13 & 16.iv.1995, coll. Aslamkhan.—K.G.]

***Episyrphus* sp. [undet.]**

Pakistan: Punjab (Lahore) (Aslamkhan *et al.*, 1997).

[NOTE: These specimens also need to be checked for confirmation of actual species identity, whether they were *balteatus* or *viridaureus*. Aslamkhan *et al.* (1997: 24) took specimens from Gulberg, Government College, Gol bagh, in Lahore Cantonment, Race Course Park, Shalimar garden, and Jahangir's tomb, all in Lahore, from February to May 1995 and 1996, and it was listed by them as "*Episyrphus* sp. D. in det."—K.G.]

***Ischiodon scutellaris* (Fabricius, 1805)**

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Balakot, Butkhela, Chakdara, Dir, Malakand, Peshawar, Swat), Punjab (Ghora gali, Multan, Mungawal, Murree); India: DL, GJ, HR, JK, PB, RJ, UK (Brunetti, 1915, 1925; Rahman, 1940, 1942; Kundu *et al.*, 1966; Bańkowska, 1968, 1969; Alam *et al.*, 1969; Patel & Patel, 1969; Mathur, 1983; Datta & Chakraborti 1984; Awtar Singh *et al.*, 1985; Anand, 1986; Peck, 1988; Abrol, 1993; Ghorpadé, 1994, unpubl.; Parui & Mitra, 2000; Mitra & Parui, 2002; Sajjad & Saeed, 2010; Sajjad *et al.*, 2010; Ali *et al.*, 2011; Shehzad, 2011, unpubl.).

[NOTE: Rahman (1942) noted it as "of little significance as pollinating agents on toria and sarson (*Brassica* spp.) at Lyallpur [now Faisalabad], but its larvae "destroy the Mustard Aphid." Alam *et al.* (1969) noted its (as "*Xanthogramma scutellare*") larvae feeding on aphids infesting *Ageratum* sp., *Brassica napus*, *Cnicus wallichii*, *Carthamus oxyacantha*, *C. lanatus*, *Citrullus vulgaris* var. *fistulosus*, *Cassia* sp., *Hedera* sp., *Juglans regia*, *Mentha piperata*, *Prunus amygdalis*, *Rubus ?fruticosus*, *Sonchus oleraceus*, *Tribulus terrestris* and *Zea mays* at Balakot, Butkhela, Dir, Malakand, and Peshawar. Sajjad & Saeed (2010) gave 37 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 37 plant species in the BZU Campus, Multan.—K.G.]

***Macrosyrphus confrater* (Wiedemann, 1830)**

= *Syrphus cranapes* Walker, 1852, *Syrphus mundus* Walker, 1852, *Syrphus macropterus* Thomson, 1869, *Syrphus trilimbatus* Bigot, 1884, *Syrphus torvoides* de Meijere, 1914, *Syrphus okinawae* Matsumura, 1917.

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Kaghan, Naran, Swat), Federally Administered Tribal Areas (Parachinar), Punjab (Lahore, Murree); India: DL, GJ, HP, JK, PB, UK (Brunetti, 1923; Bhatia & Shaffi, 1933; Anand *et al.*, 1967; Nayar, 1968a, Alam *et al.*, 1969, Diller, 1977, Anonymous, 1979, Mathur, 1983, Hamid, 1984, Verma & Pathak, 1984; Awtar Singh *et al.*; 1985, Anand, 1986, Abrol, 1993, Ghorpadé, 1994, 2009, unpubl., Aslamkhan *et al.*, 1997, Saleem *et al.*, 2001; Chandel *et al.*, 2004; Irshad, 2008; Sajjad *et al.*, 2008, 2010; Sajjad & Saeed, 2010; Ali *et al.*, 2011; Shehzad, 2011, unpubl.).

[NOTE: *Macrosyrphus* is also treated as a 'subgenus' of *Eupeodes* Osten Sacken. See also notes in Vockeroth (1973) and Ghorpadé (2009: 10-11) on synonymy and generic affinities. Alam *et al.* (1969) listed its larvae (as "*confrator*") feeding on aphids infesting *Pyrus pashia* at Swat. Hamid (1984) found it at Kaghan (1800m) and Naran (2100m) in the Kaghan valley as maize aphid (*Myzus obtusirostris* David) predator. Aslamkhan *et al.* (1997: 23, 24) listed a record of this species from "Peshawar, 18.iii.1913, coll. Howlett," and specimens of "*Syrphus cofrator*" [*sic*!] from "Gulberg, iv. & v.1995, coll. Aslamkhan" from Lahore.—K.G.]

***Megasyrphus himalayensis* Kohli, Kapoor & Gupta, 1988**

Pakistan: Punjab (Gujranwala, Sialkot); India: HP, JK (Ghorpadé, 1994; Arif, 2001)

[NOTE: Arif (2001) had listed it as "*Eriozona himalayensis*" from Gujranwala and Sialkot (as "Sukkur").—K.G.]***Metasyrphus bucculatus* (Rondani, 1857)**= *Metasyrphus frequens* Matsumura, 1917, *Metasyrphus hideonis* Matsumura, 1917, *Syrphus latilunulatus* Collin, 1931, *Metasyrphus pseudonitens* Dušek & Láška, 1980, and *Syrphus 'luniger'* auctt and *Scaeva 'nitens'* auctt [misidentifications].Afghanistan; Pakistan; India: HP, JK, PB, UK (Bańkowska, 1968; Dušek & Láška, 1980; Peck 1988; Ghorpadé, 1994, unpubl.; Mazánek *et al.*, 1998).[NOTE: *Metasyrphus* Matsumura is also treated as a 'subgenus' of *Eupeodes* Osten Sacken. See also notes in Mazánek *et al.* (1998) and Ghorpadé (1994: 10) on synonymy.—K.G.]***Metasyrphus corollae* (Fabricius, 1794)**Afghanistan; Pakistan: Khyber Pakhtunkhwa (Dir, Hangu, Peshawar), Punjab (Ghora gali, Khanewal, Lahore, Multan, Mungawal, Murree, Muzafargarh); India: HP, JK, PB, UK (Nayar, 1968a; Alam *et al.*, 1969; Bańkowska, 1969; Lambeck & van Brink, 1973a; Awtar Singh *et al.*, 1985; Abrol, 1993; Ghorpadé, 1994, unpubl.; Aslamkhan *et al.*, 1997; Chandel *et al.*, 2004; Irshad, 2008; Saeed *et al.*, 2008; Sajjad *et al.*, 2008, 2010; Sajjad & Saeed, 2010; Ali *et al.*, 2011; Shehzad, 2011, unpubl.).[NOTE: Alam *et al.* (1969) noted its larvae feeding on aphids infesting *Brassica oleracea*, *Salvia moorcroftiana*, and *Triticum aestivum* at Dir and Hangu. Aslamkhan *et al.* (1997: 23, 24) listed a record of this species from "Peshawar, 18.iii.1913, coll. Howlett," and specimens taken from Gulberg, 16.iv.1995, coll. Aslamkhan, and Govt. College, 15.iv.1995, coll. Safdar," both from Lahore. Saeed *et al.* (2008) and Sajjad *et al.* (2008) noted it (as "*Eupeodes corollae*") pollinating onion (*Allium cepa*) at Multan. Sajjad & Saeed (2010) gave 24 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 23 plant species in the BZU Campus, Multan.—K.G.]***Metasyrphus latifasciatus* (Macquart, 1829)**Pakistan: Punjab (Lahore), Balochistan (Makran); India: HP, JK, PB (Brunetti, 1923; Coe, 1964; Nayar, 1968a; Lambeck & van Brink, 1973a; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Peck, 1988; Ghorpadé, 1994; Aslamkhan *et al.*, 1997; Arif, 2001; Shehzad, unpubl.).[NOTE: Aslamkhan *et al.* (1997: 23, 24) listed a record of this species from "Peshawar, 18.iii.1913, coll. Howlett," and a specimen from "Gulberg, 14.iv.1995, coll. Aslamkhan" in Lahore.—K.G.]***Scaeva albomaculata* (Macquart, 1842)**= *Lasiopticus albomaculatus* var. *sulphurea* Sack (in Visser *et al.*), 1935.

Afghanistan; Pakistan; India: JK (Sack, 1935; Rahman, 1940, 1942; van Doesburg, 1955; Bańkowska, 1968, 1969; Mathur, 1983; Dušek & Láška, 1985; Peck, 1988; Ghorpadé, 1994).

[NOTE: Rahman (1942) noted it as "of little significance as pollinating agents on toria and sarson (*Brassica* spp.) at Lyallpur [now Faisalabad]."—K.G.]***Scaeva latimaculata* (Brunetti, 1923)**= *Xanthogramma pruthii* Deoras, 1943, *Xanthogramma indica* Nayar, 1968, *Scaeva montana* Violovitsh, 1975.Afghanistan; Pakistan: Khyber Pakhtunkhwa (Peshawar), Punjab (Khanewal, Multan, Muzafargarh); India: DL, HP, JK, PB, RJ, UK (Brunetti, 1923; Deoras, 1943; Nayar, 1968a, Knutson *et al.*, 1975; Kapoor *et al.*, 1979; Dušek & Láška, 1985; Awtar Singh *et al.*, 1985; Anand, 1986; Peck, 1988; Ghorpadé, 1994, 2009, unpubl.; Aslamkhan *et al.*, 1997; Mitra *et al.*, 2003b; Sajjad *et al.*, 2010; Sajjad & Saeed, 2010; Shehzad, unpubl.).[NOTE: Aslamkhan *et al.* (1997: 23) listed a record of this species from "Peshawar, 18.iii.1913, coll. Howlett." Sajjad & Saeed (2010) gave 6 plant species' flowers visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 2 plant species in the BZU Campus, Multan.—K.G.]***Scaeva pyrastris* (Linnaeus, 1758)**Afghanistan; Pakistan: Khyber Pakhtunkhwa (Abbottabad, Dargai, Dir, Paras, Peshawar, Swat, Tall), Federally Administered Tribal Areas (Parachinar), Punjab (Rawalpindi, Wah); India: JK, PB, UK (Brunetti, 1908, 1917; Bańkowska, 1968, 1969; Alam *et al.*, 1969; Mathur, 1983; Dušek & Láška, 1985; Peck, 1988; Abrol, 1993; Ghorpadé, 1994, unpubl.; Irshad, 2008; Sajjad & Saeed, 2010; Shehzad, unpubl.).

[NOTE: Alam *et al.* (1969) listed its larvae feeding on aphids infesting *Brassica campestris*, *Coriandrum sativum*, *Ipomoea* sp., *Prunus bokhariensis*, *P. persica*, *Rosa* sp., *Rumex dentatus* and *Verbascum thapsus* at Dargai, Dir, Peshawar, Rawalpindi, Swat and Thall [*sic*!] They also noted a parasitoid, *Diplazon laetatorius*, of their larvae on rose aphids.—K.G.]

***Sphaerophoria bengalensis* Macquart, 1842**

= *Sphaerophoria* “form 1” *flavoabdominalis* Brunetti, 1915, *Sphaerophoria* “form 2” of Brunetti, 1915, *Sphaerophoria turkmenica* Bańkowska, 1964.

Afghanistan; Pakistan: Balochistan, Punjab (Khanewal, Multan, Muzafargarh); India: DL, HP, JK, PB, UK (Brunetti, 1915, 1917; Bańkowska, 1967, 1968, 1969; Lambeck & van Brink, 1973a; Knutson *et al.*, 1975; Anand, 1986; Peck, 1988; Abrol, 1993; Ghorpadé, 1994, 2009; Arif *et al.*, 2001; Sajjad *et al.* 2010; Sajjad & Saeed, 2010)

[NOTE: Sajjad & Saeed (2010) gave 29 plant species visited by this syrphid in the southern Punjab. Sajjad *et al.* (2010) noted this visiting flowers of 26 plant species in the BZU Campus, Multan.—K.G.]

***Sphaerophoria indiana* Bigot, 1884**

= *Sphaerophoria* “form 3” *nigritarsis* Brunetti, 1915

Pakistan: Khyber Pakhtunkhwa (Darra Adam Khel, Kohat, Peshawar, Swat), Punjab (Faisalabad, Lahore, Murree); India: DL, HP, JK, PB, UK (Brunetti, 1915, 1917, 1923; Rahman, 1940; Bańkowska, 1964; Anand *et al.*, 1967; Joseph, 1968; Joseph 1970; Knutson *et al.*, 1975; Mathur, 1983; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Peck, 1988; Abrol, 1993; Ghorpadé, 1994; Aslamkhan *et al.*, 1997; Arif, 2001; Arif *et al.*, 2001; Shehzad, 2011, unpubl.).

[NOTE: Rahman (1942) noted “hovers ‘poised motionless’ in the air over a flower before alighting. It is a spasmodic worker,” on toria and sarson (*Brassica* spp.) at Lyallpur [now Faisalabad]. Aslamkhan *et al.* (1997: 23, 24) listed a record of this species from “Peshawar, 18.iii.1913, coll. Howlett,” and specimens from “Gulberg, 16.iv. & 17.v.1995, coll. Aslamkhan,” from “Govt. College, 30.vi.1996, coll. Safdar,” and from “Bagh-e-Jinnah, 2.v.1996, coll. Safdar,” all in Lahore. Arif *et al.* (2001) listed specimens from Takht Nasarti (Peshawar), 2.x.1998, Bahrain (Swat), 8.vi.1999, Kohat, 3.iii.1998, and Darra Adam Khel, 1.iii.1998.—K.G.]

***Sphaerophoria interrupta* (Fabricius, 1805)**

Pakistan: Khyber Pakhtunkhwa (Peshawar), Federally Administered Areas (Parachinar) (Alam *et al.*, 1969; Anonymous, 1972).

[NOTE: Peck (1988: 46) listed this as a doubtful species, type-locality “Dania.” This record from Pakistan is questionable.—K.G.]

***Sphaerophoria philanthus* (Meigen, 1822)**

Pakistan: Balochistan (Panjgur, Quetta, Sibi, Ziarat) (Arif, 2001; Arif *et al.*, 2001)

[NOTE: Arif *et al.* (2001) listed specimens from Quetta, 7.iii.1998, Ziarat, 10.iii.1998, Panjgur, 18.iii.1998, and Sibi 13.ix.1998, “collected from wheat (*Triticum aestivum*) crop and grass under the forest plantation.” Arif (2001) and Arif *et al.*'s (2001) specimen(s) is/are probably misidentified, for *indiana* (?), and need(s) to be examined for correct identity.—K.G.]

***Sphaerophoria rueppellii* (WIEDEMANN, 1830)**

Afghanistan; Pakistan ?; India: JK (Bańkowska, 1964, 1967, 1969; Skufjin, 1982; Peck, 1988; Ghorpadé, 1994, 2009).

***Sphaerophoria scripta* (Linnaeus, 1758)**

= *Sphaerophoria brunettii* Joseph, 1968

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Dara Adam Khel, Hangu, Peshawar, Swat), Punjab (Multan); India: ?GJ, JK (Bańkowska, 1967, 1968, 1969; Patel & Patel, 1969; Joseph, 1968; Knutson *et al.*, 1975; Datta & Chakraborti, 1984; Peck 1988; Ghorpadé, 1994; Arif, 2001; Arif *et al.*, 2001; Sajjad *et al.*, 2008; Saeed *et al.*, 2008).

[NOTE: Arif *et al.* (2001) listed specimens from Hangu (Peshawar), 4.iv.1998, Darra Adam Khel, 1.iii.1998, Khaza khel (Peshawar), 6.vi.1999, Takkt [*sic*!] Nasarti (Peshawar), 2.x.1998, and Chokera (Swat), 10.iv.1998, collected “from tobacco (*Nicotiana tabacum* L.), ber (*Zizyphus* [*sic*!] *jujuba*) and wild grasses.” Saeed *et al.* (2008) and Sajjad *et al.* (2008) noted it pollinating onion (*Allium cepa*) at Multan. These specimen(s) need(s) to be examined for correct identity.—K.G.]

***Sphaerophoria viridaenea* (Brunetti, 1915)**

= *Sphaerophoria* “form 4” of Brunetti, 1915

Afghanistan; Pakistan; India: HP, JK, UK (Brunetti, 1915, 1917, 1923; Bańkowska, 1967, 1968; Nayar, 1968a; Joseph, 1970; Knutson *et al.*, 1975; Peck, 1988; Ghorpadé, 1994; Shehzad, unpubl.).

***Sphaerophoria* sp.**

Pakistan: Khyber Pakhtunkhwa (Peshawar) (Alam *et al.*, 1969).

[NOTE: Alam *et al.* (1969) listed adult flies coming to (flowers of ?) *Periploca* sp., and larvae feeding on wheat (*Triticum aestivum*) aphids. These specimens need to be examined for correct species identity; —K.G.]

***Syrphus fulvifacies* Brunetti, 1913**

Pakistan; Kashmir, Balochistan (Makran); India: HP, JK, UK (Brunetti 1923; Coe 1964; Aslamkhan *et al.* 1997; Ghorpadé, 1994, unpubl.; Arif, 2001; Arif *et al.*, 2001)

[NOTE: Aslamkhan *et al.* (1997: 23) listed this from a specimen taken in "Kashmir, 2438-2743 m, vi. 1901, coll. Nurse" but that specimen is probably misidentified and needs to be examined for correct identity; also those of Arif *et al.* (2001). This species is more an eastern Himalayan one and Pakistan appears too far west for it to occur here.—K.G.]

***Syrphus ribesii* (Linnaeus, 1758)**

= *Syrphus himalayanus* Nayar, 1968a

Afghanistan; Pakistan: Khyber Pakhtunkhwa (Peshawar); India: HP, JK, UK (Bańkowska, 1968; Nayar, 1968a; Knutson *et al.*, 1975; Peck, 1988; Ghorpadé, 1994, 2009; Saleem *et al.*, 2001).

***Syrphus torvus* Osten Sacken, 1875**

Pakistan: Balochistan (Makran); India: HP, JK, UK (Brunetti, 1908, 1917, 1923' Knutson *et al.*, 1975; Ghorpadé, 1994; Arif, 2001)

***Syrphus* sp.**

Pakistan: Punjab (Lahore) (Aslamkhan *et al.* 1997)

[NOTE: Aslamkhan *et al.* (1997: 24) listed this as "*Syrphus* sp. B in det." from Gulberg in Lahore, taken on 10.iv.1995 by Aslamkhan, and it needs to be examined for correct identity.—K.G.]

***Xanthogramma* sp.**

Pakistan: Khyber Pakhtunkhwa (Chitral), Punjab (Lahore) (Aslamkhan *et al.* 1997; Shehzad unpubl. data)

[NOTE: Aslamkhan *et al.* (1997: 24) listed this as "*Xanthogramma* sp. C. in det." from Gulberg in Lahore, taken on 16.iv.1995 by Aslamkhan, and it needs to be examined for correct identity. Shehzad sent KG a photo of a *Xanthogramma* collected near Chitral at Bumburat (2135m) in Khyber Pakhtunkhwa on 24.vi.2012, by Majid Bilal. This appears closest to *X. pedissequum* (Harris), 1776 but could also be *X. hissaricum* Violovich, 1975, or even an undescribed species. Specimen(s) need to be examined for arriving at a correct identity.—K.G.]

SUPPLEMENTARY CHECKLIST OF SYRPHIDAE POSSIBLE IN PAKISTAN ?

The following species have been recorded from Afghanistan and/or from the Jammu & Kashmir State of India. Details are documented below since any or all of these species could occur in Pakistan as well, and should be looked for in this country.

**Subfamily ERISTALINAE
Tribe Eristalini**

***Eoseristalis brevifacies* (Coe, 1964)**

India: JK, UK (Coe, 1964).

***Helophilus continuus* Loew, 1854**

Afghanistan (Bańkowska, 1968; Peck, 1988).

***Helophilus parallelus* (Harris, 1776)**

= *Eristalis trivittatus* Fabricius, 1805, *Helophilus camporum* Meigen, 1822, *Helophilus solitarius* Rondani, 1857.

Afghanistan (Bańkowska, 1969; Peck, 1988).

***Myathropa florea* (Linnaeus, 1758)**

Afghanistan (Bańkowska, 1968; Peck, 1988).

[NOTE: Thompson (unpubl.) also mentions a new species from "India."—K.G.]

***Phytomia errans* (Fabricius, 1787)**

= *Eristalis varipes* Macquart, 1842, *Eristalis aryrus* Walker, 1849, *Eristalis amphicrates* Walker, 1849, *Eristalis babytace* Walker, 1849, *Eristalis plistoanax* Walker, 1849, *Eristalis macquartii* Doleschall, 1856.

India: JK (Datta & Chakraborti, 1984).

[NOTE: *Eristalis babytace* Walker, 1849 was erroneously listed as a synonym of *Phytomia zonata* (Fabricius), 1787 by Knutson *et al.* (1975: 358) in their Oriental Syrphidae Catalogue.—K.G.]

Tribe Merodontini

***Eumerus albifrons* Walker, 1852**

= *Eumerus halictiformis* Brunetti, 1915.

India: HP, JK (Brunetti, 1923; Abrol, 1993).

***Eumerus ammophilus* Paramonov, 1927**

India: JK (van Doesburg, 1955).

***Eumerus jacobsoni* Becker, 1913**

Afghanistan (Bańkowska, 1968; Peck, 1988).

***Eumerus kashmerensis* Kohli, Kapoor & Gupta, 1988**

India: JK (Kohli *et al.*, 1988).

***Eumerus nepalensis* Brunetti, 1908**

Afghanistan; India: HP, JK (Bańkowska, 1968; Awtar Singh *et al.* 1985; Abrol 1993).

[NOTE: This is probably misidentified and needs to be examined for correct identity.—K.G.]

***Eumerus nicobarensis* Schiner, 1868**

Afghanistan; India: JK (Bańkowska, 1968; Knutson *et al.*, 1975).

[NOTE: This most certainly is misidentified and may not occur in Pakistan?—K.G.]

***Eumerus punctifrons* Loew, 1857**

Afghanistan (Bańkowska, 1969; Peck, 1988).

***Eumerus quadrinotatus* van Doesburg, 1955**

India: JK (van Doesburg, 1955).

[NOTE: This was listed as a variety of *ammophilus* Paramonov (Peck, 1988: 154).—K.G.]

***Eumerus reichardt* Stackelberg, 1952**

Afghanistan (Bańkowska, 1968; Peck, 1988).

***Eumerus strigatus* (Fallén, 1817)**

Afghanistan (Bańkowska, 1968; 1969).

***Merodon tarsatus* Sack, 1913**

= *Merodon smirnovi* Paramonov, 1927.

Afghanistan (Bańkowska, 1968).

[NOTE: *Merodon smirnovi* Paramonov, 1927 was listed as a good species by Peck (1988: 173).—K.G.]

Tribe Milesiini

***Brachypalpus* sp. nov. [undescribed]**

India: JK (Hippa, 1978).

***Criorhina bicolorata* Hull, 1950**

India: JK (Hull, 1950; Knutson *et al.*, 1975).

[NOTE: This was listed as a 'subspecies' of *pallipilosa* Hull, *q.v.*—K.G.]

Criorhina pallipilosa* Hull, 1944**India: JK (Hull, 1944; Coe, 1964; Knutson *et al.*, 1975).Criorhina rubropilosa* Hull, 1950**India: JK (Hull, 1950; Knutson *et al.*, 1975).***Spilomyia saltuum* (Fabricius, 1794)**

Afghanistan (Bańkowska, 1968).

***Spilomyia sulphurea* Sack, 1910**

Afghanistan (Bańkowska, 1968; Peck, 1988).

***Xylota* sp. nov. [undescribed]**

India: JK (Hippa, 1978).

[NOTE: This belongs to the *Xylota ignava*—group and a specimen is in the Ghorpadé Collection.—K.G.]**Tribe Rhingiini*****Cheilasia gagatea* Loew, 1857**

Afghanistan (Bańkowska, 1968).

***Cheilasia laticornis* Rondani, 1857**= *Cheilasia latifacies* Loew, 1857.

Afghanistan (Bańkowska, 1968; Peck, 1988).

[NOTE: *Cheilasia latifacies* was listed as the valid name and *C. laticornis* as its junior synonym by Peck (1988: 107).—K.G.]***Cheilasia songarea* (Becker, 1894)**

India: JK (van Doesburg, 1955; Lambeck & van Brink, 1973a).

***Cheilasia* sp.**

India: JK (Lambeck & van Brink, 1973a or b?).

Ferdinandea isabella* Hull, 1942**India: JK (Hull, 1942; Coe, 1964; Knutson *et al.*, 1975).Ferdinandea montana* Hull, 1942**India: JK (Hull, 1942; Coe, 1964; Knutson *et al.*, 1975).**Tribe Volucellini*****Graptomyza breviostris* Wiedemann, 1820**India: JK, PB (Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985).***Volucella flavoscutella* Sack, 1928**India: ?JK, UK (Sack, 1928; Knutson *et al.*, 1975).***Volucella inanis* (Linnaeus, 1758)**

Afghanistan (Bańkowska, 1968; Peck, 1988).

***Volucella peleterii* Macquart, 1834**= *Volucella signata* Brunetti, 1923 ?

India: JK (Ghorpadé, unpubl.).

***Volucella pellucens* (Linnaeus, 1758)**

India: JK, UK (Brunetti, 1915, 1923; Ghorpadé, unpubl.).

***Volucella ruficauda* Brunetti, 1907**

India: JK (Ghorpadé, unpubl.).

Volucella varipila Coe, 1964
India: JK (Coe, 1964).

Volucella zonaria (Poda, 1761)
Afghanistan (Bańkowska, 1968, 1969).

Subfamily SYRPHINAE Tribe Bacchini

Melanostoma mellinum (Linnaeus, 1758)
Afghanistan; India: HP (Brunetti, 1913, 1915, 1917; Bańkowska, 1968, 1969; Peck, 1988).
[NOTE : Partly misidentified, for *orientale* Wiedemann?—K.G.]

Melanostoma scalare (Fabricius, 1794)
= *Melanostoma ceylonense* de Meijere, 1911 ?
Afghanistan (Brunetti 1908, 1917, Bańkowska, 1969, Peck, 1988).
[NOTE : Partly misidentified, for *orientale* Wiedemann?—K.G.]

Platycheirus ambiguus (Fallén, 1817)
India: HP, JK (Brunetti, 1908, 1915, 1917, 1923; Sack, 1935; van Doesburg, 1955; Bańkowska, 1968; Knutson *et al.*, 1975; Peck, 1988).
[NOTE : Treated as '*Melanostoma ambiguum*' in Brunetti (1923: 47).—K.G.]

Platycheirus angustatus (Zetterstedt, 1843)
India: JK (Sack, 1935; van Doesburg, 1955; Lambeck & van Brink, 1973a).

Platycheirus clypeatus (Meigen, 1822)
= *Syrphus dilatatus* Macquart, 1834.
Afghanistan (Bańkowska, 1968; Peck, 1988).

Platycheirus cryophilus Nielsen, 2007
India: JK (Nielsen 2007).
[NOTE : Described from a single male holotype taken from Tehrong Valley 4125m, near Siachen Glacier, 20-26.vi.1929, J.A. Sillem coll., by the 1929 Dutch Karakoram Expedition to Kashmir. This locality lies on the Cease Fire Line of Control between India and Pakistan.—K.G.]

Platycheirus discimanus (Loew, 1871)
Afghanistan (Peck, 1988).

Platycheirus kashmiricus Nielsen, 2004
India: JK (Nielsen, 2004).

Platycheirus scutatus (Meigen, 1822)
Afghanistan (Bańkowska, 1968; Peck, 1988).

Pseudoplatychirus peteri van Doesburg, 1955
India: JK (Sack, 1935; van Doesburg, 1955; Zimina, 1958).

Rohdendorfia dimorpha Smirnov, 1924
= *Platycheirus* [*sic*!] *nigripes* Enderlein, 1933, *Chilosia* [*sic*!] *reinigi* Lindner, 1954.
Afghanistan; India: JK (Sack, 1935; van Doesburg, 1955; Bańkowska, 1968; Claussen, 1988; Peck, 1988).

Tuberculanostoma solitarium van Doesburg, 1955
India: JK (van Doesburg, 1955).

Tribe Paragini

Pandasyopthalmus haemorrhous (Meigen, 1822)
= *Paragus pallipes* Matsumura, 1916, *Paragus coreanus* Shiraki, 1930.

Afghanistan (Peck, 1988; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 535) places this in the *tibialis*-group of the 'subgenus' *Pandasyopthalmus* Stuckenberg, 1954.—K.G.]

Pandasyopthalmus rufocinctus (Brunetti, 1908)

India: HP, JK, PB (Brunetti, 1908, 1923; Mathur, 1983; Datta & Chakraborti, 1984; Awtar Singh *et al.*, 1985; Thompson & Ghorpadé, 1992; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 535) places this in the *tibialis*-group of the 'subgenus' *Pandasyopthalmus* Stuckenberg, 1954.—K.G.]

Pandasyopthalmus tibialis (Fallén, 1817)

= *Paragus ogasawarae* Matsumura, 1916, *Paragus tamagawanus* Matsumura, 1916, *Paragus tibialis* var. *mongolicus* Kanervo, 1938.

Afghanistan (Bańkowska, 1968; Peck, 1988; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 535) places this in the *tibialis*-group of the 'subgenus' *Pandasyopthalmus* Stuckenberg, 1954.—K.G.]

Paragus albifrons (Fallén, 1817)

Afghanistan (Bańkowska, 1968; Peck, 1988; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 535) places this in the 'subgenus' *Paragus* Latreille, 1804, s. str.—K.G.]

Paragus amandalei Ghorpadé, 1992

India: HP, JK (Datta & Chakraborti, 1984; Thompson & Ghorpadé, 1992; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 535) places this in the *jozanus*-group of the 'subgenus' *Pandasyopthalmus* Stuckenberg, 1954.—K.G.]

Paragus quadrifasciatus Meigen, 1822

= *Paragus nohirae* Matsumura, 1916.

Afghanistan; India: JK (Bańkowska, 1968; Peck, 1988; Thompson & Ghorpadé, 1992; Vujic *et al.*, 2008).

[NOTE : Vujic *et al.* (2008: 536) places this in the 'subgenus' *Paragus* Latreille, 1804, s. str.—K.G.]

Tribe Syrphini

Chrysotoxum fasciolatum (De Geer, 1776)

= *Chrysotoxum sachalinense* Matsumura, 1911.

India: JK, UK (Violovitsh, 1974; Ghorpadé, 1994)

Dasysyrphus darada Ghorpadé, 1994

India: JK (Ghorpadé, 1994)

Dasysyrphus orsua (Walker, 1852)

= *Syrphus 'albostriatatus* Fallén' of Brunetti, 1923, *Syrphus brunettii* Hervé-Bazin, 1924.

India: HP, JK, UK (Brunetti, 1923; Ghorpadé, 1994, 2009)

Dasysyrphus pandu Ghorpadé, 1994

India: JK (Ghorpadé, 1994)

Epistrophe griseocincta (Brunetti, 1923)

India: JK, UK (Brunetti, 1923; Nayar 1968a; Knutson *et al.*, 1975; Ghorpadé, 1994)

Melangyna remota (Brunetti, 1923)

India: HP, JK (Brunetti, 1923; Knutson *et al.*, 1975; Ghorpadé, 1994, 2009)

Meliscaeva lefroyi Ghorpadé, 1994

= *Syrphus 'cinctellus* Zetterstedt' of Brunetti, 1923.

India: HP, JK, UK (Brunetti, 1923; Ghorpadé, 1994, unpubl.)

Parasyrphus kashmiricus Ghorpadé, 1994

India: JK (Ghorpadé, 1994).

Parasyrphus thompsoni Ghorpadé, 1994
India: HP, JK, UK (Ghorpadé, 1994).

Scaeva lunata (Wiedemann, 1830)
= *Syrphus opimius* Walker, 1852, '*Lasiopticus seleniticus* Meigen' of Brunetti, 1923 ?
Afghanistan; India: HP, PB, UK (Brunetti, 1923; Anand *et al.*, 1967; Bańkowska 1968, 1969;
Dušek & Láska, 1985; Awtar Singh *et al.*, 1985; Anand 1986; Peck, 1988; Ghorpadé, 1994;
Mitra *et al.*, 2003b).

Sphaerophoria ladakhensis Ghorpadé, 1994
India: JK (Ghorpadé, 1994).

Sphaerophoria rueppellii (Wiedemann, 1830)
Afghanistan; India: JK (Bańkowska, 1964, 1967, 1969; Peck, 1988; Ghorpadé, 1994, 2009).

Syrphus dalhousiae Ghorpadé, 1994
India: HP, JK, UK (Ghorpadé, 1994, unpubl. data)

Syrphus howletti Ghorpadé, 1994
India: JK (Ghorpadé, 1994)

Syrphus vitripennis Meigen, 1822
Afghanistan; India: JK (Peck, 1988; Ghorpadé, 1994, 2009)

Pakistan Syrphidae
MICRODONTINAE : 2 genera — 2 species
ERISTALINAE : 20 — 44 +
SYRPHINAE : 20 — 38 +
TOTAL = 42 genera — 84 + species

Supplementary Pakistan Syrphidae (?)
MICRODONTINAE : 0 genus — 0 species
ERISTALINAE : 9 — 36 +
SYRPHINAE : 7 — 33 +
TOTAL = 16 genera — 69 + species

GRAND TOTAL = 58 genera — 153 + species

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ERRATUM

p. 11 - Delete last sentence in the Note under *Allobaccha sapphirina* (Wiedemann).