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New Sighting Records of Asian Emerald Dove *Chalcophaps Indica Indica* (Linnaeus, 1758) from North-Eastern Doon Valley (Dehra Dun, Uttarakhand) and its Account with Distribution

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ABSTRACT: The present communication deals with new sighting records of *Chalcophaps indica indica* (Linnaeus, 1758), the Asian Emerald Dove, from north-eastern Doon Valley, Dehra Dun (Uttarakhand) with its general account (synonymy, common and vernacular names, diagnostic features), altitudinal range, distribution, natural history, conservation status and threats.

Keywords: New sighting records of Asian Emerald Dove from Doon Valley.

I. INTRODUCTION

Avian fauna of Dehra Dun and around has attracted the attention of various workers, ornithologists and bird-watchers (Tytler, 1868; Brooks, 1875a,b; Anonymous, 1876; Rattray, 1897; Blanford, 1898; Osmaston, 1935; Osmaston & Sale,1989; Wright, 1949; 1957; George, 1957a,b, 1962; Mukherjee, 1960; Mistry, 1966; Fleming, 1967, 1977; Guha, 1967; Mathur, 1967; Parikh, 1967; Raturi, 1968; Vyas, 1969, 1970; Misra, 1970; Bhatnagar & Misra, 1971, 1972a,b, c, 1975; Mohan, 1972, 1992, 1993, 1997, 2007; Srivastava, 1977; Singh, 1979a,b; Saiduzzafar, 1982; Verma, 1983; Rai, 1991; Daniel, 1994; Singh, 1999, 2000, 2002, 2006; Narang, 1995; Pandey *et al*., 1994; Gandhi & Singh, 1995a,b; Tak, 1995; Bhatt & Sharma, 2000; Singh *et al.*, 2001; Ali, 2002 (revised by Daniel, 2012); Pathak, 2005; Grewal *et al*., 2008; Vijay & Bhutia, 2008, Datta & Devasar, 2012; Rahmani, 2012; Sankar, 2012; Tak & Sati, 2012; Santharam, 2013; Joshi & Rautela, 2014; Joshi & Bhatt, 2015; Sharma, 2014; Mohan *et al*., 2016; Rizvi *et al*., 2017; Uttarakhand Birding Org., 2018) during the past but the distribution of Asian Emerald Dove has not been brought into record from many potential areas and hence the present new sightings records will be significant in filling the distributional gap in Dehra Dun, especially the north-eastern Doon Valley part.

During the present study Chamasari, Danda Lakhond, Sahastradhara, Shahanshahi Ashram, Maldevta and Nagal-Hatnala village sites, falling in north-eastern part of Doon Valley, were explored and found to be the best favourite niches for this dove.

II. DEHRA DUN: STUDY SITE

Physiography: Dehra Dun district is located between Lat. 29° 58′-31° 2′ N and Long. 77° 34′ -78° 18′ E, covering an area of 3,088 km^2, in the state of Uttarakhand, forming part of the Garhwal Himalayas, shares its borders with Uttarkashi and Tehri in north and north-west, Ganga river and Pauri in south-east, Tons and Yamuna rivers and Himachal Pradesh (Shimla and Sirmaur districts) and Haryana (Yamuna Nagar) in west and Uttar Pradesh (Saharanpur) and Haridwar districts in south-west. As regards the natural boundaries of its valley, the Doon Valley (30°00'-30°35'N and 77°40'-78°15'E), the Himalayan ranges (Chakrata, Dhanaulti and Mussoorie) lie to its north, the Siwalik range to its south, rivers Ganga to its east and Yamuna to its west, having altitudes varying from 410 m at Clement Town in south-west and 1099 m at Shahanshahi Ashram in north-east, 396 m at Asan Barrage in south-west and 372 m at Rishikesh in south-east, with an av. elevation of 450 m.

The main perennial streams are Song and Suswa in south-eastern Doon valley and Tons and Asan in north-western part.

Climate: The climate is humid subtropical, during summer (May-June), temperatures generally range between 35°C and 21°C (in recent times gone to 44°-14°) while in winter (December-January)temperatures vary between 20°C and 7° C (in recent times 27°-0°) though may vary a few degrees high and low. It receives good amount of precipitation during July-August, with a maximum of 618-614 mm.

Flora:

Doon Valley: It is surrounded with lush green forests belonging to Siwalik and Himalayan ranges and hence is also rich in wild animals, especially the birds.

Adina cordifolia, the Haldu; *Aegle marmelos*, the Bael; *Anogeissus latifolia*, the Dhau; *Bauhinia variegata*, the Kachnar; *Bombax ceiba*, the Kapok; *Butea monoserma*, the Free-fire; *Casearia tomentosa*, the Chilla; *Cassia fistula*, the Amaltas; *Clerodendrum viscosum*, the Glory

bower; *Cordia dichotoma*, the Lasoda; *Dalbergia sissoo*, the Sheesham; *Desmodium oojeinensis*, the Sandan; *Ehretia laevis*, the Chamor; *Ficus benghalensis*, the Banyan; *Flacourtia indica*, the Ramontchi; *Litsea glutinosa*, the Soft Bollygum; *Litchi chinensis*, the Lichee; *Mallotus philippensis*, the Red Kamala; *Mangifera indica*, the Mango; *Miliusa velutina*, Chopar Chilla; *Phyllanthus emblica*, the Amla; *Shorea robusta*, the Saal (covering over 90%); *Syzygium cumini*, the Jamun; *Tectona grandis*, the Teak; *Terminalia alata*, the Asan or Sasj; *T. bellirica*, the Bahera; *Toona ciliata*, the Red Cedar and various grasses fall under subtropical deciduous forests besides *Ipomoea carnea*, the Behaya; *Lantana camara*, the Wild sage; *Senna tora*, the Sickle Senna; *S. occidentalis*, the Coffee Senna; *Sida acuta*, the Kareta; *Solanum torvum*, the Wild Eggplant; *Urena lobata*, the Congo Jute, the invasive plants and agricultural crops, agro-forestry and riverine scrub occur in the Doon Valley.

Mussoorie and Chakrata Hills: High altitude vegetation as under:

Abies pindrow, the Pindrow Fir; *Acer caesium*, the Maple tree; *Aesculus indica*, the Himalayan Horse Chestnut tree; *Cupressus torulosa*, the Himalayan Cypress; *Pinus roxurghii*, the Chir Pine; *Quercus dilatata*, the Green Oak, *Mohru*; *Q. incana*, the Blue-jack oak; *Q. leucotrichophora*, the Banj Oak; *Rhododendron arboreum*, the Burans, *Gurans*, *Laligurans*; *Cedrus deodara*, the Deodar.

III. *CHALCOPHAPS INDICA INDICA* (LINNAEUS, 1758)

Columba indica Linnaeus, 1758. *Syst. Nat*., ed. 10, Vol. 1: 164 (based on Edwards, 1743-1751) (type-locality: East Indies (as India orientali) vide Salvadori, 1893; assigned to Ambonia by Ripley, 1961, based on Stresemann, 1952, who quoted quoted Ambonia as the type-locality of *Columba javanensis* Muller, 1776 (syn. of *Chalcophaps indica indica*, Linnaeus, 1758) not for *Columba indica* Linnaeus, 1758 as per Schodde & Mason, 1997).

Columba javanensis Muller, 1776 (type-locality: Ambonia by Stresemann, 1952, vide Schodde & Mason, 1997).

Chalcophaps indica, Blyth, 1846 (1845). *J. Asiat. Soc. Bengal*, 14 (Part II, No. 168, New Series 84): 859.; Salvadori, 1893. *Cat. Birds Brit. Mus*., 21: 514; Blanford, 1898. *Faun. Brit. India, Birds*. 4: 26-27, fig. 6; McGregor, R. C., 1909. *A Manual of Philippine Birds*, Part-1 Galliformes to Eurylaemiformes: 58-60; Baker, 1928. *Faun. Brit. India*, 5: 215 (No. 1852); Wright, 1949. *J. Bombay nat. Hist. Soc*., 48 (3): 572 A (Table); George, 1957. *Indian Forester*, 83 (12): 734; Wright, 1957. *J. Bombay nat. Hist. Soc*., 4 (3): 657; Narang, 1995. Birds (Aves). In: Fauna of Rajaji National Park. *Fauna of Conservation Area*, 5: 36; Ali, 2002. *The Book of Indian Birds*: 30, 163, pl. 30, fig. 10; Datta & Devasar, 2012. *Birding in the Doon Valley*: 109; Fraser and Gray, 2013. *Australian Bird Names*: *A Complete Guide*: 24 (Indian Bronze Pigeon); Joshi & Rautela, 2014. *Asian Journal of Conservation Biology*, 3 (1): 54; Grewal *et al*., 2017. *A Pictorial Field Guide to Birds of India*, Pakistan, Nepal, Bhutan, Sri Lanka and Bangladesh: 22; Joshi & Rautela, 2014. *Asian Journal of Conservation Biology*, 3 (1): 54; Mohan *et al.*, 2016. *A Checklist of the Birds of Asan Conservation* Reserve: 8; Mohan & Sondhi, 2014, 2015. *An updated checklist and bibliography of the birds of Uttarakhand*: 13; Mohan & Sondhi, 2017. *An updated checklist and bibliography of the birds of Uttarakhand*: 14.

Chalcophaps indica salimalii Mukherjee, 1960. *Bull. Brit. Orn. Cl*., 80 (1): 6 (type-locality: Jenmalai= Tenmalai, central Travancore, Kerala).

Chalcophaps indica indica, Ripley, 1961. *A Synopsis of the Birds of India and Pakistan*: 167; Misra, 1970. Working Plan for the West and East Dehra Dun Forest Divisions: 54; Bhatnagar & Misra, 1972a. *Cheetal*, 14 (4): 42; Singh, 1979a. East Dehra Dun Forest Division; Singh, 1979b. West Dehra Dun Forest Division; Ali & Ripley, 1981. *Handbook of Birds of India and Pakistan*. 3: 157-159, pl. 3, fig. 7; Tak, 1995. Aves. In: Fauna of Western Himalaya, Part 1, Uttar Pradesh. *Himalayan Ecosystem Series*: 178.

Emerald Dove, Sharma, 2014. *Birding Trip Report*.

Common Names: Asian Emerald Dove, Bronze Pigeon, Bronze-winged Dove, Bronze-wing Pigeon, Common Bronze-wing Pigeon, Common Emerald Dove, Emerald Ground Dove, Emerald Dove, Emerald Pigeon, Green-backed Dove, Green and Bronze Pigeon, Green Dove, Green-backed Dove, Green Pigeon, Green-winged Pigeon, Green-winged Dove, Grey-capped Emerald Dove, Indian Bronze Pigeon, Indian Bronze-winged Dove, Indian Emerald Dove, Lilac-mantled Pigeon, Little Green Pigeon and Little Green-winged Pigeon.

Vernacular Names: *Daotualai*, *Mati-kupohu*, *Sil-kopu* (Assamese), *Raj-ghughu*, *Ram-ghughu* (Bengali), *Hari-fakhta* (Hindi), *Ka-er* (Lepcha), *Manika-pravu*, *Omana-pravu* (Malayalam), *Pachu-kavda* (Marathi), *Pathaki-prua* (Tamil) and *Andi-bella-guwa* (Telugu).

Classification: Class: Aves Linnaeus, 1758; Order: Columbiformes Latham, 1790; Suborder: Columbae Latham, 1790; Family: Columbidae Illiger, 1811; Subfamily: Columbinae Illiger, 1811; Genus: *Chalcophaps* Gould, 1843.

Present Sightings: Sahastradhara (main- Sulphur springs site) and Sahastradhara-Maldevta area (by the author); Chamasari (near Sahatradhara), Danda Lakhond (near IT Park, Sahastradhara road), Maldevta, Sahastradhara (Sulphur springs area) and Shahanshahi Ashram (*ca* 3 km from Rajpur, Old Mussoorie road) (by Abhai Mishra); Uttaranchal College of Science & Technology Campus, Nagal-Hatnala village, Sahastradhara road (by Abdur Rahman).

Diagnostic Features: Stocky, plump and short-tailed beautiful brownish-pink dove with glistening emerald bronze-green upper parts, bright red/coral red bill, dark brown iris, plumbeous eye-lids, legs dusky red/dark carmine, feet bluish and claws pale horn colour.

Male: Forehead and super-cilia conspicuous white, crown and nape dark bluish-grey, sides of head and

neck reddish-brown, front part of neck and area between chest and upper back purplish-brown, back of neck little greyish or may be with narrow grey band, upper back and wings metallic emerald-green with coppery-bronze tinge, a white patch/bar on shoulder edge, lower back coppery bronze with broad black and white cross-bands, underside dark reddish-brown, paler on throat and abdomen and lower tail-coverts grey, under-wings buff and flight feathers chestnut; tail blackish-brown, outer 2-3 pairs of feathers grey with a broad super-terminal black band, lower tail-coverts dark grey.

Female: Comparatively browner. Forehead and super-cilia pale grey; crown, nape and sides and back of neck brownish with reddish tinge; with a greyish (instead of white) patch/bar on shoulder edge; upper tail-coverts rufous-brown with dark edges, middle four rectrices (large feathers) blackish-brown, next two pairs rufous near base, outer two pairs grey near base and at tips as in male; underside brown with a reddish tinge; back and wings as in male.

Juvenile/Immature: More like female but dull brown above with very little green tinge, barred rufous and dark brown below and brown scallops on body and wings, bill dull reddish-brown, legs dull pink and claws grey.

Size: Length about 26.67 cm/10.5 in, tail 9.53 cm/3.75 in, wing 14.61 cm/5.75 in, tarsus 2.54 cm/1.0 in, bill from gape 2.29 cm/0.9 in (Banford, 1898); male/female/average (7 specimens) length 25.5/24.2/24.3, wing 15.2/13.9/14.1, tail 9.2/8.5/8.8, culmen from base 2.3/2.0/2.2, tarsus, 2.7/2.6/2.4, middle toe with claw 3.0/2.8/2.9 cm (McGregor, 1909); wing male 15.3-15.7 (as *C. indica salimii* Mukherjee, 1960); male wing 14.7-15.6, tail 9.3-10.0, bill 2.2-2.6, tarsus 2.5-2.9 cm; female wing 14.7-14.9, tail 8.9-9.1, bill c. 2.2, tarsus 2.4-2.6 cm (Ali & Ripley, 1981); 27 cm (Datta & Devasar, 2012); Myna+, 27 cm in length (Ali & Ripley, 1981; Ali, 2002); 26 cm (Grewal *et al*., 2017); 23-27/23-28 cm in length, wing-span 43-46 cm (nature conservation.in); 25-30 cm in length (indianbirds); 23-28 in length (IndiaNetzone; nature conservation; Wikipedia).

Weight: 119-144 g male/female (Ali & Ripley, 1981); 110-160 g (Brown, 2010); 90-170 g (indianbirds); 90-172 g (natureconservation).

Fig. 1. Male (Courtesy: Suresh C. Sharma, Sonipat).

Fig. 2. Female (Courtesy: Suresh C. Sharma, Sonipat).

Fig. 3. Female (Courtsey: Abhai Mishra, Dehra Dun).

Fig. 4. Female (Courtesy: Viru Negi, Chilla, Pauri).

Fig. 5. Male, injured (Courtesy: Abdur Rahman, Dehra Dun).

Altitudinal Range: From base to 1,829 m/6,000 ft (Balnford, 1898; Ripley, 1961); 579 m/1,900 ft (Wright, 1949); 610 m/2,000 ft (Wright, 1957); 1,100 m (Joshi & Rautela, 2014); 396 m (Mohan *et al*., 2016); up to 2,000 m (Grewal *et al*., 2017); up to 1,450 m (IUCN Red List); 373 m (Himalaya Birding); 648-1,099 m (present).

Distribution:

Uttarakhand:

Present Records in North-eastern Doon Valley, Dehra Dun: Sahastradhara (main- Sulphur springs site, 30º 23′ 07.6″ N and 78º 07′ 44.9″ E, alt. 830.5 m) and Sahastradhara-Maldevta area (alt. of 830.5-648 m) (by the author); Chamasari (near Sahatradhara, 648 m alt.), Danda Lakhond (alt. 648 m) (near IT Park, Sahastradhara road), Maldevta (30°18'31" N and 78°5'58" E, alt. 648 m), Sahastradhara (Sulphur springs site, 30° 23′ 07.6″ N and 78° 07′ 44.9″ E, alt. 830.5 m) and Shahanshahi Ashram (near Rajpur- 871 m alt., 30° 23′ 60″ N and 78. 6′ 27″ E, alt.1,099 m) (by Abhai Mishra); Uttaranchal College of Science & Technology Campus, Nagal-Hatnala village, Sahastradhara Road (alt. 648 m.) (by Abdur Rahman).

Earlier records from Dehra Dun: Mussoorie (Blanford, 1898); Tons Valley (Wright, 1949); Indian Military Academy campus (written as National Defence Academy), Forest Research Institute campus and Tons river valley (Wright, 1957); New Forest (George, 1957a,b); East and West Dehra Dun Forest Divisions (without locality, Misra, 1970; Singh, 1979a,b); Kuwanwala (Bhatnagar & Misra, 1972a); Survey of India campus, Hathibarkala (Narang, 1995); Dehra Dun (without locality, Tak, 1995; Ali, 2002); Arcadia Tea Garden. Doon School campus, Forest Research Institute campus, Karwapani Reserve Forest and Wildlife Institute of India campus (Datta & Devasar, 2012); Dry Siwalik Sal Forest zone, 30º 24′ N-78º 05′ E, 1,100 m alt., Doon Valley (Joshi & Rautela, 2014); Forest Research Institute campus and Chakrata (Sharma, 2014); Asan Barrage, 30º 25′57″ N and 77 º 40′ 12″ E, alt. 396 m (Mohan *et al*., 2016); New Forest/Dehra Dun (Avibase); Kanjapuri-Tapovan, Rishikesh, 30º 5′13″ N and 78º 16′ 4″ E alt. 373 m (Himalaya Birding).

Rest of Uttarakhand: Bageshwar, Chamoli (including Pathiyaldhar Valley), Haridwar, Pauri (including Lansdowne Forest Division), Tehri, Uttarkashi, Almora, Nainital (including Kaladhungi and Pangot), Pithoragarh and Rudraprayag districts; Corbett Tiger Reserve; Kalagarh Tiger Reserve; Kedarnath Musk Deer Sanctuary; Rajaji Tiger Reserve; Valley of Flowers National Park.

Rest of India: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Eastern Ghats, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tamil Nadu, Telangana, Tripura, Uttar Pradesh (Sohagiberwa Wildlife Sanctuary, Maharajganj), West Bengal and Western Ghats.

Elsewhere: Bangladesh, Bhutan, Brunei, Cambodia, China, Hong Kong, Indonesia (Greater Sundas, Maluku, Sulawesi and W Papua Islands), Japan (Sakishima Islands), Laos, Malaysia, Myanmar, Nepal, Philippines, Singapore, Taiwan, Thailand and Viet Nam.

Distribution of other subspecies:

Distribution of other subspecies:

India:

Chalcophaps indica augusta Bonaparte, 1855, the Nicobar Emerald Dove or Princess Gabrielli's Dove- Nicobar Islands (India) (Rao *et al.*, 2013).

C. indica maxima Hartert, 1931, the Andaman Emerald Dove- Andaman Islands (India), IUCN Red List- Near Threatened and IWPA, Schedule IV (family included) (Rao *et al.*, 2013).

Elsewhere:

Chalcophaps indica natalis Lister, 1889, the Christmas Emerald Dove- Christmas Island (Australian external territory in Indian Ocean).

C. indica robinsoni Baker, 1928- Sri Lanka.

C. indica minima Hartert, 1931- Biak, Mios Num and Numfor islands (Indonesia).

Habitat: Forests (rain-forests, evergreen forests, moist deciduous forests, closed gallery forests, wet sclerophyll forests and monsoon forests), plantations, vine scrubs, farms, gardens, woodlands, mangrove areas, forest fringes or in regenerating patches with secondary growth or in areas with weed infestation and seasonally in drier and open habitats.

Call: Low, soft moaning cooing consisting of 6-7 (or more and up to 10-12) '*coo*' or '*ooo*', starting quietly and then rise or '*coo...coo...coo*' or also a nasal soft, deep and low call '*coo-hoo-hoon*' '*hoo-hoo-hoon*' or '*hoon*' or '*hoo...oon...hoo...oon*' or '*coo… coo… coo… coo…or coo-hoo-hoon*'or deep dreamy '*hoo*'. Low pitched booming call, uttered continuously, especially during late afternoon and sometimes after dark, commonly heard during the summer, generally silent by September. Usually call in ventriloquial way when perched high on a tree, making hard to locate them (George, 1957a,b; Wright, 1957; Ali, 2002; Datta & Devasar, 2012; Grewal *et al*., 2017; natureconservation; Wikipedia).

Food & Feeding: Forage on seeds, berries, fallen fruits and plants on ground and mostly under tree cover/forest floor, also feed on termites, insects and snails, may also visit mineral seeps in forests; generally forage alone or in pairs and maintain a small feeding territory. They may occasionally be seen in trees feeding on fruits.

Breeding: Breeding season from January to May/July-August, may be throughout the year but depends on locality and environmental factors also (as April-September in Tamil Nadu), able to breed in their first year when males issue an advertising call for attracting females while perching on low tree branches and perform bobbing dance during courtship within their established territory (Higgens *et al*., 1996). Make suacer-shaped nest by using scant sticks, twigs, roots, grass, leaf litter etc. (without any lining) on trees, bushes, bamboo culms or even vines, mostly in closed-canopy woodlands and lay 1-2 creamy-yellow/white or very pale buff colour eggs in a clutch, measuring about

2.8 × 2.2 cm/1.1 × 0.85 inches (Blanford, 1898) and 2.7×2.1 cm (Baker, 1928). The eggs are incubated by female only (nature conservation). The incubation period is generally 14 days and the fledgling takes place in about 5 weeks, though young ones are fed by parents (Higgens *et al*., 1996); hatching may also take place between 13-15 days (nature conservation). Juveniles found in May at New Forest, Dehra Dun (George, 1957a,b). After hatching, chicks mainly subsist on 'pigeon milk', a thick milky substance secreted in crops of parent male and female, by pocking their bills into the parent's throat (Azam, 2011).

Behaviour: Very shy and secretive by nature and hence rarely seen, usually occur solitary, in pairs and sometimes in small groups, foraging under foliage for food in dense forests with lots of leaf litter cover, moves on forest paths and clearings. Fly fast and straight with regular beats accompanying sharp flick of wings and often takes quite low (usually under 5 m off ground) through trees, zipping in and out among trees and undergrowth, may also frequently walk on disturbance. When alarmed, they flee with a strong, powerful and direct flight. Spend much of their time on ground/forest floor foraging for food in dense forests with lots of leaf litter cover.

They generally don't take water bath but seen taking sunbath regularly lying on ground (Higgens *et al*., 1996).

Life Span: No data available, may live up to 18 years in captivity (Brown, 1995) and 3-5 years in natural environment (Brown, 2010).

Conservation Status: IUCN Red List- Least Concern; Wildlife (Protection) Act, 1972- Schedule IV; State bird of Tamil Nadu.

Threats: Predation by raptors, feral cats and habitat degradation.

Remarks: *Chalcophaps longirostris* Gould, 1848, the Brown-capped or Pacific Emerald Dove, an allied Australian form, is a colour variant differing in some colour pattern from *C. indica* (Linnaeus, 1758).

IV. ZOOGEOGRAPHY

As per the distributional trend in Doon Valley, eastern Doon and central (Tons Valley, Indian Military Academy campus, Forest Research Institute campus, New Forest, East Dehra Dun Forest Division, Kuwanwala, Survey of India campus, Hathibarkala, Arcadia Tea Garden, Doon School campus, Karwapani Reserve Forest, Wildlife Institute of India campus, Siwalik Sal Forest zone) (Wright, 1949, 1957; George, 1957a,b; Misra, 1970; Singh, 1979a; Bhatnagar & Misra, 1972a; Narang, 1995; Datta & Devasar, 2012; Joshi & Rautela, 2014) and present records (Chamasari- near Sahatradhara, Danda Lakhond- near IT Park, Maldevta, Sahastradhara- Sulphur springs site, Sahastradhara-Maldevta area, Shahanshahi Ashram- near Rajpur, Uttaranchal College of Science & Technology Campus, Nagal-Hatnala village) appears more preferable niches for Asian Emarad Dove, probably for being more green and wet which is significant from zoogeographical point of view. As regards distribution in western part there is general mention (without any particular locality) in Forest Working Plans (Misra, 1970; Singh, 1979 a,b) and specific report from Asan barrage area (Mohan *et al*., 2016). Records by Tak, (1995) and Ali (2002) from Dehra Dun are also without any locality.

As regards altitudinal range, it occurs between 373 m (Himalaya Birding)-1,100 m (Joshi & Rautela, 2014) at Doon Valley and between 2,005 m (Blanford, 1898)-2,118 m (Sharma, 2014) at Mussoorie and Chakrata hills respectively.

V. CONCLUSION

Sighting of *Chalcophaps indica indica* (Linnaeus, 1758), the Asian Emerald Dove, from Chamasari, Danda Lakhond, Maldevta, Nagal, Sahastradhara, Shahanshahi Ashram sites (all in north-eastern part of Doon Valley) adds to the present distributional records of the species in Dehra Dun, filling the gap in NE Doon valley. The synonymy, common/vernacular names, diagnostic features, colouration, size/weight, altitudinal range, distribution, natural history (habitat, call, food & feeding, breeding, behaviour and life-span), conservation status and threats have been provided in detail for bird lovers and other enthusiasts. The range of other subspecies in India and elsewhere has also been provided for overall distribution of the species.

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