

**A CONTRIBUTION TO THE STINK BUGS
FROM KHODAFARIN, NW IRAN
(HETEROPTERA: PENTATOMIDAE: PENTATOMINAE)**

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ABSTRACT: During 2008-2010 several sampling was conducted to survey Stink Bugs (Heteroptera: Pentatomidae: Pentatominae) from Khodafarin county at North Western of Iran. Totally 22 species belonged to 11 genera and 6 tribes were determined. In addition to the faunistic study, distribution of all the studied species is reviewed and determination comments are specified for them.

KEY WORDS: Stink Bugs, Pentatomidae, Pentatominae, Heteroptera, Khodafarin, Iran.

Khodafarin region with the location of 38° ' to 39° 'N; 46°3 ' to 7° 'E is situated in littorals of Aras River at East Azarbaijan province. Aras is main branch of "Kura River" with most significant is located in North West of Iran. Total length of the river is about 1072 kilometers which 410 kilometers made as join border between Iran and Azerbaijan. Aras occupants around 2,100,000 km² of area which 39% situate in Iranian territory, 38% at Armenia & Azerbaijan soils and 23% from Turkey's land. Aras is flows from "Minghuldag" mountains of Turkey with peak altitude of 3650 a.s.l. and by coursed Armenian highlands, is arrived in Iranian northern borders and afterwards comes with "Kura River" at Saber Abad of Azerbaijan and ultimately strews in Caspian Sea (Fig. 1).

The family of Pentatomidae is the largest in the Pentatomoidea, presently having more than 4700 species in nearly 900 genera (Rider, 2006). Stink bugs (Heteroptera: Pentatomidae) are easily recognized from other true bugs by their round or ovoid shape and five - segmented antenna, three tarsal segmented, Scutellum narrowed behind, more or less triangular in shape, rarely almost covering the abdomen (Borror et al., 1989). Although a few species have 4-3 antennal segments and scutellum covered specially Asopinae and Podopinae (Rider, 2006). The most of Pentatomids discharge a disagreeable scent which includes unsaturated aldehydes as the characteristic component, this scent has considered as a "defensive substance" (Waterhouse et al., 1961; Remold, 1962), "alarm pheromone" (Calam & Youdeowel, 1968; Ishiwatari, 1974) and also "aggregation pheromone" (Ishiwatari, 1976).

The fauna of Pentatomidae from North West of Iran was so far studied and published by Askari et al. (2009), Farshbaf (2000), Gharaat et al. (2009), Hassanzadeh et al. (2009 a,b), Khalilzadeh et al. (2005), Modarres (1987 & 1996), Nateq Golestan et al. (2010), Nikdel et al. (2011), Sadeghi (2004), Sadaghian et al. (2004). The true bugs of Aras river littorals have not been studied so far, thus the

present research focused to identification of Stink bugs (subfamily Pentatominae) in the mentioned area.

MATERIAL AND METHOD

The sampling of the material was conducted by sweeping net, light trap and some of them captured by hand directly from various grass lands and trees. Specimens were collected from different localities of Khodafarin county contain MarzAbad, Mardanaghum, Ebrahim sami, Ashegloo, Tatar, Toali, Jananloo, Khomarloo, Vinag, Bastamloo Aynaloo, Larijan, Gholibaghloo and some parts in highland expanse in Kaleybar region. The collected specimens were put into jars filled with 70% ethanol. Their identification was based on morphological structures and male genitalia examinations. For determining the materials, the following papers by Anufriev et al. (1988), Kment & Jindra (2008), Borrer (1989), Carapezza & Jindra (2008), Lodos (1959), Thomas (1994), Ribes et al. (2007, 2008), Rider (1989) were used. The system, nomenclature, synonymy, and Palaearctic distribution followed from Aukema, B. & Rieger Ch. (2006). Determination Notes are Mostly based on Rider's useful Web Site [<http://www.ndsu.edu/ndsu/rider/Pentatomoidea/>]. Distributional data dependent in Iran based on Modarres (2002), Havaskary et al., (2010) Hoberlandt (1995) and Linnavuori (2008).

Subfamily Pentatominae Leach, 1815

Tribe Aelini Douglas & Scott, 1865

***Aelia acuminata* Linnaeus, 1758**

Synonyms: *Cimex acuminatus* Linnaeus, 1758; *C. tessarophthalmus* Dallas, 1851; *Aelia turanica* Horvath, 1895; *A. punctiventris* Horvath, 1911; *A. baluchistanensis* Ahmad & Zaidi, 1988. **Material examined:** Khomarloo; 20 May. 2009 & 4 June. 2010., Ashegloo & Ebrahim sami, 20 August. 2010., Bastamloo, 14. June. 2008. **Distribution in Iran:** East & West Azarbaijan, Tehran, Kermanshah, Esfahan, Khorasan, Fars, Markazi, Hamedan, Zanjan, Lorestan, Mazandaran, Gorgan. **Distribution out of Iran:** HoloPalaearctic. **Determination Note:** in male species, dorsoposterior margin of pygophores always with only a middle emargination or completely without recesses, Third antennal segment more than twice as long as second and somewhat longer than fourth; front chest plates everywhere evenly rounded (Wagner, 1960).

***Aelia furcula* Fieber, 1868**

Synonym: *Aelia simillima* Reuter, 1900. **Material examined:** Khomarloo; 16, 18 & 25. May. 2009. 18 & 19. June. 2008., Ashegloo & Ebrahim sami; 25. June. 2008., Bastamloo; 17. June. 2008. **Distribution in Iran:** East & West Azarbaijan, Kermanshah, Tehran, Khorasan, Fars, markazi, Hamedan, Zanjan, Lorestan, Manazdaran, Gorgan. **Distribution out of Iran:** EUROPE; Kazakhstan, Greece, Russia, Ukraine. ASIA; Azerbaijan, Afghanistan, kazakhstan (asian part), Armenia, Turkey, China, Turkmenistan, Uzbekistan. **Determination Note:** in male species, Hind surface of genital segment just ventrad of central recess with two distinct teeth; apex of head rounded apically, with clearly protruding corners (Wagner, 1960).

***Aelia melonata* Fieber, 1868**

Synonym: *Aelia abtusa* Fieber, 1868. **Material examined:** Vinag; 4 & 5. June. 2009. **Distribution in Iran:** East Azarbaijan, Markazi, Tehran, Mazandaran, Khorasan, Blouchestan. **Distribution out of Iran:** EUROPE; France, Russia (ST: Caucasus), Spain, Uzbekistan. ASIA; Azerbaijan, Afghanistan, Kazakhstan, Armenia, Turkey, Georgia, Kirgizia, Tadzhikistan, Turkmenistan, Uzbekistan. **Determination Note:** Hind surface of male genital segment without teeth; apex of head diagonally angled, without protruding corners (Wagner, 1960).

***Aelia virgata* Herrich-Schäffer, 1841**

Synonym: *Cimex virgatus* Herrich-Schäffer, 1841. **Material examined:** Tatar & Toalii; 28. July. 2009. **Distribution in Iran:** Kermanshah, Fars, Lorestan, Markazi, Hamedan, Zanjan, Khorasan and other northern provinces. **Distribution out of Iran:** EUROPE; Bulgaria, Turkey, Greece, Macedonia, Uzbekistan. ASIA; Azerbaijan, Armenia, Turkey (Asian part), Israel, Lebanon, Syria. **Determination Note:** abdomen not broader than pronotum; bucculae without embossments, sloping evenly to the rear; abdomen ground color pale, with dark marks (Wagner, 1960).

***Neottiglossa leporina* Herrich-Schäffer, 1830**

Synonym: *Pentatoma leporina* Herrich-Schäffer, 1830; *Neottiglossa calva* Jakovlev, 1903; *N. irana* Wagner, 1963. **Material examined:** Aynaloo; 2. August. 2010. **Distribution in Iran:** Khorasan, West Azarbaijan. **Distribution out of Iran:** EUROPE & ASIA **Determination Note:** Abdominal venter pale with dark punctures, punctures laterad of spiracles concolorous with sternite; each spiracle surrounded by small black spot; punctures on exocorium concolorous with surface, Scutellum distinctly longer than coria, lateral margins just beyond apex of frena subparallel for short distance, apex broadly rounded (Stichel, 1961; Wagner, 1966).

Tribe Carpororini Mulsant & Rey, 1865***Brachynema germari* Kolenati, 1846**

Synonyms: *Cimex virens* Klug, 1845; *Raphigaster germari* Kolenati, 1846; *Pentatoma anabasis* Becker, 1867; *Pentatoma tetrastigmat* Walker, 1867; *Raphigaster biplaga* Walker, 1867; *Onocoma germari* var. *flavomarginatus* Jakovlev, 1871; *Onocoma germari* var. *grisea* Jakovlev, 1871; *Brachynema melanota* Jakovlev, 1874; *Brachynema virens* var. *alternatum* Horvath, 1899. **Material examined:** Khomarloo; 12. July. 2009, Tatar & Toalii; 6. August. 2010. **Distribution in Iran:** Khorasan, West Azarbaijan, Tehran. **Distribution out of Iran:** HoloPalaeartic **Determination Note:** Scutellum lacking whitish-yellow spots along base, body Longer (11-14 mm); form more elongate; rostrum clearly surpassing hind margin of middle coxae; scutellum almost twice as long as broad, apex pointed; humeral angles lacking black spots; posterolateral angles of pygophore acute (Ribes & Schmitz, 1992).

***Carpocoris coreanus* Distant, 1899**

Synonyms: *Carpocoris iranensis* Tamanini, 1958. **Material examined:** Khomarloo; 12, 13, 15 June. 2010. Jananloo; 18. June. 2010. Tatar & Toalii; 6. August. 2010. Ashgloo; 14. Septamber. 2009. Mardanaghum; 7. September 2010. MarzAbad & Mardanaghum; 20. August. 2009. **Distribution in Iran:** East Azarbaijan, Khorasan. **Distribution out of Iran:** EUROPE; Russia. ASIA; Azerbaijan, Afghanistan, Kazakhstan, Armenia, Turkey, China, Greece, Iraq, Israel, Jordan, Kirgizia, Mongolia, Russia, EG Sinai, Syria, Tadzhiestan, Turkmenistan, Uzbekistan. EXTRALIMITAL; Pakistan. **Determination Note:** Humeral angles of pronotum short and usually sharply pointed; generally one elongated, black spot, always parallel to the posterolateral free margin; parameres with the superior (= outer) tooth of the hypophysis well separated from the anterior and superior margins (Ribes, 2008).

***Carpocoris fuscispinus* Boheman, 1851**

Synonym: *Cimex fuscispinus* Boheman, 1851; *Pentatoma hahni* Flor, 1856. **Material examined:** Khomarloo; 12, 13, 15 June. 2010, Jananloo; 18. June. 2010, Tatar & Toalii; 6. August. 2010, Ashgloo; 14. Septamber. 2009., Mardanaghum; 7. September 2010. MarzAbad; Mardanaghum; 20. August. 2009, Larijan; 28. July. 2009. **Distribution in Iran:** East Azarbaijan, Mazandaran, Zanjan, Tehran, Markazi, Esfahan, Khorasan, Lorestan, Ardabil. **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Humeral angles of pronotum sharply pointed or rounded, protruding more or less; black spot on them, massive, with its internal edge convex; parameres with superior (= outer) tooth of the hypophysis near to the anterior edge and very near to the superior edge (Ribes, 2008).

***Carpocoris pudicus* Poda, 1761**

Synonym: *Cimex pudicus* Poda, 1761; *Cimex cinctus* Schrank, 1776; *Cimex carnus* Gmelin, 1790; *Pentatoma wilkinsonii* Westwood, 1837; *Pentatoma pallida* Dallas, 1851. **Material examined:** Ashegloo; 14. Septamber. 2009., Mardanaghum; 20. August. 2009. **Distribution in Iran:** Mazandaran, Gorgan, Tehran, Semnan, Khorasan **Distribution out of Iran:** EUROPE, ASIA & Egypt from North African Regions. **Determination Note:** Humeral angles of pronotum rounded, with black spot; abdomen usually narrower than pronotum; scutellum weakly convex, without depression; parameres much smaller, rounded apically; aedeagus of medium size, with small ventrolateral process of conjunctiva; vesica shorter than 1mm (Rider, 2011).

***Carpocoris purpureipennis* De Geer, 1773**

Synonym: *Cimex purpureipennis* DeGeer, 1773; *Cimex nigricornis* Fabricius, 1775; *Cimex porphyropterus* Gmelin, 1790; *Carpocoris nigricornis* var. *pyromosa* Westhoff, 1884. **Material examined:** Aynaloo; 2. Agust. 2010., MarzAbad & Mardanaghum; 15. Sptamber. 2009. **Distribution in Iran:** Khorasan, East Azarabajan **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** The black spot on the humeral angles of pronotum with its internal edge concave, semilunar, or near semilunar; anterolateral margins of pronotum more largely covered by the black spots than posterolateral ones; inflated conjunctiva of aedeagus with ventro-lateral lobes very long (Ribes, 2008). parameres with the superior (= outer) tooth of the hypophysis near to the anterior edge and very near to the superior edge (Rider, 2011).

***Dolycois baccarum* Linnaeus, 1758**

Synonym: *Cimex baccarum* Linnaeus, 1758; *Cimex verbasci* De Geer, 1773; *Cimex subater* Harris, 1780; *Cimex albidus* Gmelin, 1790; *Aelia depressa* Westwood, 1837; *Pentatoma confusa* Westwood, 1837; *Pentatoma inconcisa* Walker, 1867. **Material examined:** Khomarloo; 25. April. 2008., 20. May & 12, 13, 15. June. 2010., Jananloo; 18 & 19 June. 2010., Tatar & Toalii; 28. July. 2009., Ashegloo; 20. August. 2010. **Distribution in Iran:** West & East Azarbaijan, Fars, Khorasan, Tehran, Esfahan **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Lateral lobe on each side of posteroventral pygophoral surface devoid of long hairs; Lateral lobe on each side of posteroventral pygophoral surface quite large, projecting posteriorly nearly as far as lateral angle of pygophore (Rider, 2011).

***Holcostethus strictus vernalis* Wolf, 1804**

Synonym: *Cimex vernalis* Wolf, 1804. **Material examined:** Vinag; 5. June. 2009. **Distribution in Iran:** Tehran **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** head in dorsal view, not black. Ocular index=4.25 - 5.5 Rostrum not suppressing posterior coxae. Scutellum with concave margin on the middle region (Ribes et al., 2007).

Tribe Eysarcorini, Mulsant & Rey, 1866***Eysarcoris ventralis* Westwood, 1837**

Synonyms: *Pentatoma ventralis* Westwood, 1837; *Pentatoma inconspicuum* Herrich-Schaeffer, 1844; *Pentatoma pusillus* Costa, 1847; *Eysarcoris distactus* Dallas, 1851; *Eysarcoris misellus* Stal, 1854; *Eysarcoris helferi* Fieber, 1861; *Stollia rectipes*, Ellenrieder, 1862; *Eysarcoris epistomalis* Mulsant & Rey, 1866; *Eysarcoris mayeti* Mulsant & Rey, 1872; *Eysarcoris pseudoaeneus* Jakovlev, 1869; *Eysarcoris inconspicuus* var. *simplex* Puton, 1881; *Eysarcoris scutellaris* Jakovlev, 1885; *Eysarcoris egenus* Jakovlev, 1900; *Eysarcoris sindellus* Distant, 1902; *Eysarcoris schmidtii* Jakovlev, 1902; *Eysarcoris tangens* Stichel, 1961; *Eysarcoris confuses* Fuente, 1972; *Eysarcoris uniformis* Fuente, 1972; *Eysarcoris hispalensis* Fuente, 1972; *Eysarcoris luisae* Fuente, 1972. **Material examined:** Khomarloo; 12 & 13 August. 2010., Jananloo; 20. Septamber. 2009., Tatar & Toalii; 10. Septamber. 2009., Ashegloo; 20. August. 2010., MarzAbad & Mardanaghum; 15. Sptamber. 2008., Larijan; 27. July. 2009., Gholibaghloo; 8 & 9 Septamber. 2010. **Distribution in Iran:** Markazi, Khorasan Ardabil, Guilan, Golestan, Kerman, Markazi, Mazandaran, Semnan, Tehran, Zanjan. **Distribution out of Iran:** HoloPalaeartic.

Tribe Halyini Amyot & Serville, 1843***Mustha spinosula* Lefebvre, 1831**

Synonyms; *Halys spinosula* Lefebvre, 1831; *Mustha serrata* Amyot & Serville, 1843.

Material examined: Ayanloo; 1. Septamber. 2010. **Distribution in Iran:** East & west Azarbaijan, Fars, Gilan, Golestan, Khorasan Razavi, Khorasan Shomali, Mazandaran, Semnan and Tehran provinces. **Distribution out of Iran:** EUROPE; Albania, Bosnia Herzegovina, Turkey, Greece, Macedonia, Russia (St; Caucasus), Yugoslavia. NORTH AFRICA; Egypt. ASIA; Azerbaijan, Armenia, Turkey (Asian part), Cyprus, Georgia, Iraq, Israel, Syria, Turkmenistan. **Determination Note:** Body dark brown; pronotum with 16 regularly arranged spines; corium without dentine; male pygophore with lateral lobes a little produced with apex convex, ventero median cavity narrow and v-shaped; paramere F-shaped, stem relatively thick with well-developed thumb-like inner projection, blade acutely tapering towards apex with outer upper margin hump-like and a sub-round projection near apex (Memon & Ahmad, 2008).

***Apodiphus amygdali* Germar, 1817**

Synonym: *Halys amygdali* Germar, 1817; *Halys hellenica* Lefebvre, 1831; *Halys exsculpta* Burmeister, 1835. **Material examined:** Khomarloo; 18 & 24 July. 2009., Mardanaghum; 15. April. 2010., Larijan; 8. July. 2009. MarzAbad & Mardanaghum; 20. August. 2009.

Distribution in Iran: East Azarbaijan Fars, Tehran, Markazi, Kerman, Hormozgan, Semnan, Balouchestan, Esfahan, Khorasan. **Distribution out of Iran:** EUROPE; Albania, Bosnia Herzegovina, Bulgaria, Croatia, Turkey, Greece, Italy, Macedonia, Yugoslavia. ASIA; Azerbaijan, Armenia, Turkey (Asian Part) Georgia, Iraq, Israel, Lebanon, Syria, Turkmenistan. **Determination Note:** Outer angles of paraclypei, protruded forwarded; metathoracic scent gland complex with posterior margin of evaporating area folded in males; postero-lateral margin of paramere toothed; in females 2nd gonocoxae highly convex, 9th paratergites divided by transverse suture, Spermathecal bulb with longer tubules branched (Memon, 2002).

***Apodiphus integriceps* Horváth, 1888**

Synonym: *Neonevisanus rugosus* Distant, 1918. **Material examined:** MarzAbad & Mardanaghum; 20. August. 2009. **Distribution in Iran:** Tehran, Ghazvin, Hormozgan, Southern Khorasan, Khorasan Razavi, Kerman, Kermanshah. **Distribution out of Iran:** Afghanistan, Kazakhstan, Kirgizia, Tadjhikistan, Turkmenistan, Uzbekistan and Yemen.

Extralimital: India & Pakistan. **Determination Note:** Head without median ochraceous line; scutellum with prominent ochraceous spots; apex of paraclypei slightly sinuate, with outer lobe slanting labium reaching to base of 3rd sternum; dorsoposterior margin of pygophore without projection; 2nd gonocoxae medially notched at posterior margin. (Memon, 2002).

Tribe Pentatomini Leach, 1815***Acrosternum breviceps* Jakovlev, 1889**

Synonyms: *Nezara breviceps* Jakovlev, 1889; *Nezara sahlbergi* Reuter, 1900; *Nezara satunini* Jakovlev, 1903; *Nezara bactriana* Kiritshenko, 1912. **Material examined:** Vinag; 4 & 5. June. 2009. **Distribution in Iran:** Khorasan, Ardabil **Distribution out of Iran:** ASIA; Azerbaijan, Armenia, Afghanistan, Turkey, Georgia, Iraq, Kirgizia, Kuwait, Saudi Arabia, Tadjhikistan, Turkmenistan and Uzbekistan **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Juga extending distinctly beyond apex of tylus; caudoventral margin of pygophore with a deep U-shaped median incision, delimited on each side by a sharply triangular lobe (Linnavuori & Al-Safadi, 1993).

***Acrosternum heegeri* Fieber, 1861**

Synonym: *Rhaphygaster incerta* Signoret, 1861; *Rhaphygaster submarginatus* Stål, 1861. **Material examined:** Mardanaghum; 20. August. 2009., Khomarloo; 8. August. 2010. **Distribution in Iran:** Widspread. **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Tylus free apically, not enclosed by juga; Apex of rostrum reaching to or beyond middle of second abdominal segment; margins of head in front of eyes only

slightly recessed; Emargination in posterior margin of male pygophore relatively deep, nearly rectangular, posterolateral angles of pygophore very broad and rounded; head before eyes clearly less than twice as broad as long (Wagner, 1959).

***Acrosternum millieri* Mulsant & Rey, 1866**

Synonyms: *Nezara millierei* Mulsant & Rey, 1866; *Aethemenes forbesi* Distant, 1884 *Acrosternum putoni* Vidal, 1949. **Material examined:** Ashegloo; 20. August. 2010., Aynaloo; 2. Agust. 2008. **Distribution in Iran:** Widespread. **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Posterolateral angles of male pygophore broad, angular, nearly rectangular in dorsal view; emargination in posterior margin of pygophore deep, nearly rectangular (Wagner, 1959).

Tribe Strachini Mulsant & Rey, 1866

***Eurydema ornatum* Linnaeus, 1758**

Synonyms: *Cimex festivus* Linnaeus, 1767; *Cimex pictum* Herrich-Schäffer, 1833 *Pentatoma decoratum* Herrich-Schäffer, 1833; *Strachia pustulata* Fieber, 1837 *Eurydema pictum* var. *conjuncta* Kolenati, 1846; *Cimex fallax* Scholtz, 1847 *Pentatoma ornata* var. *falleni* Gorski, 1852; *Cimex umbralis* Gistel, 1857. **Material examined:** Khomarloo; 6. August. 2008., 12, 13, 15 June. 2010., Jananloo; 20. Septamber. 2009., Tatar & Toalii; 6. August. 2010., Larijan; 27. July. 2009. Ayanloo; 1. Septamber. 2010. **Distribution in Iran:** Ardabil, Azarbaijan, Sistan and Baluchestan, Esfahan, Gilan, Golestan, Kerman, Kermanshah, Khorasan Razavi, Northern Khorasan, Khuzestan, Lorestan, Mazandaran, Tehran and Zanjan provinces **Distribution out of Iran:** HoloPalaeartic. **Determination Note:** Anterior angles of pronoyum toothed, connexiva slightly exposed at repose. In males tips of dorsal membranous conjunctival lobes without sclerotized plate. In females 2nd gonocoxae meaidally convex. Pygopgore about 1.5x broader than long, dorso median surface concave, medially notched, dorso-lateral lobes much prominent lobe- like sub-raundly protected, later continuous with sub roundly protected ventro lateral lobes. Ventro posterior margin medially concave, dorso-inner process prominent triangular, protiger rectangular, posteromedially deeply concave, paramere F-shaped pex of blade narrow, pointed thorn like, outer margin humped, aedeagus bilobed, distal lobe somewhat quadrangular, inner lobe large, rod like, visica elongated dorsal membrane conjunctival appendage bilobed without sclerotized apices(Siddiqui, 2000).

***Eurydema putoni* Jakovlev, 1877**

Synonyms: *Strachia adusta* Jakovlev, 1877; *Strachia distinct* Jakovlev, 1879; *Strachia colorata* Jakovlev, 1882; *Eurydema formosum* Puton, 1895. **Material examined:** Khomarloo; 20 & 24 July. 2009., Vinag; 4 & 5. June. 2009. **Distribution in Iran:** East Azarbaijan, **Distribution out of Iran:** EUROPE; Russia. ASIA; Azerbaijan, Afghanistan, Armenia, Turkey, Iraq, Israel, Syria. **Determination Note:** Posterior and posterolateral pronotal margins at least partly black or blackish blue, sometimes with short pale color along margin; anterior margin pale colored with, on each side, one often very short black or blackish blue interruption; Dorsal dark areas shining blackish blue or blackish green; mesocorium black with only one pale stripe distally, or the entire distal part of the corium pale; no pale pattern near middle of cubital vein (Derjanschi & Péricart, 2005).

***Eurydema ventralis* Kolenati, 1846**

Synonyms: *Eurydema ornata hoffmanseggi* Gorski, 1852; *Strachia ornata* Fieber, 1861; *Eurydema ventralis* Tamanini, 1957; *Eurydema ventrale* Tamanini, 1961. **Material examined:** Khomarloo; 20. July. 2009., Mardanaghum; 7. September. 2010. **Distribution in Iran:** East Azarbaijan, Khorasan. **Distribution out of Iran:** Palaeartic contain Asia, Europe & Extralimital regions. **Determination Note:** Ventral surface of abdomen lacking median rows of black spots; second antennal segment usually less than 1.3 times the length of segment III; dorsal surface of abdomen mostly red in both males and females; each paratergite anteriorly with a wide black patch reaching from outer margin of paratergite to mediotergite (Rider, 2011).

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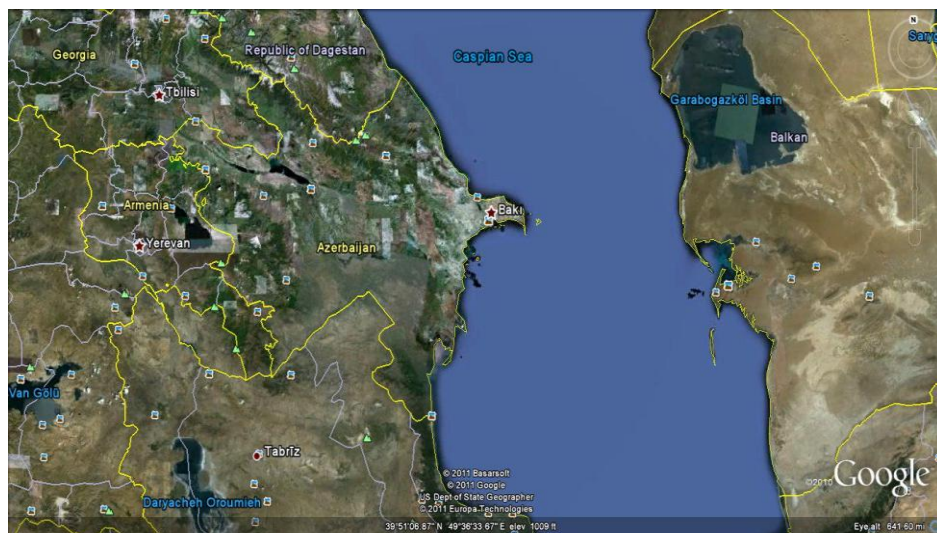
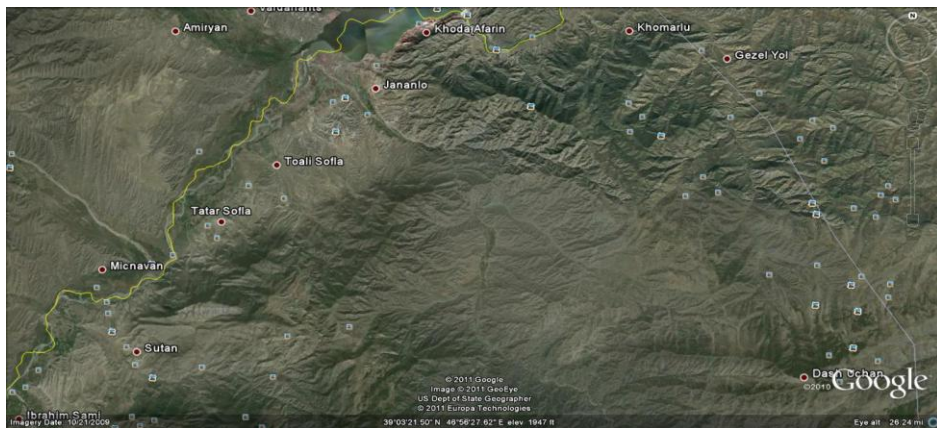
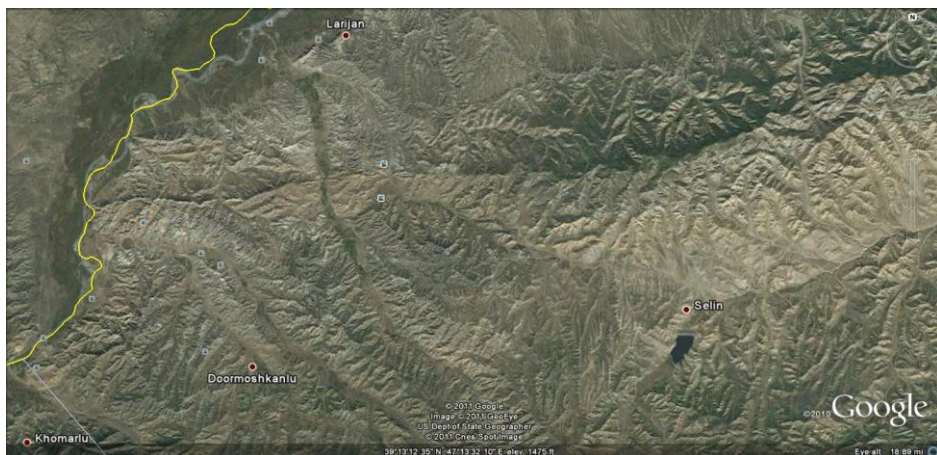


Figure 1. Map of Aras River as the boundary between Iran, Armenia, Azerbaijan & Turkey which flowed from turkey and strews in Caspian Sea (Google earth map, 2011).



2



3

Figures 2-3. Maps from the sampled regions from in the Khodafarin County, Aras River is showed by yellow line. (Google earth map, 2011).