**INTRODUCTION**

Bird species are playing an important role in the Natural Ecosystem (NE). Characterization of the ecology is “the relationship between the air, land, water, animals, plants etc., usually of a particular area or the scientific study of this”. Besides, the ecosystem is “all the living things in an area and the way they affect each other and the environment” (Cambridge Advanced Lerner’s Dictionary). In a large the ecology in the environment that consists of all of the flora as well as fauna living within azone and the interactions between them. All ecosystems whether they are freshwater, marine or located in native bush or plant species, active within the transfer of energy, Thus, the energy flows into an ecosystem frequently through the sunlight. These energies used in a method that called photosynthesis, allowing plant matter (flora) to grow. This flora then becomes a food source for birds, animals and insects. This transfer of energy continues as feeding relationships happen between plant species and animals (Birds’ role in ecosystems, 2011). An inclusive description of ecosystem as “any system composed of physical, chemical and biological processes active within a space-time unit of any magnitude (Rowe, 1961). Therefore, Almighty Allah Who is the Creator of this universe emphasizes the human on gaining knowledge on the universe and the environment. Allah says: “Say, Look at what is there in the heavens and the earth” [Al-Qur’an10:101]. Consequently of looking at the universe and research on its parts it has been recognized that “environment is the complex of physical, biotic factors, and chemical those acts upon an organism or an ecological community and ultimately determines its form and survival” (Islam, 2004). In addition, G T Miller writes in his book living in the environment: “The term ‘environment’ refers to all external conditions and factors that affect living organism. Here external factors mean all the things around us such as air, water, light, animals, humans etc. (Miller, 2002). There has similarity with the definition of universe by contemporary prominent Islamic scholar YusufAl-Qardawi (1926-) with the definition of environment as...
hedefined: “Allah creates the universe perfectly, and the interdependence and consistency closely among His creatures, and make these creatures characteristics, qualities, structures as well as numbers as required by His will based on the judgment” (Yusuf, P1, 2010).The Qur’anic evidence on the abovementioned characterization of environment as such Allah says: “Verily, We have created everything according to (Our) predestination” [Surah al- Qamar, or the Moon54: Verse 49] (M.TaqiUsmani). Again Allah says: “And who has created everything and designed it in a perfect measure” [Surah al-Furqan, or The Criterion 25: Verse 2](M. T.Usmani).

Almighty Allah creates animals and assesses for them that portion is appropriate and everything is estimated wisely for all His creations (Abu Ishaq, 1988, Vol. 4, P. 57). Indeed, everything in the universe from water, earth, air, mountains, animals and plants Allah creates them as much as coherence and consistency among them.If in this relationship has been disturbed even slightly, but its result isvariousdisasters, and perhaps causes for the destruction of environment and humans (Yusuf, 2010, P.1). Therefore, Allah says: “Do not make mischief on the earth after it has been set in order. And Supplicate Him in fear and hope. Surely, the mercy of Allah is close to those who are good in their deeds” [Surah al-Al'aijir, or The Rocky Tract15: verse 85](M. T.Usmani). Thus, the Qur’anic verses indicate the natural ecology almost 1500 years ago.

However, a profound understanding of the last Prophet’s life reveals that he was an “environmentalist”, a pioneer in the domain of preservation, sustainable development as well as resource management. He was a great man who continuously sought to maintain and fortification a harmonious balance between humans and nature. The result of review in the holistic life of Prophet Muhammad (May Allah peace be upon him) as an environmentalist we have found that he had a profound mercy for fauna and flora. He was a strong proponent of the sustainable use and cultivation of land and water, proper treatment of animals, birds and plants, and the equal rights of users (Jusoff and Samah, 2011).

Definitely, in generally all kinds of birds have been mentioned in the Holy Qur’an. As such Almighty Allah says: “Did you not realize that purity of Allah is proclaimed by all those in the heavens and the earth, and by the birds with their wings spread out? Everyone knows one’s own (way of Salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity. And Allah knows well what they are doing” [Surah al-Nure or the light 24: Verse 41](M. T.Usmani). In fact, each and every creature has particular method of tasbih(way of tasbih) proclaiming Allah’s purity as well as Allah creates each and every creature for specific purpose and duties, and teaches them their work and worship. Consequently, each and everything is busy with command of Allah. As a result, every being is playing its specific significant role in the natural ecosystems. Allah knows well what they are doing. For instance, Allah shows the example of tasbihor proclaiming Allah’s purity by the bird species “Did you not realize that purity of Allah is proclaimed by all those in the heavens and the earth, and by the birds with their wings spread out? [Surah al-Nure or the light 24: Verse 41]. Here has been encouraged by indicating to “and by the birds with their wings spread out” to observe with attention birds activities. As a matter of fact, we see birds move with their wings spread out place to place, flower to flower, and blossom to blossom in order to transfer the pollens and seeds. Of course birds knows the special method of tasbih or proclaiming Allah’s purity that Allah teaches them, but their actions and activities also one kinds of tasbih or duties or warship that Allah teaches and command them. Thus, bird’s role in the natural ecosystem has been described in the Holy Qur’an because Allah creates everything for human safety Allah says: “It is He who created for you all that the earth contains.” [Surah al-Baqarah or The Cow 2: Verse 29].

In short, birds role very important for humans welfare. In the light of the Qur’anic philosophy, the Prophetic traditions as well as an experiment of animal scientists have demonstrated that birds are a part of parcel in ecological community. Flower to flower they transfer pollen; they eat a variety of berries and seeds that are then carried and deposited in their droppings in other areas.

MATERIALS AND METHODS

The study was conducted by studying the Holy Qur’an, the Prophetic traditions, articles and books detailed on birds species as well as ethical values to protection the environment, ecology and atmosphere have been mentioned in the Holy Qur’an and the Prophetic traditions. In addition, the bird species were arranged in accordance with the Qur’anic name, English name, scientific name, higher classification, rank, family and order.

Results:

This study has found four important results: Firstly the natural ecosystem in environment that Allah creates the universe perfectly. Second: birds have been mentioned in the Holy Qur’an in two methods: all bird species by using in general term and specific bird by using three specific names. Thespecific bird species are:
Coturnix cotinixotrix japonica (Salwa), Corvus (Gurab), Upupaeops (Hudhud). Third: the study has proved in light of the Qur’anic philosophy and experiment of modern animal scientist that birds play an important role in the chain of ecosystem. They carry pollen on their beaks that help pollinate a wide variety of flowers in shrubs, trees as well. As they go from flower to flower they transfer pollen to others as they seek nectar found in the plants. They eat a variety of berries and seeds that are then carried and deposited in their droppings in other areas thus grow new plant and increase the green area. Feeding relationships are carried on by bird species in the environment and this is a part of the transfer of energy required in the ecosystem. It starts with sunlight and the process of photosynthesis which allows plants in growing. Thus, birds have a mutual relationship in maintaining their role in ecosystem. Fourth: Moreover, in the light of the Qur’anic information the study has found the Manna and Salwase much better food than other few foodstuffs. The Manna and Salwa together is a best foodstuff as a halal, mild, delicious as well as healthy and so on. Furthermore, there has a significant message for food scientists that at that moment and environment Allah preferred the Manna and Salwa as a best foodstuff for them. Hence, scientists should further research on honey, quail flesh and its eggs in order to discover more information such as basic constituent of the quail flesh, eggs and its medicinal importance. What are the foodstuff of quail and their major role in growing usable flesh that has been mentioned in the Holy Qur’an it is ‘taiyyb’-good things. And what kind of environment is suitable for sustainable life of the quail bird species. Similarly, according to the Qur’anic evidence and modern scientific experiment the Corvus (Gurab) is a most intelligent animal in the animal kingdom. It is a most expert and skillful in using of tool and Meta tool. It feed on worm and insects, so it clean up fields from diseases by feeding the dead animal species before spoiling and spread the virus. The bird Hudhud (Hoopoe) played a role of Prophet Sulayman’s army. It introduced Prophet Sulayman to the Queen Bilqis and her people in Saba.

Discussion:

Birds in the Holy Qur’an:

Birds have been mentioned in the Holy Qur’an in two methods as follows:
1. All bird species by using in general term.
2. Specific bird by using three specific names.

I. All bird species by using in general term:

Certainly, all kind of bird species have been mentioned by using in general term in birds’ mention 17 times in 12 Surahs in the Qur’an. Bird species have been mentioned in several verses regarding different purposes. For example, as though humans be benefited in this world, and know the wisdom of the Creator in creating this form of creature. Therefore, we have arranged the Qur’anic verses on birds with related reasons.

To elucidate Allah’s power and possibility of resurrection in the hereafter:

Almighty Allah says: (Remember) when Ibrahim said: My Lord, show me how You give life to the dead. He said: Is it that you do not believe? ‘He said: Of course, I do, but it is just to make my heart at peace. ‘He said: Then take four birds and tame them to your call, then put on every mountain a part from them, then give them a call, and they shall come to you rushing, and know that Allah is Mighty, Wise [Al-Qur’an 2:260] (M.T. Usmani).

The contemporary Mufassir Wahabibn Mustufaal-Zuhayli ([1932- ]) says: the majority of scholars there was not any doubt of Prophet Ibrahim about ability of Allah in reviving the dead. He asked the preview of how the revival because humans’ souls like accessing to the unknown and seeing that what is told (Al-Zuhayli, 1418, Vol.1, P. 68). Therefore, the Last Messenger of Allah said: “News is not like a witness” (Al-Tibrani, 1415, Vol. 7, P. 90).

To show the miracle from Allah as evidence on Prophet Isa is a Messenger of Allah (Tantawi, Vol.1, P. 617):

Almighty Allah says in the holy Qur’an that Prophet Isa’ said to the Children of Isra’il “and (shall make him) a messenger to the Children of Isra’il (who will say to them): I have come to you with a sign from your Lord, that is, I create for you from clay something in the shape of a bird, then I blow in it, and it becomes a living bird by the will of Allah; and I cure the born-blind and the leper, and I cause the dead to become alive by the will of Allah; and I inform you of what you eat and what you store in your homes. In this there is surely a sign for you, if you are (truly) believers.”[Surah Al-i-Imran, or The Family of Imran 3: 49] (M.T. Usmani).

In order to remember the blessing of Allah to Prophet Isa’ who is son of Maryam that He could create bird:

Allah says:“(Call to mind the time) when Allah will say, .O Isa, son of Maryam, remember My blessing upon you and upon your mother; when I supported you with the Holy Spirit. You spoke to people while you were still in the cradle and when you grew to middle age. I taught you the Book and the Wisdom, the Torah and the Injil. You created from clay something in the shape of a bird, then you blew on it, and it became a bird by My leave. You cured those born blind and lepers by My leave. You raised the dead by My leave. I kept the children
of Isra’il away from you when you came to them with clear signs, and the disbelievers among them said, 'This is nothing but a clear magic’” [Surah Maida, or the Table Spread 5:110] (M.T. Usmani).

Like human and other nonhuman species, birds have their own communities:

Allah says: “There is no creature moving on the earth, nor a bird flying on its two wings, but they are all communities like you. We have not missed anything in the Book. Then, to their Lord all of them shall be gathered” [Anam, or Cattle 6:38] (M.T. Usmani).

Imam Fakhr al-Din al-Razi (1149-1209) said that the verse shows every species of creatures has community, as well as Allah’s care, mercy and kindness covered to them (Al-Razi, Vol. 6, PP. 276-277).

Associated with the dream of Prophet Yusuf’s inmate:

Almighty Allah revealed “And two men entered the prison with him. One of them said, I have seen myself (in dream) pressing wine. And the other said, I saw myself carrying bread on my head of which the birds were eating. Let us know its interpretation. We see you are a man of good deeds” [Surah YUSUF, or Joseph 12:36] (M.T. Usmani).

To interpret the dream of Prophet Yusuf’s inmate:

Allah says: “O my fellow prisoners, one of you will serve wine to his master, while the other will be crucified and birds will eat from his head. Destined is the matter you are asking about” [Surah YUSUF, or Joseph 12:41] (M.T. Usmani).

To develop human thinking on the sign of Allah’s power that birds fly in the sky:

As such revealed “Did they not look at the birds how they are controlled in the atmosphere of the sky? No one holds them but Allah. Surely, in that there are signs for a people who believe” [Surah al-Nahal or The Bee 16: verse 79] (M.T. Usmani). Again Allah revealed “Do they not observe the birds above them, spreading their wings and folding them in? None can uphold them except [Allah] Most Gracious: Truly [Allah] Most Gracious: Truly it is He that watches over all things” [Surah al-Mulk, or Dominion 67:19] (A. Yusuf Ali).

To show the sign of Allah’s power in subjugating the mountains and the birds with Prophet Dawud:

“So, We enabled Sulaiman to understand it. And to each one of them We gave wisdom and knowledge. And with Dawud We subjugated the mountains that pronounced tasbih (Allah’s purity), and the birds as well. And We were the One who did (it)” [Qur’an, 21:79].

Imam Abu Ja’far al-Tabari (224 A.H - 310 A.H) said in the saying of Allah: “And with Dawud We subjugated the mountains that pronounced tasbih (Allah’s purity), and the birds as well” means when frequently Dawud was praising Allah’s purity mountains and birds also were praising Allah’s purity with Him (Abu Ja’far, 2000, Vol.18, P. 479).

Birds know praying to Allah, proclaiming Allah’s purity and their duties:

“Did you not realize that purity of Allah is proclaimed by all those in the heavens and the earth, and by the birds with their wings spread out? Everyone knows one’s own (way of) praying (to Allah) and one’s own (way of) proclaiming Allah’s purity. And Allah knows well what they are doing” [Surah al-Nur or The Light 24:41] (M.T. Usmani).

Explanation of this verse:

There are various opinion in tafsir on saying of Allah: “Everyone knows one’s own (way of salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity” as follows:

Abu Ja’far al-Tabari said, Mujahid said: Salah - praying (to Allah) is for human and tasbih -proclaiming Allah’s purity is for the other creations (Abu Ja’far, 2000, Vol. 19 P. 200).

Imam al-Razi said: there are three expressions on “Everyone knows one’s own (way of salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity” as follows:

First: Allah teaches everyone their (way of salah) praying (to Allah), and (way of tasbih) proclaiming Allah’s purity. These are indicating on saying of Allah that (And Allah knows well what they are doing) and this opinion by majority of scholars (Al-Razy, Vol. 11, P. 350). It means almighty Allah teaches all creatures their salah- praying to Allah and way of tasbih- proclaiming Allah’s purity and all duties, worship they are doing as well.

Second: They know what they must have to do from prayer and praise (Al-Razy, Vol. 11, P. 350).

Third: Every praise and everyone who prays know praying (to Allah) that obligated on them (Al-Razy, Vol. 11, P. 350)

Al-Alusi (1802-1854) said: Definitely, each and every creature has particular duties (Al-Alusi, Vol. 13, P. 467).
Sufyansaid: it was said that the tasbih praise here is what are seen or appears in the creature the impact of workmanship (Al- Qurtubi, 2003, Vol. 12, P. 287).

Ahmad ibnAjiba (1747–1809) said: “Everyone knows one’s own (way of salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity” meaning Allah teaches every creature their dua-praying, Khudu-submission, and tasbih-praise or glorification of Allah. Moreover, it is that Allah inspires to birds pray and praise as inspires other Nano Science the birds which is certainly wise guiding them (which is impossible for Wiseman to guide to the bird) (IbnAjibah, 2002, Vol.4, P. 250).

**Birds played role of the Prophet Salayman’s army:**

Allah says “And (once) he (Saluaiman) checked the birds and said, How is it with me that I do not see the hudhud (hoopoe)? Rather he has disappeared, I will punish him with a severe punishment or slaughter him unless he brings to me a clear plea, Then the hoopoe did not take long and said (to Saluaiman), I have discovered what you did not, and have brought to you a sure information from Saba’ (Sheba). I have found a woman ruling over them, and all sorts of things are given to her, and she has a great throne, I have found her and her people prostrating themselves to the sun, instead of Allah, and the Satan has beautified their deeds for them, and has prevented them from the way, so they do not take the right path” [Surah Naml or the Ants 27: 20-24] (M. T.Usmani).

In this verse at first bird has been mentioned in generally, and then specific by mention the name of species that is hudhud (hoopoe).

**Prediction on paradise that there will serve roasted flesh of birds to the people of paradise in the hereafter:**

Allah predicts “And the flesh of birds that they desire” [Surah Waqia, or The Inevitable Event 56: 21] (M. T. Usamani).

IbnAjibah mentioned in interpretation of this verse “And the flesh of birds that they desire” is which wish roasted or cooked (IbnAjibah, 2002, Vol. 7, P. 434). Furthermore, bird species are symbol of beauty in the paradise as well as birds flesh will serve the people of heaven, and that will be very soft and delicious (Ibnkathir, 1999, Vol. 7, P. 523). Hence, we should be careful and as long as possible to be kindness to the bird species because they are also beauty of our natural environment.

**To show Allah’s supremacy in punishment on who is enemy of Allah:**

Has been revealed in the Holy Qur’an “Have you not seen how your Lord dealt with the People of the Elephant? Has He not turned their plan into nullity? And He sent upon them flying birds in flocks, throwing upon them stones of baked clay, and thus He turned them into eaten-up chaff” [Surah al-fil, or the Elephant 105: 1-5] (M. T.Usmani).

**Historical background:**

Taking its name from the mention of the “Army of the Elephant” in the first verse, this surah alludes to the Abyssinian campaign against Mecca in the year 570 of the Christian era. Abrahah, the Christian viceroy of the Yemen (which at that time was ruled by the Abyssinians), erected a great cathedral at Sana, hoping thus to divert the annual Arabian pilgrimage from the Mecca sanctuary, the Kabah, to the new church. When this hope remained unfulfilled, he determined to destroy the Kabah and so he set out against Mecca at the head of a large army, which included a number of war elephants as well, and thus represented something hitherto unknown and utterly astounding to the Arabs: hence the designation of that year, by contemporaries as well as historians of later generations, as “the Year of the Elephant”. Abrahah’s army was totally destroyed on its march probably by an extremely virulent outbreak of smallpox or typhus. And Abrahah himself died on his return to Sana (M. Asad, 2007, PP. 1294-1295, Al-Qurtubi, 2003, Vol. 20, PP.187, and IbnHisham, Vol.1, P. 62). Whose were witness reported very terribly died of Abraha, that he did not die until cracked his chest then come out his heart then died (IbnHisham, Vol.1, P. 62).

**Abu Ja’far al-Tabari said:**
“And He sent upon them flying birds in flocks” Allah sent upon them birds scattered, follow each other in many ways (Abu Ja’far, 2000, Vol.24, P. 605).

**Reported from Abdullahibn Abbas (618 A.D-687A.D):**
“flying birds in flocks” Follow each other ((Abu Ja’far, 2000, Vol.24, P. 606).

**Reported from Dihhak:**
IbnZaid (593 A.D – 673 A.D) said: “flying birds in flocks” Abaabil-Different birds (flocks or groups of different birds), come from here, come from there, they arrive from everywhere. Someone said: Abaabil birds that came out of the sea. Some of them said: came from sea(Abu Ja’far, 2000, Vol.24, P. 606).

Ibn Abbas Said: these werea type of bird that they werenose like the nose of bird. It is reported from Akramat that “flying birds in flocks” The birds came out green, came out of thesea, their head like a head of the lion. Reported fromObaid binAmir(Ababilbirds) said: they were black bird from sea. There were stones intheir beaksandnails(Abu Ja’far, 2000, Vol.24, P. 606).

Reported fromSa’id binJubair (-95A.H) that they are greens birds and theirbeaksis yellow colour. And said Muhammad ibnKa’ab: It was black birds from sea. There were stones in theirbeaksandnails ((Abu Ja’far, 2000, Vol.24, P. 607 andal-Qurtubi2003, Vol.20, P. 197).

Table 1: Citation of the Qur’anic verses on birds mention in the Holy Qur’an in general.

<table>
<thead>
<tr>
<th>No</th>
<th>Name of surah</th>
<th>No of surah</th>
<th>No of verse</th>
<th>Mention time</th>
<th>Mention type</th>
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<tr>
<td>1</td>
<td>Surah al-Baqarah</td>
<td>2</td>
<td>260</td>
<td>1</td>
<td>In general</td>
</tr>
<tr>
<td>2</td>
<td>Surah Al-i-Imran, or The Family of Imran</td>
<td>3</td>
<td>49</td>
<td>2</td>
<td>In general</td>
</tr>
<tr>
<td>3</td>
<td>Surah al- Maida, or the Table Spread</td>
<td>5</td>
<td>31, 110</td>
<td>4</td>
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<td>4</td>
<td>Surah al-Anam, or Cattle</td>
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<td>38</td>
<td>1</td>
<td>In general</td>
</tr>
<tr>
<td>5</td>
<td>Surah SYUSUF, or Joseph</td>
<td>12</td>
<td>36, 41</td>
<td>2</td>
<td>In general</td>
</tr>
<tr>
<td>6</td>
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<td>79</td>
<td>1</td>
<td>In general</td>
</tr>
<tr>
<td>7</td>
<td>Surah al- Anbiyaa, or The Prophets</td>
<td>21</td>
<td>79</td>
<td>1</td>
<td>In general</td>
</tr>
<tr>
<td>8</td>
<td>Surah al-Nure (light)</td>
<td>24</td>
<td>41</td>
<td>1</td>
<td>In general</td>
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<td>9</td>
<td>Surah al-Namal, or The Ant</td>
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<td>20</td>
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<tr>
<td>10</td>
<td>Surah Waqua, or The Inevitable Event</td>
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<td>21</td>
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<tr>
<td>11</td>
<td>Surah al- Mulk, or Dominion</td>
<td>67</td>
<td>19</td>
<td>1</td>
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<tr>
<td>12</td>
<td>Surah al- Fil or The Elephant</td>
<td>105</td>
<td>3</td>
<td>1</td>
<td>In general</td>
</tr>
</tbody>
</table>

Birds used in specific names:

There are threetypes of birds have been mentioned in the Holy Qur’an specificallyas follows:

1. **Salwa**
   - Mentioned in the Holy Qur’an: Salwa
   - Scientific name: Coturnixcoturnix
   - English name: Quail
   - Higher classification: Coturnix
   - Rank:Species

**Description:**

Quail is a small brown bird which is shot for sport or food, or the meat of this bird. Its eggs are considered to be a delicacy(Cambridge).Quail is a collective name for several genera of mid-sized birds generally considered in the order Galliformes. In addition, theOld World quail are found in the familyPhasianidae, and New World quail are found in the family Odontophoridae. Moreover, the button quail are named more for their superficial resemblance to quail, and are members of the turnicidae family in thecharadriiformes order. Furthermore, the King Quail, one of the Old World quail (USGS - Animal Congregations, Quail – Wikipedia).

**Reference from the Holy Qur’an on quail birds:**

Allah says: “And We made the cloud give you shade, and sent down to you Manna and Salwa: Eat of the good things We have provided to you. And they (by their ingratitude) did Us no harm, but were harming only themselves” [Surah Al-Baqarah 2: 57] (M.T. Usmani).

**Historical back ground:**

Suddisaidwhenthe children of Israelentered in the*iḥ* (tih-thepeople lessten km. area between Egypt and Palestine) then said to Moses, peace be upon him: how are weincludinghere? Where isthe food? ThenAllah revealed for themManna was falling on the trees offiger, andSalwa-Quailbird (Ibnkathir, 1999, Vol. 1, P. 272).

**What is the Manna:**

There are different interpretations on Manna. Majority of interpreters refer tothe honey kinds of food.

Qtadah said: the Mannawas come downon them in their camp likesnow fall. It was whiter than milk and sweeter than honey, droppingthemfrom dawn to sunrise. The children of Israelate the Mannas much as enoughfor that day. AbdurRahamanbinYazid says: definitely it is honey (Ibnkathir, 1999, Vol. 1, P. 267).
What is the Salwa:

All interpreters of the Holy Qur'an are consensus that the Salwa is a bird (Al-Qurtubi, 2003, Vol. 1, p. 407). Moreover, they say the Salwallikequail bird, and IbnAbbas said that Salwa arequails(Ibnkathir, 1999, Vol. 1, p. 271). Salwa were descending on them, they takewhatquantity they wantfrom the Salwa, and do not refrain from them, and they slaughter andcooke and eat its soft and delicious meat(Ibn ‘Ajbah, 2002, Vol. 1, p. 49).

Abu Abdullah Al-Qurtubi (1214 A.D 1273 A.D) said in interpreting on the saying of Allah “Eat of the ‘taiyyb’- good things We have provided to you” is referring to the (Manna as well as Salwa without repetition again) as a shortcut indication to that apparent in the verse. And ‘taiyyb’-good things meaning halal-legal and tasty(Al-Qurtubi, 2003, Vol. 1, p. 408).

Al-Alusi said: ‘taiyyb’- good things are all halal delicious foods and its mention in order to refer to the Manna and Salwa. In addition, he says used the term ‘taiyyb’ to refer Manna and Salwa instead of repetition (Al-Alusi, Vol. 1, p. 325). Furthermore, in this surah verse no 61 have been mentioned that the Manna and Salwa is so much better food. Allah says: And [remember] when you said: “O Moses, indeed we cannot endure but one kind of food: (Manna and Salwa) pray for us to your Lord that He may bring forth for us of what the earth grows of its herbs, its cucumbers, its garlic, its lentils, its onions” Said [Moses]: “Would you take a lesser thing in exchange for what is [so much] better? [Surah Al-Baqarah 2: 61] (M. T. Usmani and Muhammad Asad).

To sum up the Manna and Salwa were a grace of Allah upon the children of Israel. Both areso much betterfood than other foodstuff. The Manna and Salwatoggether is a best foodstuff as a halal, mild, delicious, healthy and so on. Moreover, there has a significant message for food scientist that at that moment and environment Allah preferred Manna and Salwa as a best foodstuff for them. Hence, scientist should further research as well as assessment on honey, quailflesh and its eggs in order to discover more information. For example, basic constituent of quail flesh and eggs and its medicinal important, what are the foodstuff of quail and their major role in growing an useful flesh that has been mentioned in the Holy Qur’an it is ‘taiyyb’- good things, and what kind of environment is suitable for sustainable life of quail bird species.

Again Allah says: “We shaded them with the shadow of the clouds. And We sent down to them Mann and Salwa (saying). Eat of the good things we have provided you. And they did us no harm; rather they have been harming their own selves” [Surah al-A’raf 7: 160](M. T. Usmani).

Allah says: "O children of Isra’il, We delivered you from your enemy and appointed for you the right side of the mount Tur (Sinai) and sent down for you the Mann and Salwa (quails)"[Surah Ta Ha 20: 80] (M. T. Usmani).

2. Gurab:

Mentioned in the Holy Qur’an: Gurab

Scientific name: Corvus

English name: Crow

Rank: Genus

Description:

A large black bird with a loud unpleasant cry (Cambridge).Crows (/kroʊ/) are members of a widely distributed genus of birds, Corvus, in the family Corvidae. It is ranging in size from the relatively small pigeon-size. The crow genus makes up a third of the species in the Corvidae family. Crows appear to have evolved in Asia from the corvid stock, which had evolved in Australia ("Murder of Crows, etc."). In addition, the recent research has found that some crow species skillful of not only tool use but also tool construction(Winkler, 2002) as well as meta-tool use. The New Caledonian crow is one of the few birds that probe for food with twigs, a form of tool use. Now, three Oxford University researchers have discovered that one such crow, a captive female, has gone a step further. To obtain out-of-reach food, the crow repeatedly took a piece of straight wire and bent it to create a hook. According to the researchers, who report their findings in the August 9, 2002 issue of Science, this behavior suggests that new Caledonian crows "rival nonhuman primates in tool-related cognitive capabilities"(Winkler, 2002). Moreover, now a day's crow is considered to be among the world's most intelligent animals (Crow-Wikipedia and A Murder of Crows, 2010). Crows are an ideal avian species in which to look for asymmetrical tool use because of their impressive tool-related manipulator abilities. For example, their pandanus tool manufacture is more complex than chimpanzee tool manufacture (Rutledge, and Hunt, 2004).

Tool using and manufacturing:

Tool using is defined as “the use of an external object as a functional extension of mouth, beak, hand, or claw, in the attainment of an immediate goal” (Emery, and Clayton, 2004). New Caledonian crow, the greatest non-primate tool user, is capable of spontaneous metatool use (Figure 1, 2), it isdiscovered that this species of crow manufactures its own tools (Clayton, 2007, and Taylor, et al., 2007).
Although many birds, primates, and other animals use tools, it is not clear whether any of these species appreciate how tools work and the forces underlying their function. Perhaps the most convincing candidates are New Caledonian crows, who display extraordinary skills in making and using tools to acquire otherwise unobtainable foods (Emery and Clayton, 2004). Importantly for the present study, these crows have been shown to both select and manufacture a stick tool of sufficient length, which they then use to retrieve otherwise inaccessible food hidden at different depths (Clayton, 2007). Many corvids cache food for future consumption; either a large amount of seeds cached over a wide area, which are stored seasonally, or a smaller amount of higher-quality, perishable material, which is recovered hours or days later (Emery and Clayton, 2004).

Reference from the Holy Qur'an:

Allah says: “His self, however, prompted him to kill his brother, so he killed him and became one of the losers. Then, Allah sent a crow that scratched the earth to show him how he should conceal the corpse of his brother. He said, Alas! Was I not even able to be like this crow so that I could conceal the corpse of my brother? So, he stood regretful.”[Surah al-Maida, or the Table Spread 5:30-31] (M.T. Usmani).

The Qur’anic story: Eve used to give birth each time to twins: a boy and a girl. And Adam used to couple the boy from the first pregnancy to the girl from the second pregnancy and vice versa. Eve gave birth to a beautiful girl the time she gave birth to Qabeel, the girl was called Iqlimia and with Habeel Eve gave birth to a less beautiful girl than Iqlimia called Liutha. When years passed, Adam wanted to couple Habeel and Iqlimia, Qabeel objected to that and said: “I am worthier than my brother to her”, but Adam said to him, “O’ my son, Allah has ordered me to do this and all the bounty is in the Hand of Allah, He grants to whom He wills.” The conflict, then, never stopped until they reached an agreement which satisfied them all, that was; each one of them should offer a sacrifice to Allah and the one whose sacrifice was accepted would have the beautiful; Iqlimia. Habeel offered a fat sheep because he had many, and Qabeel offered a bunch of wheat because he was farmer; then they both waited for the reply from Allah. Soon, Allah sent a white fire that ate what Habeel had offered and left Qabeel’s. The latter then became so angry with his brother and the Shaytan had control over him, then he decided to kill his brother. However, Habeel refused to fight his brother and even refused to defend himself. Satan totally dominated over Qabeel, so he took a stone and hit his brother’s head and eventually he died. Qabeel then was so confused about his brother’s body since burying the dead was not known at that time. So he carried his brother on his shoulder for a long time and that was in a cave called “Thaur” near Makka. Finally, Allah sent two crows to fight each other in front of Qabeel until one of them killed the other. After a minute, the killer crow dug a hole in the ground to bury his dead brother in order to teach Qabeel how he should bury his brother. Therefore, that was guidance and an inspiration from Allah to the crow to teach Qabeel how he should bury his brother. However, after he did that he regretted and felt sorry for his crime (Al-Huseini, vol. 1, p 16-17, Tantawi, Vol.1, PP. 1234-1239, and al-Zuhayli, Vol.6, PP. 153-154).

Imam al-Alusi said: Almighty Allah sends two crows and killed of them another one, and then the killer crow was looking at the killed crow and thinking how ways possible hide it. Immediately it dug a hole by using its beak and foot, and then pushed by its head the dead body of crow in order to put it in the hole. Thus, by tool using the crow hides the die crow that killed by it. Someone evaluated the wisdom in sending the crow at this situation without other animal that the crow is familiar as an intelligent animal in the animal kingdom. Moreover, the nature of crow is that pessimistic in the separation, and alienation, and it was suitable for this story (Al-Alusi, Vol. 4, P. 457).

Mujahid said: Allah sent two crows then they were fighting in front of Qabeel until one of them killed the other one, and then dug a hole and buried. Likewise, Qabeel (the son of Adam who killed his elder brother Habeel) learned burying system from the crow because this was the first son of Adam who was killed by his brother. It
was said that the habit of crow is digging the land to hide food as though it can eat later when needed. So, then it is notified to Qabeelim burying the dead body of his brother (Al-Qurtubi, 2003, Vol. 6, P.141, and Tantawi, Vol.1, P. 1239).

Thus, in the light of the Qur’anic information, analyzing of ancient interpreter of the Qur’anic verse and experiments of modern animal scientist have demonstrated that the crow is most intelligent bird species in animal kingdom. Furthermore, it has proved the Qur’anic wisdom in mentioning and sending the crow at that difficult moment. This study has proved that the crow is not only most expert and skillful in tool using, but also metatool user in animal world.

3. Hudhud:

- Mentioned in the Holy Qur’an: Hudhud
- Scientific name: Upupaepops
- English name: Hoopoe, onomatopoic
- Rank: Species

**Description:**

The Hoopoe (/huːˈpuː/ (Upupaepops)) is a colorful bird that is found across Afro-Eurasia, notable for its distinctive 'crown' of feathers. It is the only extant species in the family Upupidae. One insular species, the Saint Helena Hoopoe, is extinct, and the Madagascar subspecies of the Hoopoe is sometimes elevated to a full species. Like the Latin name upupa, the English name is an onomatopoic form which imitates the cry of the bird (Hoopoe – Wikipedia and Bird life International, 2012). The Hoopoe is a medium sized bird, 25–32 cm (9.8–12.6 in) long, with a 44–48 cm (17.3–19 in) wingspan weighing 46–89 g (1.6–3.1 oz.). The species is highly distinctive, with a long, thin tapering bill that is black with a fawn base (Kristin, 2001).

**Reference from the Holy Qur’an:**

Allah says: “And (once) he (Sulaiman) checked the birds and said, How is it with me that I do not see the hudhud (hoopoe)? Rather he has disappeared” [Surah Naml or the Ants 27: 21] (M. T. Usmani).

The bird Hudhud (Hoopoe) played an important role of Prophet Sulayman’s army; introduced the Prophet Sulayman to Queen Bilqis and her people in Saba (Al-Zuhayli, 1418 H, Vol. 19, P. 283, and Solihu, 2014).

**Table 2:** Citation of the Qur’anic verses on birds mentioned in the Holy Qur’an by specific name.

<table>
<thead>
<tr>
<th>No.</th>
<th>Qur’anic name</th>
<th>Common name</th>
<th>Name of surah</th>
<th>No of surah</th>
<th>No of verse</th>
<th>Mention type</th>
<th>Total mention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Salwa</td>
<td>Quail</td>
<td>Surah Al-Baqarah or The Cow</td>
<td>2</td>
<td>57</td>
<td>Specific</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Surah Al-‘Araf or The Heights</td>
<td>7</td>
<td>160</td>
<td>Specific</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Surah Ta Ha</td>
<td>20</td>
<td>80</td>
<td>Specific</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Gurab</td>
<td>Crow</td>
<td>Surah al-Maida, or the Table Spread</td>
<td>5</td>
<td>31</td>
<td>Specific</td>
<td>2</td>
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<tr>
<td>3.</td>
<td>Hudhud</td>
<td>Hoopoe</td>
<td>Surah Naml or the Ants</td>
<td>27</td>
<td>20-24</td>
<td>Specific</td>
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</table>

**The significance role of birds in the natural ecosystem in the light of the Qur’anic philosophy and modern experiment:**

Through the Qur’anic outlook bird’s role in the natural ecosystem:

Indeed, each and every creature is proclaiming Allah’s purity. Allah creates each and every creature for specific purpose and duties. He (Allah) teaches them their work and worship. As such Allah says: “Did you not realize that purity of Allah is proclaimed by all those in the heavens and the earth, and by the birds with their wings spread out? Everyone knows one’s own (way of salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity. And Allah knows well what they are doing” [Surah al-Nure or the light 24: 41] (M.T.Usmani).

IbnAjibah said: “Everyone knows one’s own (way of salah) praying (to Allah) and one’s own (way of tasbih) proclaiming Allah’s purity” meaning Allah teaches every creature their own duas-praying, Khudua-submission, and tasbih-praise or glorification of Allah. Moreover, it is that Allah inspires to the bird praying and praising as inspires other Nano Science to the birds which is certainly a wise guided them (which is impossible for Wiseman to guide to the bird) (IbnAjibah, Vol.4, P. 250). Consequently, birds are playing significant role in the natural ecosystems. Allah knows well what they are doing. For instance, Allah shows the example of tasbihor proclaiming Allah’s purity by bird species “Did you not realize that purity of Allah is proclaimed by all those in the heavens and the earth, and by the birds with their wings spread out”?[Surah al-Nure or the light 24: 41]. Here has been encouraged by indicating to the saying of Allah that “and by the birds with their wings spread out” in order to observe with attention birds activities. In fact, we see birds are move
with their wings spread out place to place flower to flower blossom to blossom in order to transfer the pollen and seeds and so forth. Of course birds knows the special method *ot tasbih or proclaiming Allah’s purity* that Allah teaches them, but their actions and activities also one kinds of *tasbih* or duties or warship that Allah teaches and commands them. Thus, bird’s role in natural ecosystem has been described in the Holy Qur’an.

**Bird’s role in the natural ecosystem in light of modern experiment:**

Birds that are native to certain areas there have a vital role in the natural ecosystem. Birds eat insects, berries, worms, small mammals such as mice, squirrels, chip monks, and a variety of fruits and nuts, which all play an important role in the food chain and ecosystem of the world.

Tabur shows that there are about 10000 bird species in the world. From the poles to the equatorial forests, from the deserts to the centers of the oceans, from the highest mountains to the hearts of our cities, everywhere birds are amongst the most conspicuous forms of animal life (Tabur and Ayvaz, 2010).

**Chief pollinators:**

Pollination is a vital ecological procedure in order to plant reproductive achievement, as well as potentially restoration rates and trajectories (Lindell and Thurston, 2013, and Dixon, 2009). In fact, animal pollination is mostly important in the tropics; consequently, 94% of tropical plant species are pollinated by animals (Lindell and Thurston, 2013, Ollerton et al., 2011) with birds being a particularly important group of pollinators (Lindell and Thurston, 2013). Pollination is the process where pollen is transferred within and between plants enabling fertilization and reproduction. Bees, wasps, butterflies and (most importantly in New Zealand) birds act as pollinators. These organisms carry pollen grains from the anther to the receptive part (stigma) of the plant to allow pollination (Birds’ role in ecosystems, 2011). Hummingbirds have been recognized as pollinators (Fig: 3). Almost one-fourth of the more than 900 world-wide distributed Salvia species (Lamiaceae) are mostly pollinated by hummingbirds (Wester and Claben-Bockhoff, 2006).

**Spreading seeds in counting food chain:**

Birds have a good system for spreading seeds. They eat variety of berries and seeds that are then carried and deposited in their droppings in other areas (Fig: 4 (Tabur and Ayvaz, 2010)). Most species of New Zealand forest birds are known to include some fruit in their diet. Even primarily insectivorous species such as grey warbler (gerygoneigata), fantail (RhipiduraFuliginosa) and pied tit (PetroicaMacrocephala) will occasionally take small fruits (Clout and Hay, 1989), Moeed and Fitzgerald, 1982). This is, perhaps, a result of the broad individual niches of the species in our relatively depauperate avifauna. Among the birds which eat fruits regularly are the parrots-kea (Nestor notabilis), kaka, kakapo (strigopshabroptilus), red-crowned parakeet and yellow- crowned parakeet. These species chew and crack larger seeds with their relatively powerful bills and so must be regarded primarily as seed predators (Clout and Hay, 1989). Birds are important to continue ecologic circle, especially in food chain (Tabur and Ayvaz, 2010). Pigeons are playan important role in food chain by moving from place to place following the supply of fruit. Such big birds (50 cm in length) require a large amount of food, and pigeons congregate wherever there is an abundance of fruit on which to feed. They also tend to migrate seasonally, coming down to the low country in the winter. Other groups of birds eject from the stomach, via the mouth, pellets of indigestible material. It is believed that pigeons may do this sometimes when they have eaten a large amount. A large proportion of our forest tree and shrub species (including the dominant Podocarpaceae, unlike conifers in Northern Hemisphere temperate forest) has fleshy fruits which are attractive to birds. Pigeons, together with other indigenous birds such as tui (Prosthemaderanovaeelandiae), bellbirds (Anthornismelanura), and silvereyes (zosteropslateralis) continue to have a major role in the dispersal of many of these plants (McEWEN, 1978).
A lot of bird species are significant browsers of forest vegetation (Tabur and Ayvaz, 2010). The major browsers in the forests which covered most of prehistoric New Zealand (> 1000 yrs. BP) were birds. Recent speculation about the importance of browsing by birds has concentrated almost exclusively on the possible impact of moa (Clout and Hay, 1989), Greenwood and Atkinson, 1977). Which was flightless and therefore capable of browsing only the understory plants. The possible impact of other browsing birds, especially flying or climbing species capable of feeding at all levels in the forest (Clout and Hay, 1989).

**Mutualism:**

In order to fortify the mutualism in natural environment native birds are interrelating with the flora in natural ecosystems have a mutualistic connection that is, they both benefit from this relationship. While the bird collects nectar or fruit (in the form of berries) from the tree it visits, the tree benefits by having another organism carry out the process of pollination or seed dispersal. A lot of native plant species cannot perform these processes without the intervention of bird species (Birds’ role in ecosystems, 2011). Thus, birds have a mutual relationship in maintaining their role in the ecosystem. In spite of that, it is obvious that bird species are suffering from various kinds of violence have been done by human activities.

**Decline of bird species:**

Jetz and his co-researchers have demonstrated that over the past few decades, unmaintainable harvesting of natural resources accelerated climate change, the destruction of natural habitats through direct human activities as well as contamination have led to substantial range reductions and species extinctions. Even more dramatic changes to global land cover are projected for this century. They articulate that we used the Millennium Ecosystem Assessment scenarios to evaluate the exposure of all 8,750 land bird species in order to project land-cover changes due to climate and land-use change (Jetz et al., 2007). Furthermore, a number of experiments have been shown long-term declines of neotropical migrant birds at census sites in the forests of eastern North America. Moreover, many studies have recognized that many forest breeding neotropical migrants are missing from small tracts of forest, suggesting that declines have occurred at these sites since their isolation. Reliable evidence have been proved that deforestation at local sites on both the breeding and wintering grounds leads to declines such bird species. In addition, human activities in both regions are having dramatic impacts on the populations of migratory birds. Increasing forest destruction and fragmentation by human activities in both breeding and wintering zones of neotropical migrant birds will continue to decline (Robbins et al., 1989).

**Intimidating in killing the bird in vain:**

The Prophetic tradition affirmed to conserve resources in various ways from the encouragement and the stick (Al-Qardawi, 2010, P20). The Messenger of Allah (May Allah peace be upon him) gave us very significant message about birds. He said: Umar ibn al-Rashid said: I listened to say the Messenger of Allah (May Allah peace be upon him): "Who kill a bird in vain, clamor to God on the day of resurrection, (the bird) will be saying oh Lord, this person killed me in vain, and did not kill me in benefit" (Al-Nasaei, 2001. Vol: 4, P. 366, No. 4520).

This Prophetic tradition encourages us to be sensible about the right of all birds and animals, and prevents unnecessary killing, and provides guidance to preserve the wealth and resources as though not misuse with amusement and levity. In addition, al-Qardawi says: “the Hadith indicates the preservation of the environment and all its living organisms’ that technological progress have become a danger on it. Furthermore, in this prophetic guidance is protest campaigns hunting, which carried out a lot of rich people, who make fishing only have a fun, and to pass the leisure, and hunting deer and some birds for non-eating, but for playing” (Al-Qardawi, 2010, P. 20).
Table 3: The identification of the birds used in specific name in the Holy Qur’an; their Qur’anic name, scientific name, common name, higher classification as well as rank. Source: Quail - Wikipedia, the free encyclopedia, Crow-Wikipedia the free encyclopedia, Hoopoe - Wikipedia, the free encyclopedia.

<table>
<thead>
<tr>
<th>No</th>
<th>Qur’anic Name</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Rank</th>
<th>Lifespan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Salwa</td>
<td>Coturnix coturnix japonica</td>
<td>Quail Species</td>
<td>3-4 years</td>
<td>King Quail can live up to 13 years in captivity but in the wild only 3-6.</td>
</tr>
<tr>
<td>2.</td>
<td>Gurab</td>
<td>Corvus</td>
<td>Crow</td>
<td>Genus</td>
<td>10-15 years (Common Raven, In Wild), 7-8 years (American Crow, In Wild). Some crows may live to the age of 20, and the oldest known American crow in the wild was almost 30 years old (McGowan, K.J.) The oldest captive crow documented died at age 59 (Crow Believed to Be Oldest in World Dies, 2006)</td>
</tr>
<tr>
<td>3.</td>
<td>Hudhud</td>
<td>Upupa epops</td>
<td>Hoopoe Species</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Scientific classification of Qur’anic birds. Source: Quail - Wikipedia, the free encyclopedia, Crow-Wikipedia the free encyclopedia, Hoopoe - Wikipedia, the free encyclopedia.

<table>
<thead>
<tr>
<th>No</th>
<th>Qur’anic name</th>
<th>Common name</th>
<th>Kingdom</th>
<th>Phylum</th>
<th>Class</th>
<th>Order</th>
<th>Family</th>
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<tbody>
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<td>1.</td>
<td>Salwa</td>
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<td>Chordata</td>
<td>Aves</td>
<td>Galliformes</td>
<td>Phasianidae and Odontophoridae</td>
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<tr>
<td>2.</td>
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<td>Crow</td>
<td>Animalia</td>
<td>Chordata</td>
<td>Aves</td>
<td>Passeriformes</td>
<td>Corvidae</td>
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<tr>
<td>3.</td>
<td>Hudhud</td>
<td>Hoopoe</td>
<td>Animalia</td>
<td>Chordata</td>
<td>Aves</td>
<td>Coraciiformes</td>
<td>Upupidae</td>
</tr>
</tbody>
</table>

Conclusion:

Each and every part of the creature is very vital in their place and quantity. All play an important role in the chain of the ecosystems in environment. In the light of the Holy Qur’an, and the Prophetic traditions as well as the scientific report the research has shown that Allah creates the universe perfectly by His will based on the judgment. Everything in the world from water, earth, air, mountains, animals and plants Allah made them as much as coherence and consistency among them. If in this relationship has been disturbed even slightly, but its result is various disasters, and perhaps causes for the destruction of the environment and human. Hence, human should be more just, sensible as well as sympathy full towards birds as though enhance the number of birds in order to fortify and development the natural ecosystem. Besides, especially to protect the Qur’anic birds as though will not lose like other a lots of bird species have been lost from our very important animal resource.

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