



MTO 31.2 Examples: Poorhaydari, Historical Examination and Theoretical Analysis of *Maqām Išfahān* in Persian Art Music

(Note: audio, video, and other interactive examples are only available online)
<https://www.mtosmt.org/issues/mto.25.31.2/mto.25.31.2.poorhaydari.html>

Example 1. The Main Species of Fourth with Five Tones according to Urmawi (the last column is my interpretation)

Title	Ratios Sequence	Intervals in cents	Equivalent Interval Types
Species 1	13:12 – 14:13 – 13:12 – 288:273	139–128–139–92	JJJB
Species 2 (Singular First)	13:12 – 14:13 – 15:14 – 16:15	139–128–119–112	JJJJ

Example 2. *Išfahān* Species of Fourth according to the Systematists

Scholar	Title	Interval sequence	Tone sequence (<i>abjad</i>)	Equivalent tone sequence (on G)
Urmawi	Type 7: <i>išfahān</i>	JJJB	<i>a-j-h-z-ḥ</i>	G–A ♯–B ♭–B–C
Shirazi	<i>išfahān</i>	JJJB	<i>a-j-h-w-ḥ</i>	G–A ♯–B ♭–B ♯–C
Others	Type 7	JJJB	<i>a-j-h-z-ḥ</i>	G–A ♯–B ♭–B–C

Example 3. *İsfahān* octave species according to the Systematists (TC = tetrachord; PC = pentachord)

Title	Tone sequence (on G)	Interval sequence	Constituent genera/species
Urmawi's <i>maqām isfahān</i>	G–A–B ♭–C–D–E ♭–F–F#–G	ṬJJ–ṬJJJB	<i>rāst</i> TC + <i>isfahān</i> PC
Shirazi's <i>maqām isfahān</i>	G–A ♭–B ♭– <u>C</u> –D ♭–E ♭–E– <u>F</u> –G	JJṬ–JJJB–Ṭ	<i>nowruz</i> TC + <i>isfahān</i> TC + <i>ṭanīnī</i>
Maraghi's <i>isfahān-i 'aṣl</i>	G–A–B ♭–C–D–E ♭–F–F#–G	ṬJJ–ṬJJJB	<i>rāst</i> TC + <i>isfahān</i> PC
Maraghi's <i>isfahān</i> variant	G–A ♭–B ♭– <u>C</u> –D ♭–E ♭–E–F–G	JṬJ–JJJB–Ṭ	<i>irāq</i> TC + <i>isfahān</i> TC + <i>ṭanīnī</i>
Ladhiqi's <i>maqām isfahān</i>	G–A–B ♭–C–D–E ♭–F–F#–G	ṬJJ–ṬJJJB	<i>rāst</i> TC + <i>isfahān</i> PC
Banayi's <i>isfahān</i>	G–A–B ♭–C–D–E ♭–F–F#–G	ṬJJ–ṬJJJB	<i>rāst</i> TC+ <i>isfahān</i> PC
Banayi's <i>shu'bah isfahān</i>	G–A ♭–B ♭–B–C–D–E ♭–F–F#–G	JJB–ṬJJJB	<i>isfahān</i> TC + <i>isfahān</i> PC
Jami's <i>isfahān aḥad al-baqīyyah</i>	G–A–B ♭–C–D–E ♭–F–F#–G	ṬJJ–ṬJJJB	<i>rāst</i> TC + <i>isfahān</i> PC
Jami's <i>isfahān waṣat al-baqīyyah</i>	G–A–B ♭–C–D–E ♭–F–F#–G	JJṬ–JJJBṬ	<i>nowruz</i> TC + <i>humāyūn</i> PC

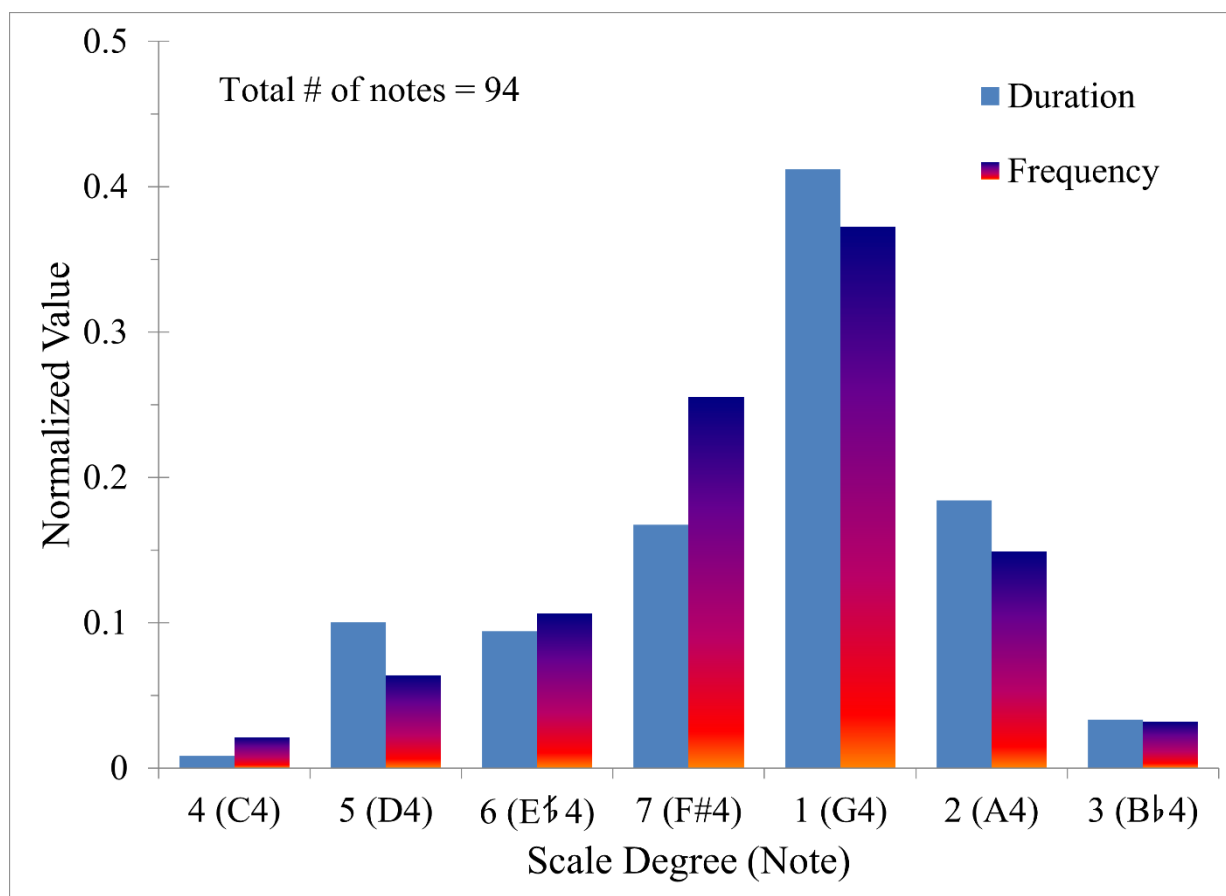
Example 4. *İsfahān* modal scheme according to the twentieth-century musicologists (see [2.1] and [2.5] for the descriptions of the superscripts T, S, I, M, A and N in the middle column)

Scholar	Tone sequence (scale/scheme)	Interval sequence
Hedayat	<i>İsfahān</i> : A–B ♭–C†– <u>D</u> –E–F–G–A <i>Rāk</i> : A–B ♭–C#– <u>D</u> –E–F–G–A	JṬJ–ṬBṬṬ JHB–ṬBṬṬ
Vaziri	Old: D ^{S,K} –E–F–G–A ^{A,N} –B ♭ ^I –C†–D New: D ^{S,K} –E–F–G–A ^{A,N} –B ♭ ^I –C#–D	ṬBṬ–Ṭ–JṬJ ṬBṬ–Ṭ–JHB
Khaleghi	D ^{S,A,K} –E–F–G–A ^N –B ♭ ^I –C#–D	ṬBṬ–Ṭ–JHB
Barkeshli	C ^{S,I} –D–E ♭–F–G ^A –A ♭–B–C	ṬBṬṬJ(T+B)B
Farhat	D ^A –E ♭ ^I –F†–G ^{S,A,K} –A–B ♭–C	JṬJ–ṬBṬ
Massoudieh	G–A–B ♭ ^M –C–[D–E ♭–F#–G ^K]–A–B ♭–C–D–E ♭	ṬBṬṬ–JHB–ṬBṬṬB
Fakhreddini	E–F† ^I –G#– <u>A</u> ^{S,I,K} –B–C–D	JHB–ṬBṬ
Kiani	G ^I –A ♭ ^I –B ♭– <u>C</u> ^S –D–E ♭–F–G	JṬJ–ṬBṬṬ
During	D ^K –E ♭–F#–G ^T –A–B ♭–C–D–E ♭–F	JHB–ṬBṬṬBṬ
Alizadeh et al.	Old: G ^K –A ♭ ^I –B ♭– <u>C</u> ^{S,A,K} –D–E ♭–F New: G–A ♭ ^{I,K} –B– <u>C</u> ^{S,A,K} –D–E ♭–F	JṬJ–ṬBṬ JHB–ṬBṬ
Talai	G–A ♭ ^{I,M} –B ^M – <u>C</u> ^S –D–E ♭ ^M –F	JHB–ṬBṬ
Hodjati	Old: G–A ♭–B ♭– <u>C</u> ^S –D–E ♭–F–G New: G–A ♭–B– <u>C</u> ^S –D–E ♭–F–G	JṬJ–ṬBṬ–Ṭ JHB–ṬBṬ–Ṭ

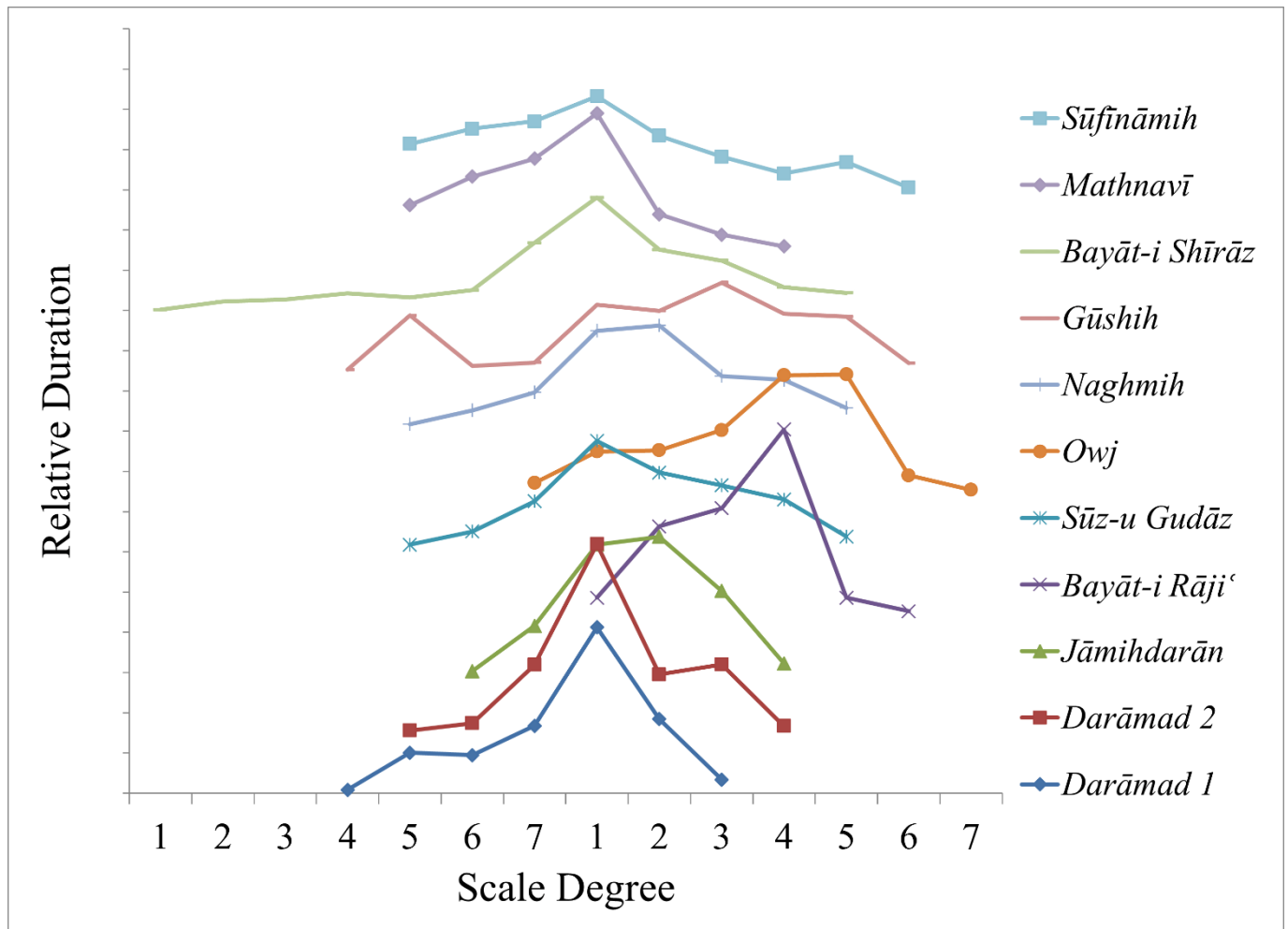
Example 5. The first *darāmad* of *iṣfahān* in Karimi's vocal *radīf* (reproduced from Tahmasbi 1995, 243)

concluding form

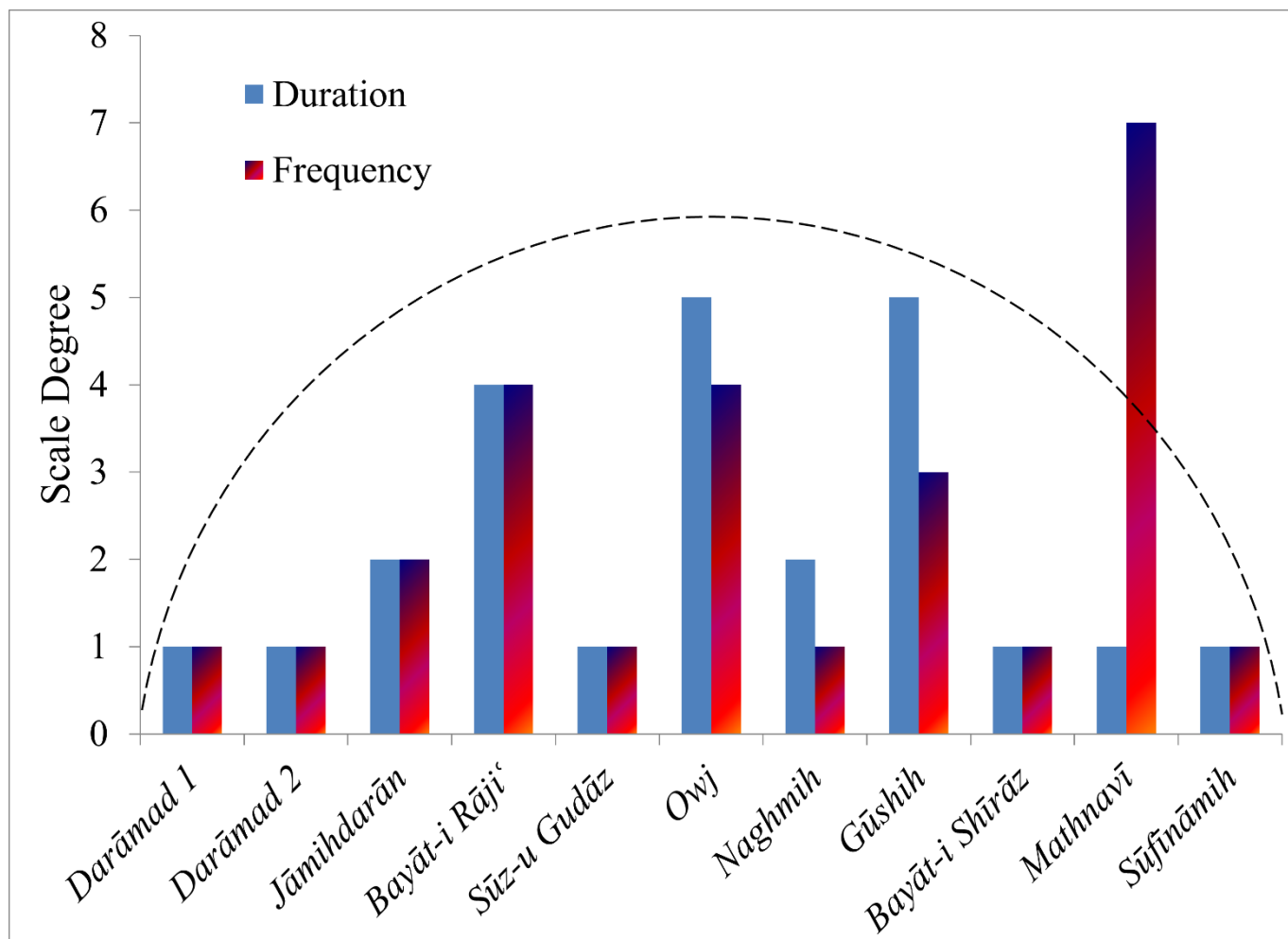
Example 6. Tone distribution histograms for Karimi's first *darāmad* of *iṣfahān*



Example 7. Melodic progression in Karimi's *dastgāh īshāhān* based on tone duration
 (Note the order of gushis is from bottom to top.)



Example 8. Progression of the most prominent tone in Karimi's *dastgāh iṣfahān*



Example 9. A few representative phrases from *bayāt-i rāji* in *iṣfahān* on G according to Karimi (reproduced from Tahmasbi 1995, 247 with slight modifications)

1

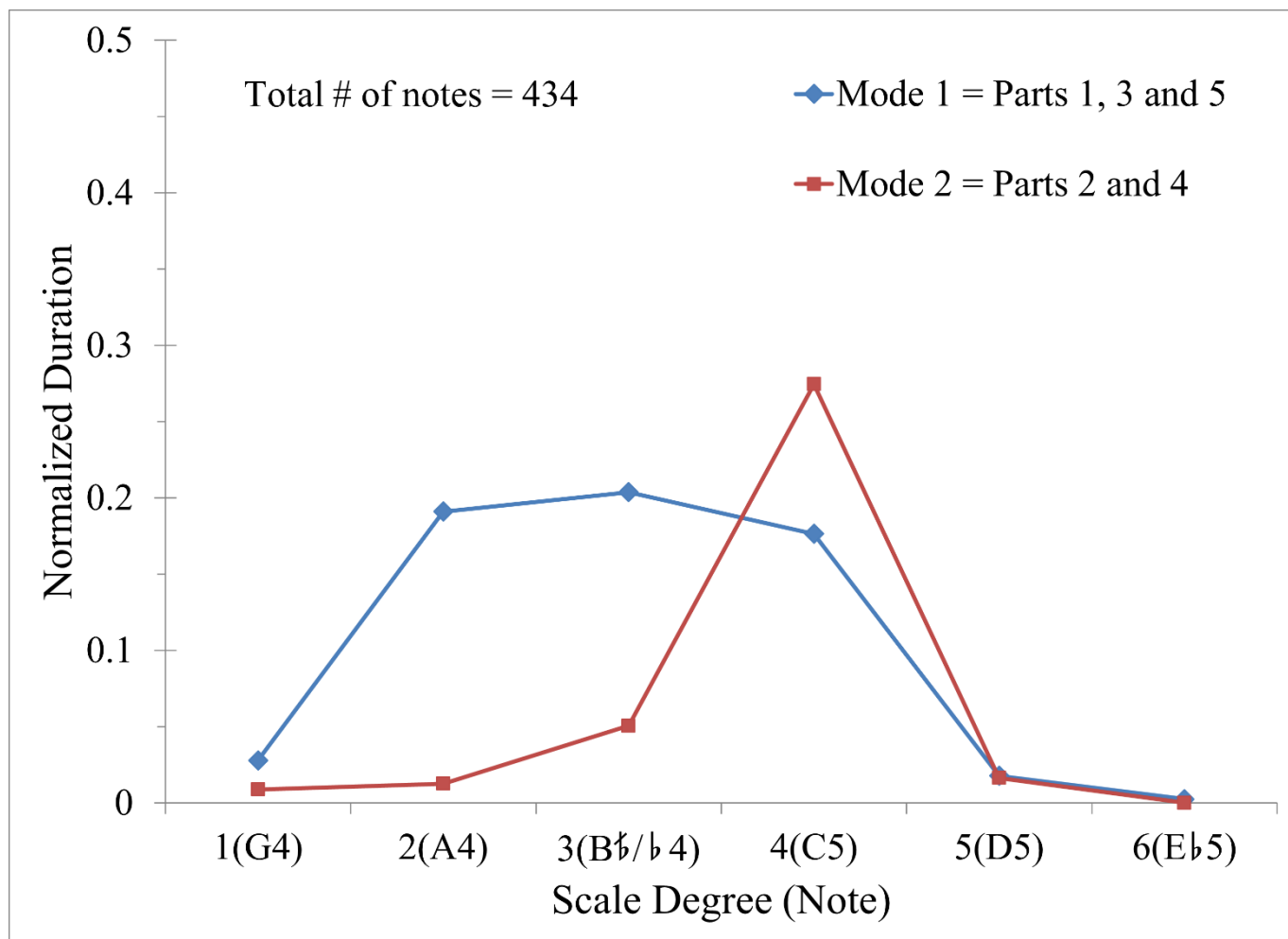
skipping a few phrases

2

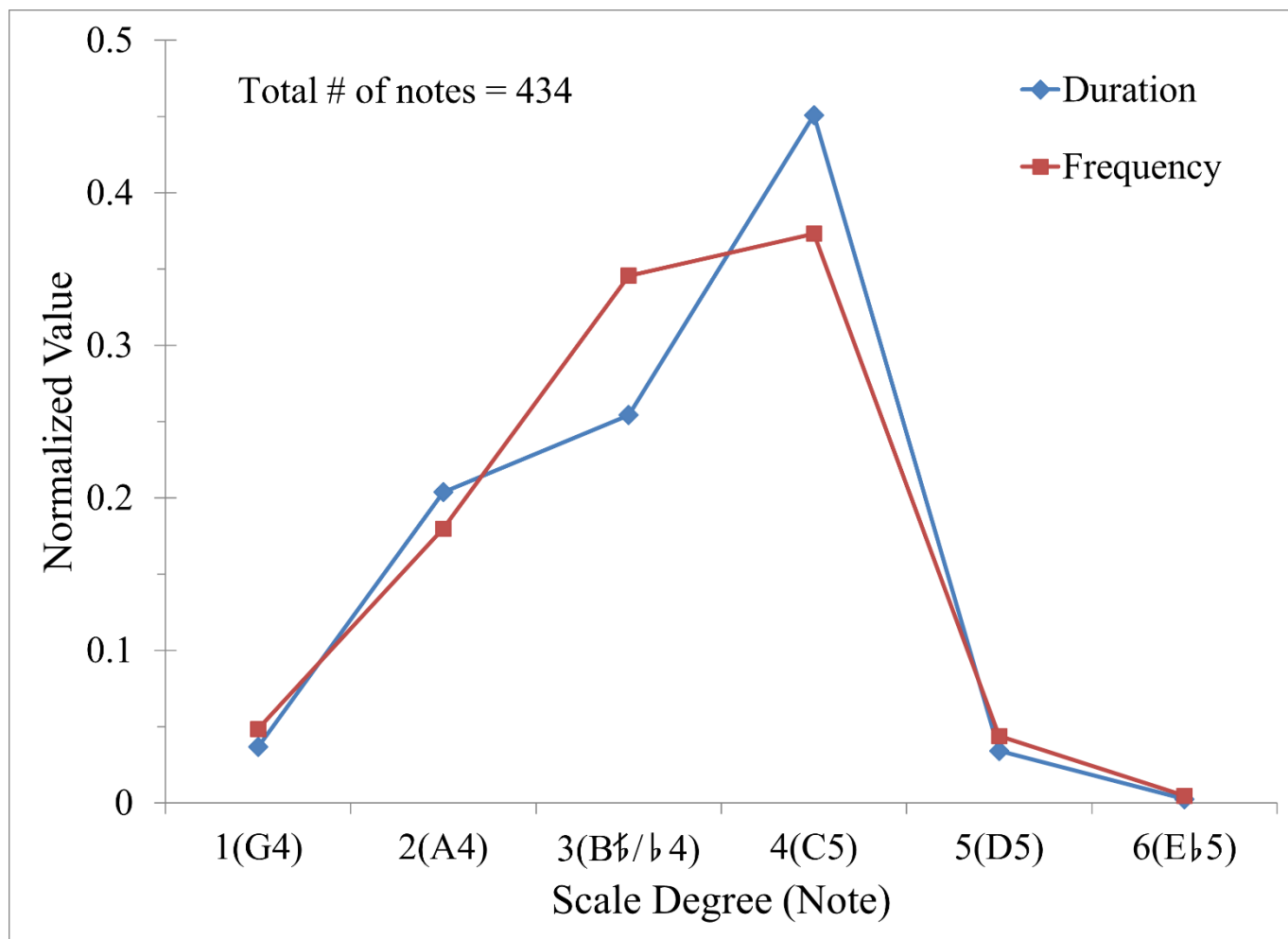
3

3

Example 10. Tone distributions of the entire Karimi's *bayāt-i rāji* as two separated modes



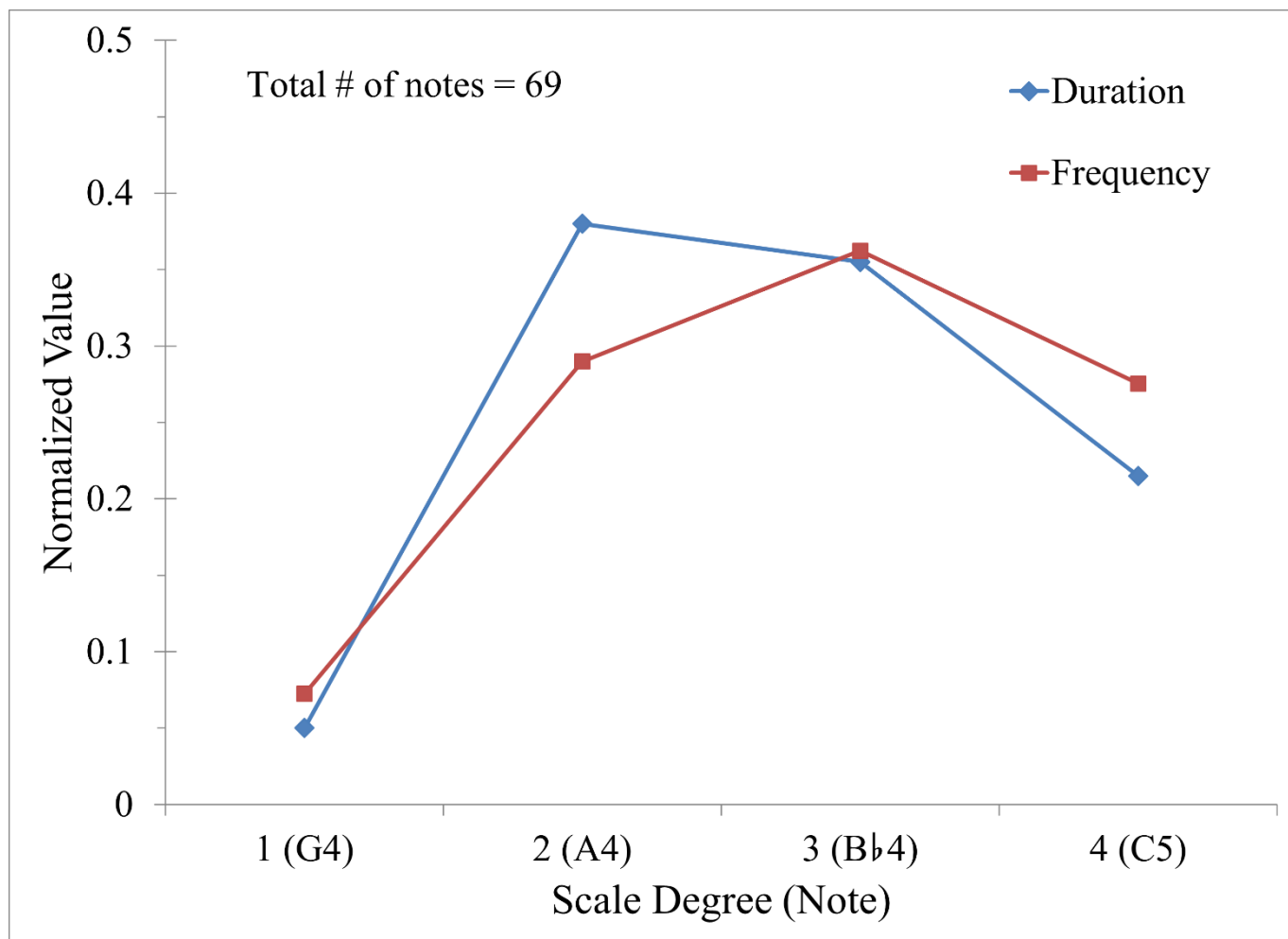
Example 11. Overall tone distributions of the entire Karimi's *bayāt-i rāji'*



Example 12. Main part of *bayāt-i rāji'* in *īsfahān* on G according to Davami (reproduced from Payvar 2011, 107 with slight modifications including a transposition from D to G)



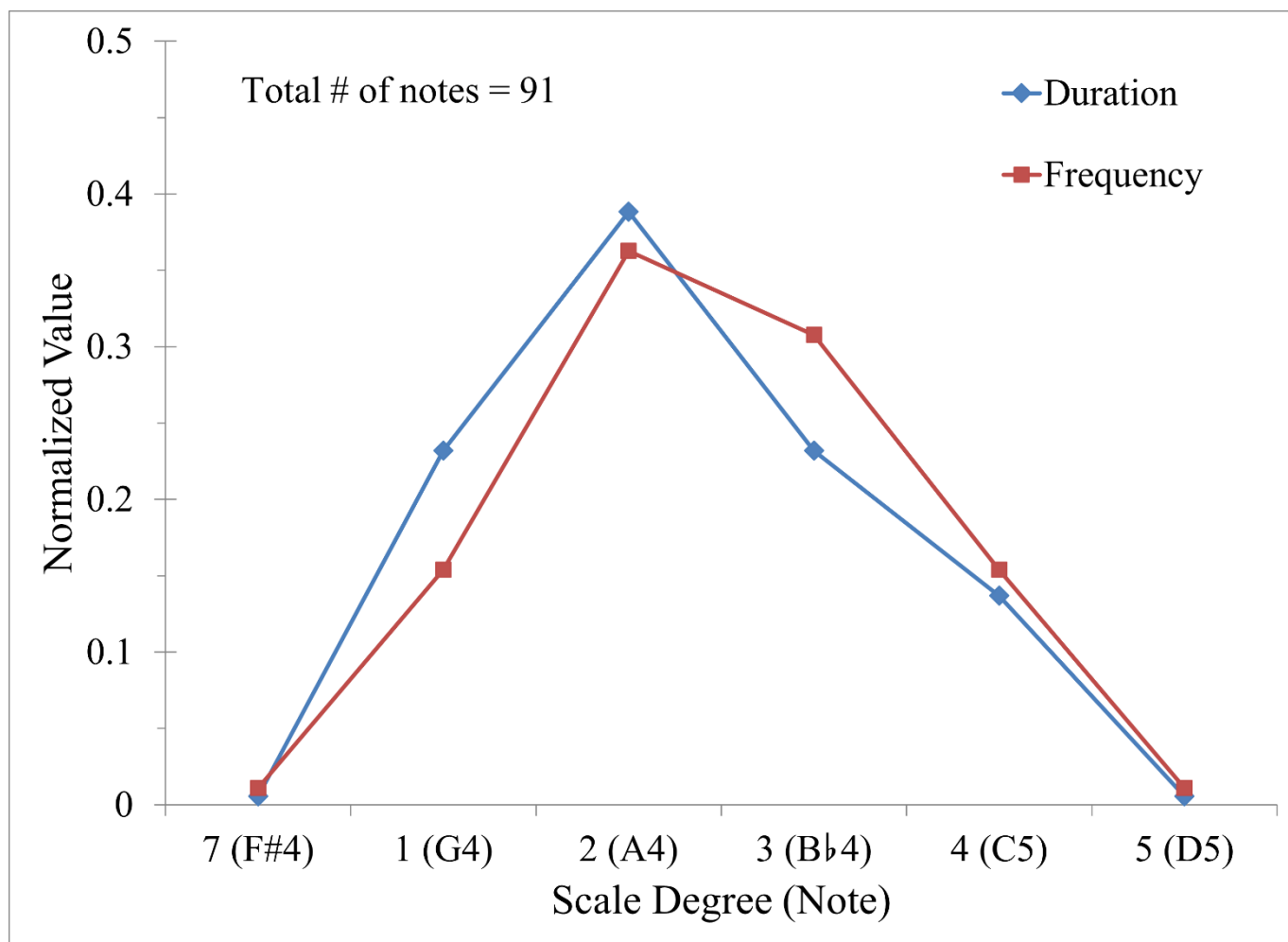
Example 13. Tone distributions for Davami's *bayāt-i rāji* (the entire piece)



Example 14. *bayāt-i rāji* No. 2 in *işfahān* on G according to Ma'rufi (reproduced from Ma'rufi 2011, 463 with slight modifications)



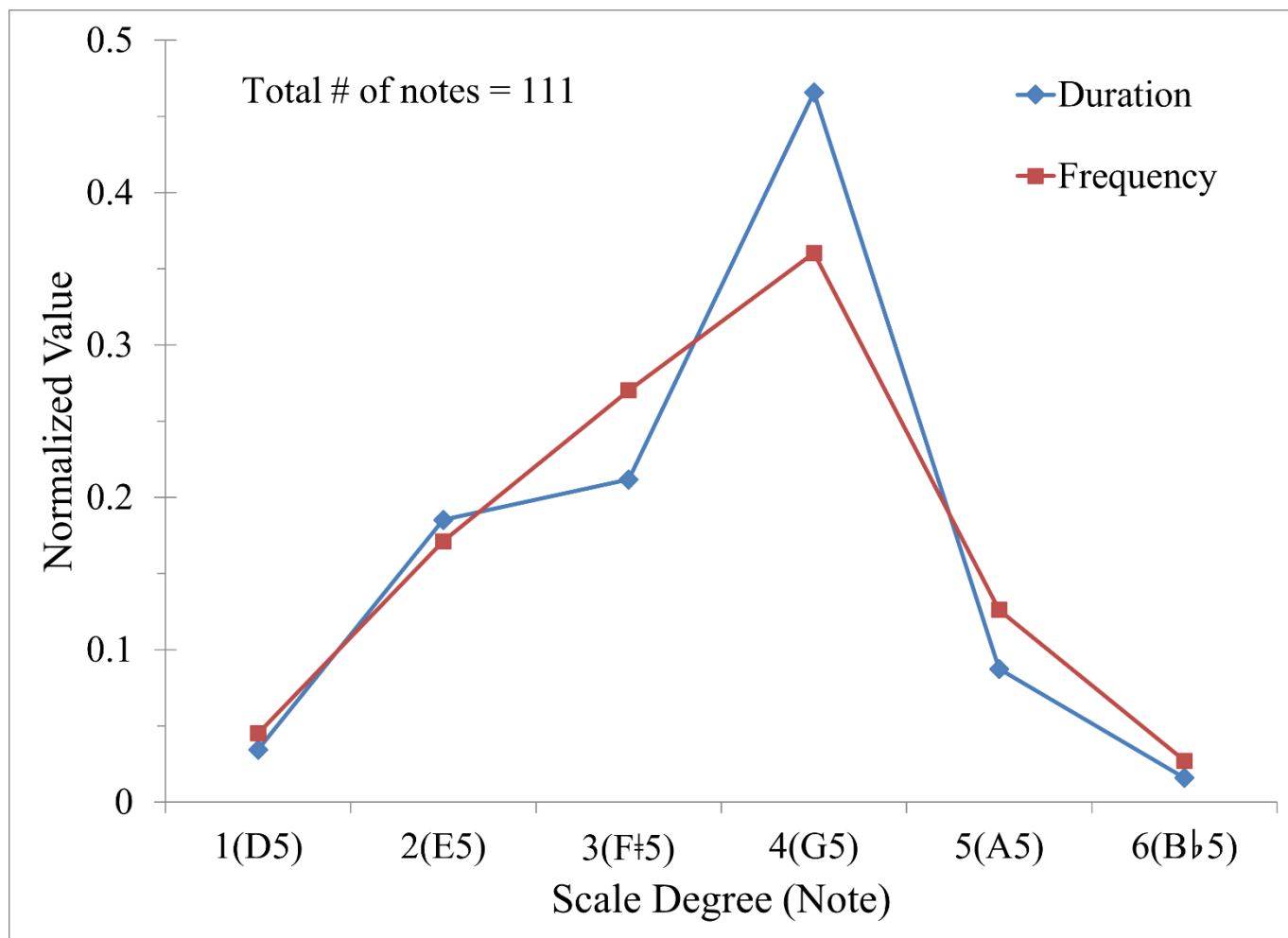
Example 15. Tone distributions for Ma'rufi's *bayāt-i rāji* No. 2



Example 16. *Gūshih'irāq* in *īsfahān* on D according to Davami (reproduced from Payvar 2011, 108 with slight modifications)



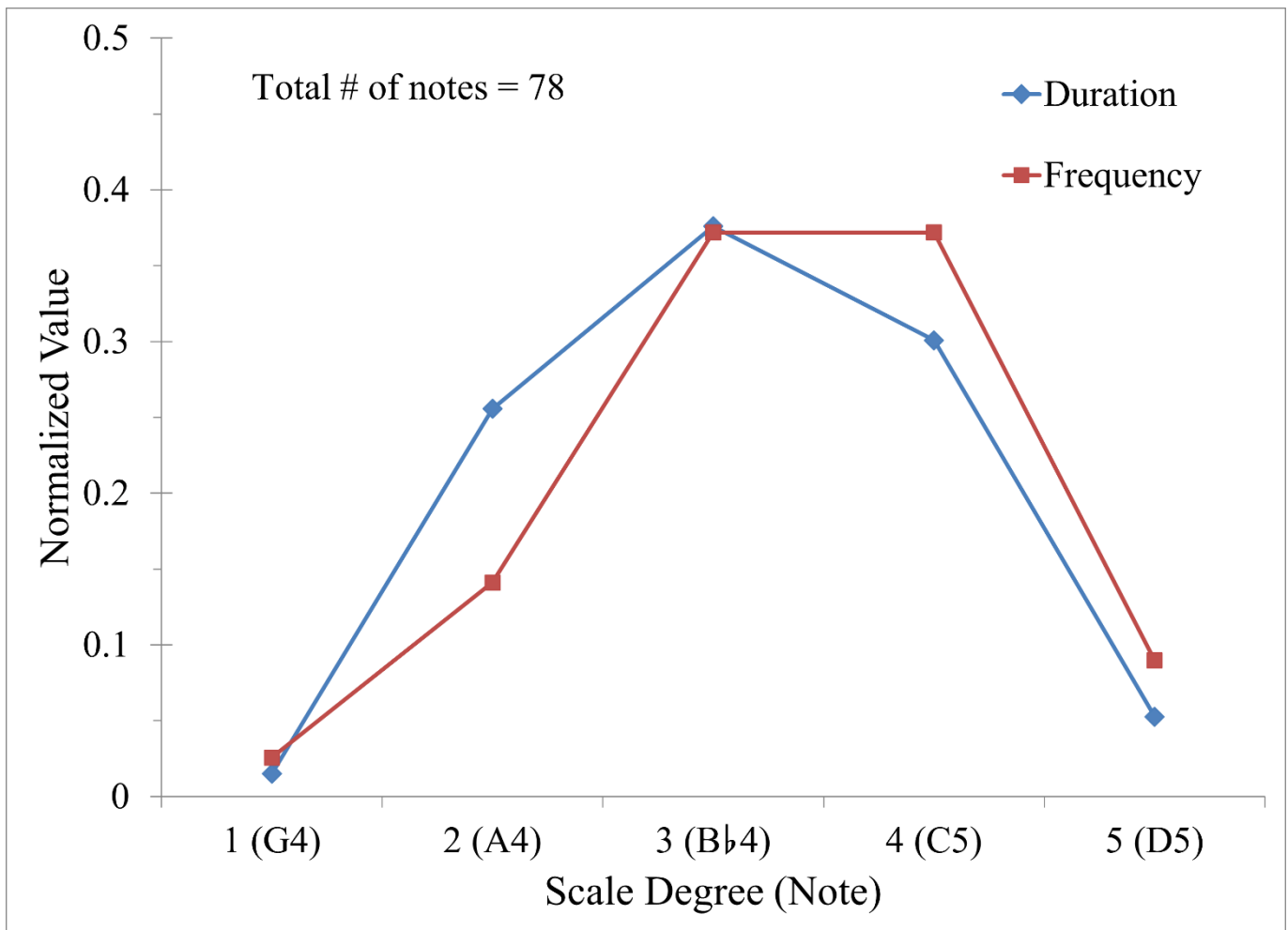
Example 17. Tone distributions for Davami's *Gūshih'irāq*



Example 18. *Gūshih ḥazīn* in *īṣfahān* on G according to Maʿrufi (reproduced from Maʿrufi 2011, 464 with slight modifications)



Example 19. Tone distributions for Maʿrufi's *Gūshih ḥazīn*



Example 20. *Taşnîf Ey Mah-i Man* in *îşfahân* on C

♩ = 76

1 A Verse 1

9 Chorus

19 B Verse 2

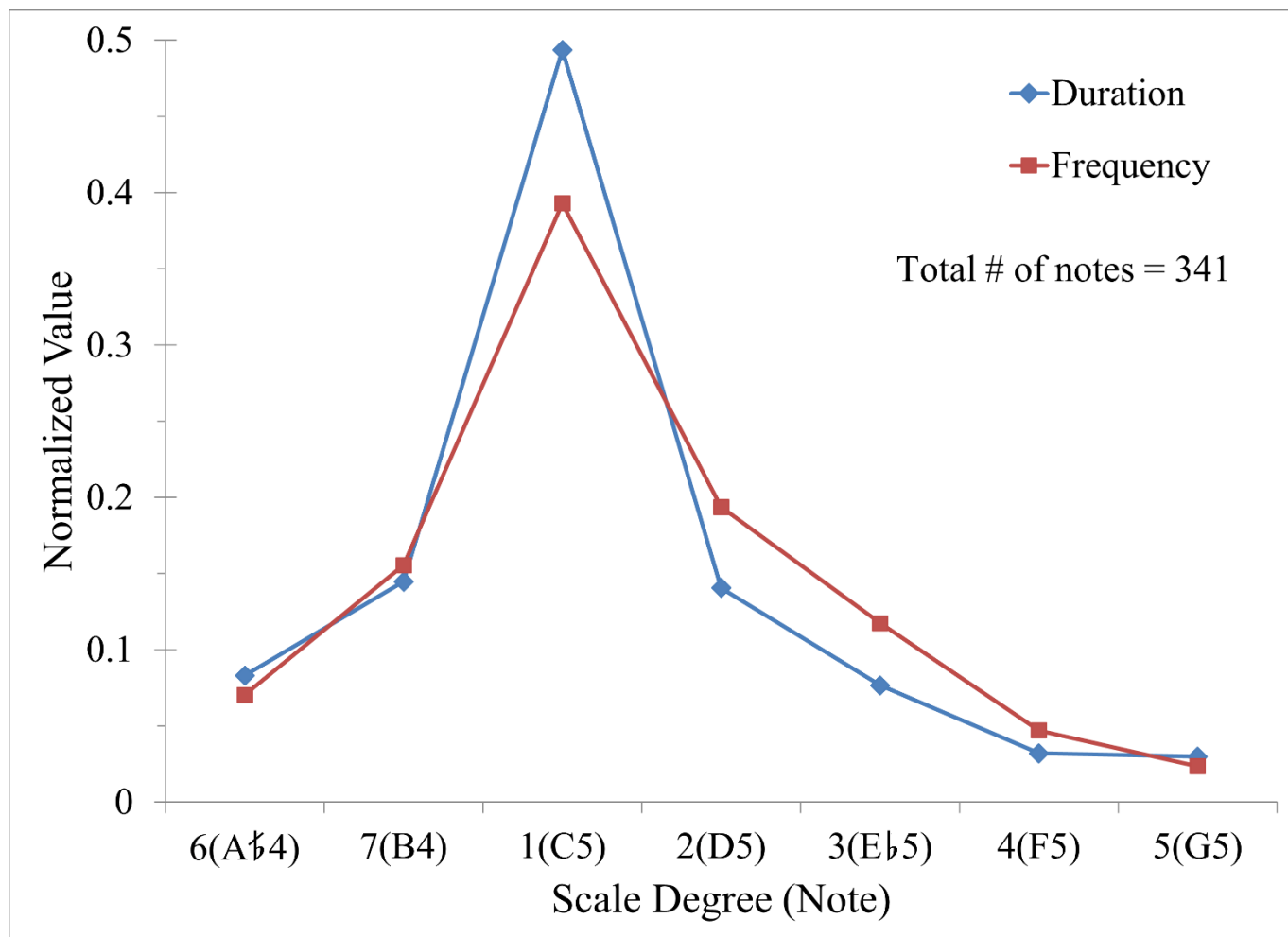
28 Chorus

37 C Verse 3

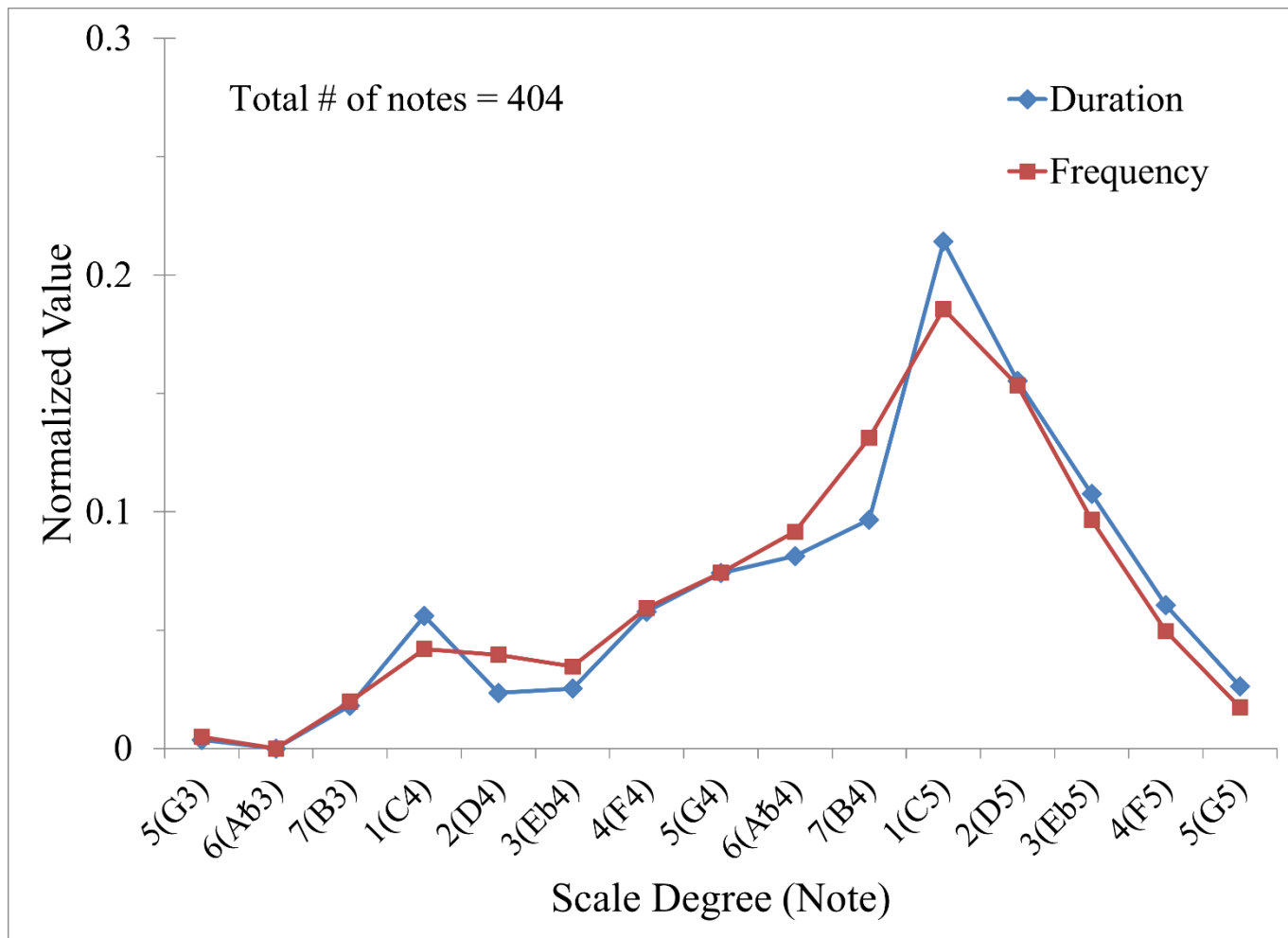
47 Chorus

56 1. 2.

Example 21. Tone distributions for *Ey Mah-i Man*



Example 22. Tone distributions for the ring following *Ey Mah-i Man*



Example 23. Starting tone (*āghāz*) distribution in the analyzed sources

Degree	Karimi's <i>radīf</i> (11 pcs)	Davami's <i>radīf</i> (13 pcs)	Ma'rufi's <i>radīf</i> (27 pcs)	Davami's <i>tašnīfs</i> (20 pcs)	Nassirifar's <i>tašnīfs</i> (59 pcs)
1	18%	23%	37%	30%	51%
2	0%	15%	22%	0%	0%
3	9%	8%	7%	0%	5%
4	27%	23%	7%	20%	2%
5	45%	31%	22%	45%	37%
6	0%	0%	4%	0%	3%
7	0%	0%	0%	5%	2%

Example 24. Concluding tone (*khātimih*) distribution in the analyzed sources

Degree	Karimi's <i>radīf</i> (11 pcs)	Davami's <i>radīf</i> (13 pcs)	Ma'rufi's <i>radīf</i> (27 pcs)	Davami's <i>taṣnīf</i> s (20 pcs)	Nassirifar's <i>taṣnīf</i> s (59 pcs)
1	64%	38%	26%	30%	71%
2	9%	31%	22%	0%	2%
3	0%	0%	0%	0%	0%
4	0%	0%	15%	0%	2%
5	18%	8%	4%	15%	24%
6	9%	23%	33%	55%	2%
7	0%	0%	0%	0%	0%

Example 25. Most prominent tone (*shāhid*) distribution in the analyzed sources

Degree	Karimi's <i>radīf</i> (11 pcs)		Davami's <i>radīf</i> (13 pcs)		Ma'rufi's <i>radīf</i> (27 pcs)		Davami's <i>taṣnīf</i> s (20 pcs)		Nassirifar's <i>taṣnīf</i> s (20 pcs)	
	Dur.	Freq.	Dur.	Freq.	Dur.	Freq.	Dur.	Freq.	Dur.	Freq.
1	55%	55%	62%	62%	59%	48%	85%	80%	40%	30%
2	18%	9%	8%	8%	19%	11%	0%	10%	5%	0%
3	0%	9%	23%	23%	11%	26%	5%	5%	20%	40%
4	9%	18%	8%	8%	4%	4%	5%	0%	5%	5%
5	18%	0%	0%	0%	7%	7%	5%	5%	25%	20%
6	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%
7	0%	9%	0%	0%	0%	4%	0%	0%	0%	0%

Example 26. Characteristic degree function distributions in Nassirifar's *taṣnīf*s in *mīnur* (mostly harmonic minor mode)

Degree	<i>Āghāz</i> (46 pcs)	<i>Khātimih</i> (46 pcs)	<i>Shāhid</i> (15 selected pieces)	
			Duration	Frequency
1	46%	76%	47%	33%
2	4%	2%	7%	0%
3	7%	0%	7%	20%
4	4%	2%	0%	7%
5	37%	20%	40%	40%
6	0%	0%	0%	0%
7	2%	0%	0%	0%

Example 27. *İşfahān* in the neighbouring musical systems

<i>Maqām</i>	Tone sequence	Interval sequence	Constituent Medieval Species
Persian <i>maqām işfahān</i>	$\underline{\underline{C}}^{\text{S,K,A}} - \underline{D} - \underline{E}^{\text{M}} - \underline{F} - \underline{\underline{G}}^{\text{A}} - \underline{A}^{\text{I}} - \underline{B} - \underline{C}$	ṬBTṬ–JHB	<i>navā</i> PC + <i>hijāz</i> TC
Arabic <i>maqām nahāvand</i>	$\underline{\underline{C}} - \underline{D} - \underline{E}^{\flat} - \underline{F} - \underline{\underline{G}} - \underline{A}^{\flat} - \underline{B}^{\text{M}} - \underline{C}$	ṬBTṬ–BWB	<i>navā</i> PC + (tempered) <i>hijāz</i> TC
Turkish <i>makam puselik</i>	$\underline{\underline{A}} - \underline{B} - \underline{C} - \underline{D} - \underline{\underline{E}} - \underline{F} - \underline{G}^{\#} - \underline{A}$	ṬBTṬ–J ₁ HJ ₁	<i>navā</i> PC + (modified) <i>hijāz</i> TC
Turkish <i>makam isfahan</i>	$\underline{\underline{A}} - \underline{B}^{\text{M}} - \underline{C}^{\text{M}} - \underline{\underline{D}} - \underline{E} - \underline{F} - \underline{G} - \underline{A}$	J ₂ J ₁ Ṭ/ṬJ ₂ J ₁ – ṬBTṬ	<i>nowrūz/rāst</i> TC + <i>navā</i> PC

Example 28. Related Systematists *maqāms* (Sources: Wright 1978, 67–75; Urmawi 2001, 32; Shirazi 2008, 132–135; Vaziri 1934, Part 2, 95; and Hedayat 1938a, Part 3, 22–39)

<i>Dawr/Maqām</i>	Tone sequence	Interval sequence	Constituent medieval species
Urmawi's <i>dawr işfahān</i>	G–A–B \flat –C–D–E \flat –F–F#–G	ṬJJ–Ṭ–JJJB	<i>rāst</i> TC + <i>ṭanīnī</i> + <i>işfahān</i> TC
Shirazi's <i>dawr işfahān</i>	G–A \flat –B \flat – $\underline{\underline{C}}$ –D \flat –E \flat – $\underline{\underline{F}}$ –G 1) Transposed: A–B \flat –C– $\underline{\underline{D}}$ –E \flat –F–F#– $\underline{\underline{G}}$ –A 2) Rearranged: $\underline{\underline{C}}$ –D \flat –E \flat – $\underline{\underline{F}}$ –G–A \flat –B \flat –C	JJṬ–JJJB–Ṭ; Transposed: JJṬ–JJJB–Ṭ Rearranged: JJJB–ṬJJṬ	<i>nowruz</i> TC + <i>işfahān</i> TC + <i>ṭanīnī</i> Transposed: same as above Rearranged: <i>işfahān</i> TC + <i>rāst</i> PC
Contemporary <i>maqām humāyūn</i>	$\underline{\underline{G}}^{\text{K}} - \underline{A}^{\text{S}} - \underline{B} - \underline{\underline{C}}^{\text{N}} - \underline{D} - \underline{E}^{\text{M}} - \underline{F} - \underline{G}$ (on C: $\underline{\underline{C}} - \underline{D}^{\flat} - \underline{E} - \underline{\underline{F}} - \underline{G} - \underline{A}^{\text{M}} - \underline{B}^{\flat} - \underline{C}$)	JHB–ṬJJṬ/ṬBTṬ	<i>hijāz</i> TC + <i>rāst/navā</i> PC
Hedayat's <i>zamīnih humāyūn</i>	G–A \flat –B \flat –C–D \flat –E–F–G	JJṬ–JHBṬ	<i>nowrūz</i> TC + 'uzzāl PC
Shirazi's <i>dawr hijāz</i>	G–A \flat –B \flat – $\underline{\underline{C}}$ –D \flat –E– $\underline{\underline{F}}$ –G Rearranged: $\underline{\underline{C}}$ –D \flat –E– $\underline{\underline{F}}$ –G–A \flat –B \flat –C	JJṬ–JHB–Ṭ Rearranged: JHB–ṬJJṬ	<i>nowruz</i> TC + <i>hijāz</i> TC + <i>ṭanīnī</i> Rearranged: <i>hijāz</i> TC + <i>rāst</i> PC
Shirazi's <i>nahuft-i hijāz</i>	$\underline{\underline{G}} - \underline{A}^{\flat} - \underline{B} - \underline{C} - \underline{D} - \underline{E}^{\flat} - \underline{F} - \underline{\underline{G}}$	JHB–ṬJJṬ	<i>hijāz</i> TC + <i>rāst</i> PC
Shirazi's <i>dawr zangūlih/nahāvand</i>	G–A–B \flat – $\underline{\underline{C}}$ –D \flat –E–F–F#–G	ṬJJ–JHBJB	<i>rāst</i> TC + <i>hijāz</i> TC + broken last <i>ṭanīnī</i>

Example 29. The root and evolution paths of *maqāms isfahān*, *humāyūn* and *hijāz*

Root Species	Systematist <i>isfahān</i> tetrachord: JJJB		
Path	1: <i>isfahān</i>	2: <i>humāyūn</i>	3: <i>hijāz(i)</i>
Systematist main species	Banayi's <i>isfahān</i> pentachord: $\bar{\text{T}}\text{--JJJB}$	Banayi's <i>humāyūn</i> pentachord: JJJB $\text{--}\bar{\text{T}}$	Shirazi's <i>hijāz</i> tetrachord: JHB
Systematist cycle (<i>dawr</i>)	Urmawi's <i>dawr isfahān</i> : $\bar{\text{T}}\text{JJ--}\bar{\text{T}}\text{--JJJB}$	Shirazi's <i>dawr isfahān</i> (rearranged) or <i>muḥayyir-i zīrkish</i> : JJJB $\text{--}\bar{\text{T}}\text{JJ}\bar{\text{T}}$	Shirazi's <i>dawr hijāz</i> (rearranged) or <i>nahuft-i hijāz</i> : JHB $\text{--}\bar{\text{T}}\text{JJ}\bar{\text{T}}$
Contemporary <i>maqāms</i>	Persian <i>isfahān</i> : $\bar{\text{T}}\text{B}\bar{\text{T}}\bar{\text{T}}\text{--JHB}$ Arabic <i>nahāvand</i> and Turkish <i>pusulīk</i> : $\bar{\text{T}}\text{B}\bar{\text{T}}\bar{\text{T}}\text{--J}_1\text{HJ}_1$	Persian <i>humāyūn</i> : JHB $\text{--}\bar{\text{T}}\text{JJ}\bar{\text{T}}/\bar{\text{T}}\text{B}\bar{\text{T}}\bar{\text{T}}$ Turkish <i>hūmayun</i> : $\text{J}_1\text{HJ}_1\text{--}\bar{\text{T}}\text{B}\bar{\text{T}}\bar{\text{T}}$	Arabic <i>hijāz</i> : BWB $\text{--}\bar{\text{T}}\text{JJ}\bar{\text{T}}/\bar{\text{T}}\text{B}\bar{\text{T}}\bar{\text{T}}$ Turkish <i>hicaz</i> : $\text{J}_1\text{HJ}_1\text{--}\bar{\text{T}}\text{J}_2\text{J}_1\bar{\text{T}}$

Example 30. Various forms of *ışfahān* over time

1 Systematist/Authentic *İşfahān*

Ṭ J J Ṭ J J J B

Rāst Pentachord İşfahān Tetrachord

2 Variation 1

Ṭ J J Ṭ J H B

Rāst Pentachord Hījāzī Tetrachord

3 Variation 2

Ṭ B Ṭ Ṭ J J J B

Navā Pentachord İşfahān Tetrachord

4 19th Century *İşfahān*

S, K M (♭) A I

Ṭ B Ṭ Ṭ J Ṭ J

Navā Pentachord 'Irāq Tetrachord

5 20th Century *İşfahān*

S, K M (♭) N, A I

Ṭ B Ṭ Ṭ J H B

Navā Pentachord Hījāzī Tetrachord

6 Tempered *İşfahān* (Harmonic Minor)

Ṭ B Ṭ Ṭ B W B

Minor Pentachord Harmonic Tetrachord

Example 31. Repositions of *maqām iṣfahān* (sources for the last column: Fakhreddini 2013, 306-317; Farhat 1990, 77-80; and Payvar 2011, 108)

Position/Degree	Octave Scale Form	Interval Sequence and TC/PC Species	Maqām/Gushih Examples
1 (<i>yigāh</i>)	$\underline{C}^{S,K,A}-D-E \flat^M-F-\underline{G}^{N,A}-A \flat^L-B-C$	$\uparrow B \uparrow \uparrow \uparrow - JHB$ <i>navā</i> PC + <i>hijāz</i> TC	<i>darāmad, bayāt-i shīrāz, sūz-u gudāz</i>
2 (<i>dugāh</i>)	$\underline{D}^{S,K,I}-E \flat^M-F-\underline{G}-A \flat-B-C^K-D$	$B \uparrow \uparrow - JHB \uparrow$ <i>būsalīk</i> TC + <i>‘uzzāl</i> PC	<i>bayāt-i rāji’, jāmiḥdarān</i>
3 (<i>sigāh</i>)	$\underline{E} \flat^{S,K}-F-G-\underline{A} \flat-B-C^K-D-E \flat$	$J \uparrow J - HB \uparrow J$ <i>‘irāq</i> TC + unnamed PC	—
4 (<i>chahārgāh</i>)	$\underline{F}^{S,K}-G^I-A \flat-B^M-\underline{C}^K-D-E \flat^L-F$	$\uparrow JHB / \uparrow JJ \uparrow - \uparrow JJ$ <i>nayrīzī/rāst</i> PC + <i>rāst</i> TC	<i>‘irāq, ruhāb, shāh-khatāyī, ḥazīn</i>
5 (<i>panjgāh</i>)	$\underline{G}^{S,K}-A \flat^M-B-C^K-D^I-E \flat^M-F-G$	$JHB / BWB - \uparrow JJ \uparrow / \uparrow B \uparrow \uparrow$ <i>hijāz</i> TC + <i>rāst/navā</i> PC	<i>‘ushshāq (owj)</i>
6 (<i>shishgāh</i>)	$\underline{A} \flat^{S,K}-B^M-C^K-D-E \flat^L-F-G^I-A \flat$	$HB \uparrow J - J \uparrow J$ unnamed PC + <i>‘irāq</i> TC	—
7 (<i>haftgāh</i>)	$\underline{B}^{S,K}-C^K-D-E-F-G-A \flat^L-B$	$B \uparrow \uparrow - B \uparrow JH$ <i>būsalīk</i> TC + unnamed PC	—
8 (<i>hashtgāh</i> or <i>jawāb</i>)	$\underline{C}^{S,K}-D-E \flat^M-F-\underline{G}^N-A \flat-B-C$	$\uparrow B \uparrow \uparrow - BWB$ <i>navā</i> PC + (tempered) <i>hijāz</i> TC	—

Example 32. Repositions of Urmawi's *dawr iṣfahān*

Degree	Medieval Title	Interval Sequence	Equivalent Octave Scale Form
1 (<i>yigāh</i>)	<i>iṣfahān</i>	$\uparrow JJ - \uparrow JJJB$	$C-D-E \flat-F-G-A \flat-B \flat-B-C$
2 (<i>dugāh</i>)	<i>zindīhrūd</i>	$J \uparrow \uparrow - JJJ B \uparrow$	$D-E \flat-F-G-A \flat-B \flat-B-C-D$
3 (<i>sigāh</i>)	<i>gavāsht</i> or <i>iṣfahānak</i>	$J \uparrow J - JJB \uparrow J$	$E \flat-F-G-A \flat-B \flat-B-C-D-E \flat$
4 (<i>chahārgāh</i>)	<i>gardānīyā</i>	$\uparrow JJ - JB \uparrow JJ$	$F-G-A \flat-B \flat-B-C-D-E \flat-F$
5 (<i>panjgāh</i>)	<i>muḥayyir-i zīrkish</i>	$JJB - \uparrow JJ \uparrow$	$G-A \flat-B \flat-B-C-D-E \flat-F-G$